Technology Literacy
Describe with Technology
Describe with Technology

The first level of *Technology Literacy* includes two projects that empower students in the middle grades, ages 11 through 14, to understand and describe important concepts in the core curriculum as well as across the curriculum. *Describe with Technology* projects can be used across the curriculum, because they allow teachers and students to decide what subjects and topics to address. In these projects, students research complex topics, write narrative essays describing their topics, and produce publications based on their narratives.

In *Describe with Technology* projects, teachers:

- Promote creativity and innovation
- Facilitate critical thinking
- Help students build research skills and information fluency
- Encourage collaboration and communication
- Cultivate technology literacy and responsible digital citizenship

**Research, Write, Publish**

How can you help students develop rigorous research skills while encouraging creativity? You can use the *Research, Write, Publish* project to facilitate student research into complex topics and encourage creative writing about real events. Students become more effective communicators by publishing their descriptive writing in visually appealing brochures.

**Think Critically with Data**

How can you provide opportunities for students to learn, practice, and apply rigorous thinking skills? You can use the *Think Critically with Data* project to facilitate critical thinking as students collect and analyze opinion data to create knowledge of complex topics. Students share the knowledge they acquire by describing their data in visually appealing newsletters.
Research, Write, Publish

Project Overview
In the Research, Write, Publish project, students develop the fundamental skills needed to use technology in support of research, creativity, and communication. Students become more effective researchers, writers, and publishers by learning and applying sound methods and processes. You help students understand how methods and processes reflect accumulated knowledge and result in accomplishing goals. You also facilitate as students apply methods and processes to tell meaningful stories and produce visually appealing publications. As students become more skilled, they begin to understand how an expert can sometimes bend or break “the rules” to make a stronger impact on an audience.

Project Questions
- What makes a story interesting and meaningful to an individual?
- Why is some information reliable and other information unreliable?
- How does process enhance or interfere with creativity?
- How does technology enhance or interfere with communication?

Narrative Writing
How can you help students develop narrative writing skills? In this module, you help students explore how authors use the narrative style of writing to tell interesting and meaningful stories. Students examine and use literary elements to analyze and write narratives. You guide students as they choose a research topic that interests them, and then you help students understand the topic from the point of view of a fictional character.

Online Research
How do your students react to assignments that involve the Internet? Whether your students are enthusiastic or hesitant, all students can learn to be savvy Internet users. In this module, you guide students as they develop sound online research skills by identifying and locating credible Web sites. You help students build their Internet knowledge by showing them how hypertext and hypermedia power the World Wide Web. Finally, you help
students as they learn to summarize their sources with an annotated bibliography.

**Writing Process**
Do your students sometimes feel that connecting their research to their writing is difficult? In this module, you guide students as they use online research to plan and write narrative essays. Your goal is to encourage your students to unleash their creativity when they draft their narratives. Then, you help students put themselves in the minds of their readers as they revise their first drafts. For this module, students must know how to use a word processing application to help them revise and edit their essays. Throughout the module, you monitor students as they complete their drafts and prepare to publish their narratives.

**Desktop Publishing**
How can you motivate your students to improve their writing? Students usually put forth their best efforts when they have opportunities to publish their writing for authentic audiences. In this module, you guide students as they use templates to design and publish brochures based on their narrative essays. You also help students find and use images to enhance their brochures legally and ethically. Overall, students engage in developing visual literacy by applying basic principles of graphic design to make their brochures visually appealing and easy to read.
Module Overview
In this module, students learn that the purpose of narrative writing is to tell an interesting and meaningful story. Students should know the characteristics of narrative writing and be able to analyze a narrative’s effectiveness. You can help students understand how literary elements reflect accumulated knowledge about how to write effective narratives. Students should understand that they can use narrative writing to learn about any topic from a different point of view by creating a fictional character to tell a story about the topic.

Module Questions
- How does the narrative style of writing help authors tell meaningful stories?
- How does the Internet store and communicate information?
- Why are plot, point of view, character, setting, and theme important?
- What makes a topic a good choice for the narrative style of writing?
- What kinds of questions generate the most information about point of view?

Activity 1: Narrative Style
Students explore narration and point of view. Students read and analyze narrative essays to demonstrate that they know the characteristics of an effective narrative.

Activity 2: Internet Basics
Students begin to build their knowledge of technology operations and concepts. Students create diagrams to demonstrate their knowledge of the basic components of the Internet infrastructure.

Activity 3: Literary Elements
Students explore why plot, point of view, character, setting, and theme are important.
Students read and interpret narrative essays to show that they understand how authors use literary elements to tell powerful stories.

**Activity 4: Topic Choice**
Students explore how they can use narrative writing to learn about topics that interest them. Students choose topics to research, and they identify events and main characters for fictional narratives on their topics.

**Activity 5: Interview Questions**
Students learn how to use open-ended questions to understand different points of view. Students write interview questions that will help them tell interesting and meaningful stories about the main characters in their fictional narratives.

**Look Back**
Students reflect on their learning in this module. They should be ready to research their fictional narratives. You may want to use the checklist to make sure students completed their tasks, and you may want to use the rubric to assess students' narrative topics and interview questions.
Narrative Writing | Activity 1: Narrative Style

Activity Overview
In this activity, students explore narration and narrative writing. Students learn that a narrator is the person who tells a story and may use personal thoughts and specific details to help readers visualize what happens in the story.

Activity Questions
- What are some good reasons to write a narrative essay?
- When would narrative writing not be a good choice for an essay?
- How is a narrative essay different from other writing students may have done?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each word. Help students associate an image or symbol with key terms such as character, dialogue, first person, and third person. Make sure students understand how narrate, narrative, and narrator are related and unique from each other.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires an understanding of the vocabulary words related to narrative writing.

Exploration: Learning from the Web
Prepare for student exploration of Web sites:
- Test the narrative writing video from Annenberg Media to make sure it will play correctly on the computers student use
- Have headphones available so the video’s sound does not disturb other students

Make sure students review the guiding questions for this activity before they explore Web sites about the narrative style of writing. Explain how the guiding questions help focus their Web reading. Before students begin exploring the Web sites, you can use a presentation station to model effective reading on the Web. As students explore the Web sites, you may want to have students take notes or report out to the class, another student, or a small group of students.
Information: What to Know
Make sure that students understand the essential information about narrative writing they will need for this project. Make sure students understand the difference between a personal narrative, a story about something that really happened to the author, and a fictional narrative, a story created in the author’s imagination.

Pose questions and lead a short class discussion to make sure students know that:

- An essay is a short written work that makes an important point about a topic chosen by the author.
- A narrative essay is a short written work that makes an important point by telling a story with carefully selected details that support, explain, and enhance the story.
- A narrator is the person who tells a story, usually from either first person or third person point of view.

Task: What to Do
Students read and analyze a narrative essay to demonstrate understanding of the characteristics of an effective narrative. Students may read one of the online essays provided in the task, other essays on the Web, or a narrative from a textbook or magazine.

You may also want to model using the spelling and grammar checking features of the word processing application. Monitor progress to make sure that each student provides specific examples of good (or bad) narrative writing in the essay. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of a narrative analysis with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Quiz: Check Your Understanding
Introduce the quiz to students. Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with the basic purposes and uses of the narrative style of writing.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Narrative Analysis of Swimming Lessons

I think the story about the author’s first swimming lesson is a good example of a narrative essay. The reason I say that is because it has most of the necessary elements. The story was written in first person and it was a true story that the author actually experienced. The main character was believable and his point of view was obvious. The details that were included made the story come alive. Some examples are, “it was a wonderful feeling like flying,” “hopelessly uncoordinated” and “stood timidly by”. The author also included personal thoughts that helped make me feel like I was part of the story.

When the author said, “learning can be scary” and “it was the hardest thing I ever did,” I could identify with those statements and I started to think about some difficult moments in my own life. Timidly, embarrassed, brightly colored were some of the descriptive words that helped me visualize the scenes. The theme of this essay was, “Now when I am faced with a new situation I am not so nervous.” That is a life lesson that most people can identify with.

The only element that was missing from the narrative that might have made it even more interesting was dialogue. I would like to have heard the author’s own word as he/she went through the experiences. I think there could have been some funny dialogue. All in all, I really think this was a good narrative essay sample and I enjoyed reading it.
Narrative Writing | Activity 2: Internet Basics

Activity Overview
In this activity, students explore the Internet’s basic infrastructure. They learn that the Internet is a network of networks with clients and servers. This activity provides a foundation for developing student knowledge of technology operations and concepts.

Activity Questions
- What are the major parts of the Internet infrastructure?
- What are some problems students may have had using the Internet in the past?
- What might have caused those problems?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students understand that technical vocabulary is important for everyone to learn. When you have a problem with technology, a good technology vocabulary helps you understand the problem and effectively ask for help when needed. Help students associate an image or symbol with key terms. Key technical terms related to the Internet include network, router, client, server, and firewall.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires a fundamental Internet vocabulary.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about the Internet. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Make sure students understand that they should be able to discuss the basic infrastructure of the Internet using correct terminology. Encourage students to take notes or draw pictures while they explore Web sites.

Information: What to Know
Make sure students know that routers, servers, and clients are the basic parts of a network. Make sure students understand that the Internet is a global network of networks.
The following points are some good topics for questioning students about or discussing Internet infrastructure:

- To get on the Internet, you must have access to a local network that is connected to the global Internet.
- You use a client to access a local network or the Internet.
- Routers are hardware devices that direct traffic on a network.
- Firewalls are systems used to control access networks.

Task: What to Do
Students create diagrams that represent the Internet. The diagrams can be drawn with pencil and paper, but students should also learn how to use software to create diagrams. Students can use diagramming software if available. If not, they can use a word processing application’s diagramming tools.

Make sure students know how to create a diagram in the word processing or diagramming software before they begin the task. If you have a presentation station, you may want to model effective use of the diagramming tools. If you are a classroom teacher, this activity is a great time to coordinate with the computer teacher or librarian. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of a diagram of the Internet with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Quiz: Check Your Understanding
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with some basic workings of the Internet.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Internet Basics Diagram
Narrative Writing | Activity 3: Literary Elements

Activity Overview
In this activity, students explore literary elements, the features that most good stories have in common. They learn that the main elements of narrative writing are plot, point of view, characters, setting, and theme. Students discover that the Internet makes narrative essays about people’s experiences all over the world and throughout history available to everyone.

Activity Questions
- What information does a good story need to contain?
- What makes a character believable and interesting?
- How can students use literary elements to make stories interesting and meaningful?

Vocabulary: Words to Know
Introduce the vocabulary words to students with a brief explanation of each term. Explain that terms are words or phrases with a particular meaning in a specific context, such as the five main literary elements. Help students associate an image or symbol with each of the elements. You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires a vocabulary for narrative writing. Encourage students to remember and visualize plot, point of view, characters, setting, and theme any time they read narrative writing.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before exploring Web sites about literary elements. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. You may want to have students recall some good stories they have read as they explore the literary elements. Encourage students to visualize the plot, point of view, characters, setting, and theme of some of their favorite stories.

Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.
Information: What to Know
Make sure students understand that they should be able to identify and describe the *plot*, *point of view*, *characters*, *setting*, and *theme* any time they read a narrative. Explain how literary elements provide guidelines to help students write better stories, but the guidelines are *not* absolute rules.

Pose questions and lead a short class discussion to make sure students understand each of the five main literary elements:

- **Plot** is what happens in a story, such as a crisis or conflict, and why it happens.
- **Point of view** is the way a person, especially a narrator, tends to think about people, places, and events.
- **Characters** are the people in a story and all the special qualities that make each person unique from everyone else.
- **Setting** is the time and place of a story.
- **Theme** is the underlying meaning of a story, which may require a significant amount of analysis to understand.

Task: What to Do
Students read and interpret narrative essays using the five main literary elements. Students may read one of the online essays provided in the task, other essays on the Web, or a narrative from a textbook or magazine.

Discuss the example of a *literary elements analysis* with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Monitor progress to make sure that each student understands *plot*, *point of view*, *characters*, *setting*, and *theme* and uses the terms correctly.

Quiz: Check Your Understanding
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students understand *characters*, *plot*, and *setting*.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Title: She’s a Native, Isn’t She?
Author: Ebba Hamm

Literary Analysis of She's a Native, Isn't She?

Plot

The story is about Ebba Hamm, a native of Alaska, who spent time with her grandparents in isolation in rural Alaska. She lived a very simple, but happy life with them. The only company that Ebba had was the rag dolls that her grandmother made for her.

Later, when she married, Ebba went to Anchorage to live with her husband. One day Ebba and her husband were invited to go to a club in town with friends. When they arrived, their friend was told they were not welcome. They were told that since Ebba was a native they were not allowed in. They left and took their business elsewhere, without protest, but Ebba always remembered the incident. Years later the military moved to Anchorage and wouldn’t allow their men to go into town because of the prejudice of the club owners. Only then did the club owners changed their policy because they needed the money that the military would bring to them.

Point of View

The story is told in first person. We know that Ebba lived much of her life in isolation and hadn’t experienced prejudice. When she was confronted with prejudice for the first time she handled it from the point of view of someone who was unfamiliar with how to react to such injustice. We do know however, that she never forgot the incident, and found it interesting that making money was more important than holding on to their racist ways.
Characters

The characters in the story are Ebba, her grandparents, her husband and friends. The only character that is developed is Ebba. The other characters are only mentioned to tell the story.

Setting

The setting takes place in rural Alaska and Anchorage, Alaska. The settings are not clearly described. I think that is because the setting is only important because that is where the prejudice took place.

Theme

I think there are two themes. The first one is that many people over time have suffered prejudice in the United States and around the world. The other theme is, “money talks.” Only when the club owners were faced with financial ruin did they allow natives and Filipinos to come into their clubs.
Narrative Writing | Activity 4: Topic Choice

Activity Overview
In this activity, students learn that narratives can be either fiction or nonfiction. A *nonfictional narrative* is a story about events the author experienced or witnessed. *Fictional narratives* are stories that authors create using their imaginations. Help students understand that writing fictional narrative can help them understand events they have not experienced.

Activity Questions
- What topics and events are students interested in writing about?
- How does brainstorming help students choose a topic?
- How can writing a fictional narrative help students understand their topics?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Make sure students understand the differences between *fiction* and *nonfiction*. You may want to ask students what they have read recently and whether it was fiction or nonfiction. If possible, review the five main literary elements and the difference between *first person* and *third person*. Have students recall the images or symbols they associated with these words. You may want to have students pair up to quiz each other on these terms.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about choosing a topic for an essay. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Make sure students understand how they can learn about history, current events, or art and literature by writing fictional narratives. Help students understand that they can write fictional narratives about any topic simply by making up stories about the topic.
You may want to walk through the four stages of choosing a topic with the whole class. If possible, create a topic as a class and explain or have students explain the strategies they are using.

Pose questions and lead a short class discussion to make sure students know how to:

- **Make a list of topics** by freely brainstorming ideas
- **Evaluate the topics** and identify topics that interests students and about which they can tell meaningful stories
- **Narrow the focus** of their topic to a single event
- **Check for sources** to make sure students can find enough information about the topics

**Task: What to Do**

Students choose topics and identify events and main characters for fictional narratives on their topics. Students may use the Web sites listed in the task to help them find topics, other Web sites with which they are familiar, and the school library or media center. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task. If you are a classroom teacher, this activity is a good time to coordinate with the librarian.

Discuss the example of a *narrative topic selection* with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students understand how writing a fictional narrative can be a valuable learning experience.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Tsunami 2004

I chose the Tsunami of 2004 because I remember watching it on TV and being shocked by it. I didn’t even know what a tsunami was till I saw it. In order to tell my story I need to know what a tsunami is and where it happened. I need to know what the results of the tsunami were. It will be important to know how many people died. I also will need to know the names of some of the hotels in the area for the setting of my story.

I decided that the main characters in my story will be myself and my best friend. I will need to know why my character was in Sri Lanka. It will be important to know all the details of how my character and her friend survived. Knowing how they were affected by the tragedy will help the readers care about the characters.

I chose to tell my story in the first person. I felt that using the first person point of view would make my story more personal and interesting. I think it will be important for the reader to know exactly what the characters saw, felt and how they reacted.
Narrative Writing | Activity 5: Interview Questions

Activity Overview
In this activity, students explore how interviews can help them understand the points of view of others. Help students understand that they can interview fictional characters by imagining how the characters would respond to their questions. Explain that asking questions is always an effective way to begin learning about a topic.

Activity Questions
- What do effective interview questions have in common?
- What kinds of questions get the most detailed answers?
- What questions can help students create the main characters in their fictional narratives?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms. Have students demonstrate their understanding of open-ended by asking each other open-ended questions. If necessary, review the five main literary elements and difference between first person and third person.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites with interviews of important people in history, current events, literature, and art. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes while they explore Web sites. Remind students to read the questions and answers in the interviews carefully and think about what kinds of interview questions get the most informative answers.

Information: What to Know
Make sure students understand that an effective interview question is relevant and open-ended. The answer to a relevant question gives important information about the person. An open-ended question requires more than a yes or a no answer. You may want to brainstorm some effective interview questions with the whole class or small groups of students.

Look Ahead
Task: Students write some questions to help develop their main characters.
Goal: Students ask questions that will help them tell interesting and meaningful stories about the characters.
Preview the example of interview questions before introducing the activity to students.
See the example: Interview Questions
**Task: What to Do**

Students write interview questions to help them develop their main characters. Remind students that relevant and open-ended questions help them tell interesting and meaningful stories about their topics through their main characters.

Discuss the example of interview questions with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students know how to write relevant and open-ended interview questions.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Tsunami 2004: Interview Questions

1. Why did you go to Sri Lanka?
2. Do you think you were in Sri Lanka when the Tsunami hit for a reason?
3. Describe what happened during the tsunami.
4. Were you able to help others with the relief effort?
5. Is there something you might have done differently?
6. What did you learn from your experience?
7. Do you think there was a reason you survived and others didn’t?
Narrative Writing | Look Back

Thinking about Learning
In this module, students explored narrative writing skills, selected topics for their narrative essays, and wrote some effective interview questions.

Students have learned:

- How the narrative style of writing can help them tell interesting and meaningful stories
- How devices like routers and firewalls make the Internet work
- How to use literary elements to analyze narrative writing
- How writing fictional narratives can help them learn about history, current events, literature, and art
- How open-ended and relevant interview questions can help them write fictional narratives

Checklist for Narrative Writing
Help students use the checklist to make sure they have completed all the tasks in this activity. Completing all tasks ensures that students are ready to conduct research on their topics.

Rubric for Narrative Writing
Help students use the rubric to self-assess their interview questions and narrative topics. Explain to students the importance of paying attention to writing mechanics. Make sure students’ self-assessments are accurate. Encourage students to use their self-assessments to improve their interview questions and narrative topics.

Reflection on Narrative Writing
Ask individual students questions that encourage reflection any time you find an opportunity. If possible, give students time to share their interview questions and narrative topics with each other. Students can share their reflections with the whole class, in small groups, or in pairs.

Encourage students to discuss the following points:

- What they learned about narrative writing
- Why they chose their narrative topics
- What they learned about interviews
- How they wrote their best interview questions

Encourage students to take their interview questions and narrative topics home to share with parents, guardians, or other trusted family members.
Research, Write, Publish
Online Research

Module Overview
In this module, students learn how to locate and evaluate online sources when gathering information for their research. Students should know how to gather accurate information from credible and reliable sources. You can help students understand the importance of being strategic when searching through the huge number of online sources, many of which are neither credible nor reliable. Students should understand how good online research skills can help them be successful in school, work, and life.

Module Questions
- How does research help students find the best answers to their questions?
- How do hyperlinks and multimedia work on the World Wide Web?
- What search strategies can students use to find the information to answer research questions?
- How can students verify that a Web site is a credible source of reliable information?
- How can students use an annotated bibliography to summarize information gathered from research sources?

Activity 1: Research Basics
Students are reminded not to trust every Web site they read. Students learn how to recognize a few key details that most credible and reliable Web sites have in common.

Activity 2: Web Basics
Students learn how the Web uses hypertext and hypermedia to connect documents and multimedia. Students are introduced to technical vocabulary that enables them to use the correct terminology when they discuss the Web.

Activity 3: Web Search
Students learn how to use a variety of search programs to locate sources. Students learn how to use keywords to help them locate credible and reliable sources quickly and efficiently.
Activity 4: Web Evaluation
Students learn how to evaluate Web sites to choose the most credible and reliable sources to help them answer interview questions. Students learn that evaluation involves judging Web sites against specific criteria.

Activity 5: Annotated Bibliography
Students learn how to organize information by summarizing their sources in annotated bibliographies. Students learn how to avoid plagiarism by writing effective summaries.

Look Back
Students reflect on their learning in this module. They should be ready to write their fictional narratives. You may want to use the checklist to make sure students completed their tasks, and you may want to use the rubric to assess students' research and annotated bibliographies.
Online Research | Activity 1: Research Basics

Activity Overview

In this activity, students learn that research involves studying a topic carefully with a specific purpose in mind. The purpose is usually to answer important questions. One strategy is to use only the most respected Web sites. Students learn to recognize a few key details that most trustworthy Web sites have in common.

Activity Questions

- What do credible Web sites have in common?
- How can students recognize credible Web sites?
- How can students use credible Web sites to research their narrative essays?

Vocabulary: Words to Remember

Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as credible, reliable, and evaluate. You may want to have students use the words in sentences to make sure they understand the precise definition of each term.

Exploration: Learning from the Web

Make sure students review the guiding questions for this activity before they explore Web sites about conducting research on the Web. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know

Make sure students understand that the Internet is an important source for research, but a lot of information on the Internet is not credible and reliable. Question students to make sure they know how to recognize a few key details that most respected Web sites have in common.

Most credible Web sites:

- Are sponsored by an organization you recognize as trustworthy
- Have everything on the site, such as hyperlinks and search tools, working properly

Look Ahead

Task: Students cite some credible sources for their narrative essays.

Goal: Students find reliable information that helps answer their interview questions.

Preview the example of a source list before introducing the activity to students.

See the example: Source List
• Include content that can be checked against other sources

**Task: What to Do**
Students cite some credible online sources to help them answer their interview questions from the last activity in the previous module. Students may explore the Web sites listed in the task or you may allow them to explore other Web sites they believe to be credible and reliable.

Discuss the example of a source list with the whole class or particular students before they begin the task. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

You may also want to have students use a particular citation format. If you have a presentation station, you can model the citation format you want students to use.

**Quiz: Check Your Understanding**
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with some kinds of Web sites that can generally be trusted.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name
Date

Web Sites for Narrative Essay


http://earthobservatory.nasa.gov/NaturalHazards/shownh.php3?img_id=12643


Online Research | Activity 2: Web Basics

Activity Overview
In this activity, students explore the most important features of the World Wide Web. Students learn how the Web uses hypertext to connect documents to one another and hypermedia to connect multimedia to documents. Students must understand that the Web is a particular way of using the Internet infrastructure, rather than the network itself.

Activity Questions
- How does hypertext work?
- What are the main parts of the World Wide Web?
- How is the Web different from other parts of the Internet?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as browser, domain, hypertext, and hypermedia. Make sure students understand the differences between HTML, HTTP, and URL.

Help students understand that technical vocabulary is important for everyone to learn, not just students interested in math, science, and engineering. Explain to students that using correct terminology to discuss technology is an essential literacy skill in the 21st century.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about the basic features of the Web. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. Make sure students know that everyone should be able to explain the basic features of the World Wide Web using correct terminology. You may want to pair students with complementary partners or peer tutors to make sure everyone acquires a fundamental technical vocabulary for the Web. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Pose questions and lead a short discussion to make sure students understand that the...
World Wide Web was created when hypertext and hypermedia were applied to the Internet.

Hypertext and hypermedia perform important jobs:

- **Hypertext** links related documents together and enables users to move around the Web by clicking.
- **Hypermedia** combines different kinds of media with words to give users different kinds of information in a single document.

Make sure students can identify the three main parts of a **URL**. Help students understand that **HTML** is a **language** and **HTTP** is a **protocol**. **HTML** provides instructions for displaying a Web page, while **HTTP** regulates the transmission of Web pages through the Internet infrastructure.

**Task: What to Do**

Students analyze the URLs of their online sources and use correct terminology to discuss the Web sites they cited. If you have a presentation station, you may want to analyze a few URLs with the whole class or a group of students before they begin working on their own.

Students also examine the HTML behind a Web page. Make sure you and your students know how to use a browser to view the source HTML for a Web page and how to open a Web page in a text editor rather than a browser. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task. If you are a classroom teacher, this is an excellent opportunity to collaborate with the computer teacher.

Discuss the example of a **URL analysis** with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with some fundamental technical features of the World Wide Web, including hyperlinks, URLs, and hypermedia.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.

**Task Example**
Annotated Web Citations

Asian Quake


This web site is authored by CNN News which is a company. I know this because it has .com in the address. I can also tell that the information on this page is going to be about an earthquake in Asia that happened on 12/26/04.

The Deadliest Tsunami in History


National Geographic is a company. I know this because the URL contains the letters .com. I also know that this site is written by the News division of National Geographic. I can tell that this site is going to be about a Tsunami that happened in December of 2004.

Earthquake Spawns Tsunami

http://earthobservatory.nasa.gov/NaturalHazards/shownh.php3?img_id=12643

From the URL I know that this is a government site because it contains the letters.gov. I also know that it is written by NASA. I can also tell from the URL that it is about Natural Hazards. Earth Observatory gives me the feeling that it might contain pictures.

Lives Returning to Normal


I know from the URL that this site is developed by the Red Cross. The domain is .org so I know it is written by an organization. I also know that this site is about the tsunami.

Tsunami-Sri Lanka


This site is written by an organization because it ends in .org. I know this site is about a Tsunami that took place in Sri Lanka.
Online Research | Activity 3: Web Search

Activity Overview
In this activity, students learn some strategies to help them locate credible and reliable sources quickly and efficiently. You can help students understand the similarities and differences between search engines and search directories. Make sure students know how to use keywords to locate the most relevant sources.

Activity Questions
- What are the strengths and weaknesses of different search programs?
- When is the best time to use each search program?
- How can students get the most accurate hits from a Web search?

Vocabulary: Words to Remember
Introduce the new vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with important terms such as keyword, search directory, and search engine. Encourage students to remember and visualize these terms when they are searching for sources.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires a fundamental Internet search vocabulary.

Review key research terms such as cite, credible, evaluate, and reliable. Ask students to recall the images or symbols they associated with these words. Remind students that a good research vocabulary will help them be successful in school, work, and life.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore some of the common search programs on the Web. Explain how the guiding questions help focus their Web reading. Make sure students understand that they should be able to discuss the strengths and weaknesses of each program. You may want to have students use a graphic organizer, such as a T-chart, to take notes.
Information: What to Know
Students should understand the two main kinds of search programs. Both kinds of programs are databases of Web pages (or other sources) organized by keywords. The main difference between the two kinds of search programs is how you use the keywords:

- A search directory provides lists of keywords organized into categories.
- A search engine provides a text box to search whole databases for specific keywords.

Make sure students understand how to use both search directories and search engines, because each has strengths and weaknesses. Make sure students understand how to use keywords effectively in both kinds of search programs.

Some strategies to narrow a search are to use:

- Additional keywords
- Quotes around names or exact phrases
- AND or a plus sign (+)
- NOT or a minus sign (-)

Some strategies to expand a search are to use:

- Fewer keywords
- OR

Task: What to Do
Students conduct keyword searches for information to help them answer their interview questions. Make sure students locate and bookmark a variety of credible and reliable sources. Discuss the example of a keyword list with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Monitor student searches as closely as possible to make sure they are using strategies to expand and narrow their searches appropriately. Strategic searching is a good habit that few students have and requires careful cultivation. Make sure students create complete keyword lists and do not take shortcuts.

Quiz: Check Your Understanding
Remind students that the quiz is not scored and answers are not recorded. Encourage students to read the feedback they get when they answer each question. The quiz makes sure students understand search engines and strategies. You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

**Keywords for Interview Questions**

1. Why did you go to Sri Lanka?
   - **Keywords**
     - a. Travel or vacation in Sri Lanka
     - b. Schools in Sri Lanka
     - c. Beach Hotels in Sri Lanka
     - d. Hotels in Kalutara Sri Lanka

2. Did you think you were in Sri Lanka when the Tsunami hit for a reason?
   - **Keywords**
     - a. Site seeing in Sri Lanka

3. Describe what happened during the Tsunami.
   - **Keywords**
     - a. Tsunami 2004
     - b. Sri Lanka Tsunami
     - c. What is a Tsunami

4. Were you able to help with the relief effort?
   - **Keywords**
     - a. Red Cross Tsunami and Sri Lanka
     - b. Relief efforts Sri Lanka Dec 26 2004

5. Is there something you might have done differently?
   - **Keywords**
     - a. Travel in Sri Lanka

6. What did you learn from your experience?
   - **Keywords**
     - a. Firsthand accounts Sri Lanka December 26 2004
     - b. Eye witness accounts Sri Lanka Tsunami

7. Do you think there was a reason you survived and others didn’t?
   - **Keywords**
     - a. Survival Strategies
Online Research | Activity 4: Web Evaluation

Activity Overview
In this activity, students learn how to judge a Web site against specific criteria to separate reliable information from unreliable information.

Activity Questions
- What specific criteria are most important?
- How can an evaluation form help students make good decisions about Web sites?
- Which of the Web sites bookmarked by students would be the best sources for their narrative essays?

Vocabulary: Words to Remember
Introduce the new vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with accurate, bias, and criterion. Encourage students to remember and visualize these terms when they are evaluating sources.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires the research vocabulary words.

You may want to review key research terms such as cite, credible, evaluate, and reliable. Ask students to recall the images or symbols they associated with these words. Remind students that a good research vocabulary will help them be successful in school, work, and life.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about criteria for evaluating Web sites. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.
Information: What to Know
Students should understand that evaluation requires judging a Web site against specific criteria. You can find many different lists of criteria, but they all have at least three goals in common. They all include criteria to make sure that a Web site is credible, accurate, and reliable.

If you have a presentation station, you can model Web site evaluation and then lead the whole class in evaluating a few Web sites before students begin evaluating their sources independently. If you are a classroom teacher, this is an excellent time to collaborate with the librarian.

Task: What to Do
Students create or choose a form to evaluate bookmarked Web sites. After evaluating each site, students choose the most credible and reliable sources of accurate information to help them answer their interview questions.

You may give students an evaluation form to use or allow them to create their own evaluation form. Allowing students to create their own evaluation form is an effective way to guarantee that they understand how to evaluate credibility, accuracy, and reliability against specific criteria. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of a Web site evaluation with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Quiz: Check Your Understanding
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with determining the credibility, accuracy, and reliability of Web sites. Evaluating Web sites is a critically important research skill; every student should understand these concepts.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Web site Evaluation Form

<table>
<thead>
<tr>
<th>WWW CYBERGUIDE RATINGS FOR CONTENT EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Title:</td>
</tr>
<tr>
<td>URL:</td>
</tr>
<tr>
<td>Purpose for exploring this site:</td>
</tr>
<tr>
<td>Notes on possible uses of this site and URLs for useful linked sites:</td>
</tr>
</tbody>
</table>

To determine the worth of the Web site you are considering, evaluate its content according to the criteria described below. Circle “Y” for “Yes”, “N” for “No”, “NA” for “Not Applicable”.

1. **First look**
   - A. User is able to quickly determine the basic content of the site. Y N NA
   - B. User is able to determine the intended audience of the site. Y N NA

2. **Information Providers**
   - A. The author(s) of the material on the site is clearly identified. Y N NA
   - B. Information about the author(s) is available. Y N NA
   - C. According to the info given, author(s) appears qualified to present information on this topic. Y N NA
   - D. The sponsor of the site is clearly identified. Y N NA
   - E. A contact person or address is available so the user can ask questions or verify information. Y N NA

3. **Information Currency**
   - A. Latest revision date is provided. Date last revised Y N NA
   - B. Latest revision date is appropriate to material. Y N NA
   - C. Content is updated frequently. Y N NA
   - D. Links to other sites are current and working properly. Y N NA

4. **Information Quality**
   - A. The purpose of this site is clear: business/commercial -- entertainment -- informational -- news -- personal page -- persuasion Y N NA
   - B. The content achieves this intended purpose effectively. Y N NA
   - C. The content appears to be complete (no “under construction” signs, for example) Y N NA
   - D. The content of this site is well organized. Y N NA
   - E. The information in this site is easy to understand. Y N NA
   - F. This site offers a sufficient information related to my needs/purposes. Y N NA
   - G. The content is free of bias or the bias can be easily detected. Y N NA
   - H. This site provides interactivity that increases its value. Y N NA
   - I. The information appears to be accurate based on user’s previous knowledge of subject. Y N NA
   - J. The information is consistent with similar information in other sources. Y N NA
   - K. Grammar and spelling are correct. Y N NA

5. **Further Information**
   - A. There are links to other sites that are related to the my needs/purposes. Y N NA
   - B. The content of linked sites is worthwhile and appropriate to my needs/purposes. Y N NA

**Total**: Based on the total of “yes” and “no” answers and your overall observations, rate the content of this site as:

- _ Very useful for my information needs _ Worth bookmarking for future reference _ Not worth coming back to

Comments:

©Karen McLachlan, 7/31/2002  East Knox High School  Howard, Ohio  mclachlan_k@tusca.org
## WWW Cyberguide Ratings for Content Evaluation

**Site Title:**  
**URL:**  
**Subject:**  
**Audience:**  

**Purpose for exploring this site:**  

**Notes on possible uses of this site and URLs for useful linked sites:**  

---

To determine the worth of the Web site you are considering, evaluate its content according to the criteria described below. Circle "Y" for "Yes", "N" for "No", "NA" for "Not Applicable".

### 1. First look

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. User is able to quickly determine the basic content of the site.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. User is able to determine the intended audience of the site.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 2. Information Providers

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. The author(s) of the material on the site is clearly identified.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Information about the author(s) is available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. According to the info given, author(s) appears qualified to present information on this topic.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. The sponsor of the site is clearly identified.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. A contact person or address is available so the user can ask questions or verify information.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 3. Information Currency

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Latest revision date is provided. Date last revised</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Latest revision date is appropriate to material.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Content is updated frequently.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Links to other sites are current and working properly.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4. Information Quality

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. The purpose of this site is clear: business/commercial - entertainment - informational - news - personal page - persuasion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. The content achieves this intended purpose effectively.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. The content appears to be complete (no &quot;under construction&quot; signs, for example)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. The content of this site is well organized.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. The information in this site is easy to understand.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F. This site offers a sufficient information related to my needs/purposes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. The content is free of bias, or the bias can be easily detected.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H. This site provides interactivity that increases its value.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. The information appears to be accurate based on user's previous knowledge of subject.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J. The information is consistent with similar information in other sources.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K. Grammar and spelling are correct.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 5. Further Information

<table>
<thead>
<tr>
<th></th>
<th>Y</th>
<th>N</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. There are links to other sites that are related to the my needs/purposes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. The content of linked sites is worthwhile and appropriate to my needs/purposes.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Totals**  

Based on the total of "yes" and "no" answers and your overall observations, rate the content of this site as:  

---

©Kath McLaughlan, 7/31/2002  
East Knox High School  
Howard, Ohio  
mclachlan_k@trec.org

---

*Other names and brands may be claimed as the property of others.*
Online Research | Activity 5: Annotated Bibliography

Activity Overview
In this activity, students learn how to organize information by summarizing their sources in an annotated bibliography. You can help students understand how writing an effective summary of a source helps them learn more and avoid plagiarism.

Activity Questions
- What kind of information should students include in their annotations?
- What are some ways to write complete, but short, annotations?

Vocabulary: Words to Remember
Introduce the new vocabulary words to students with a brief explanation of each term. Help students understand how annotate, paraphrase, and summarize are similar and different from each other. Encourage students to associate a distinct image or symbol with each word and visualize these terms when they are annotating bibliographies.

You may want to have students use the words annotate, paraphrase, and summarize in one sentence to make sure they understand the precise definition of each term. Review plagiarism and make sure students understand how the term is related to annotate, paraphrase, and summarize.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about writing an annotated bibliography. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Make sure students understand why they must cite all of their sources in a bibliography.
Students must understand that plagiarism is when you fail to cite a source you have quoted, paraphrased, or summarized. Students should be able to explain the difference between paraphrasing and summarizing a source, with an understanding that summarizing involves more analysis than paraphrasing.

Explain to students that summarizing sources is the best way for them to avoid plagiarism, but they still must cite their sources in a bibliography. An annotated bibliography helps ensure that all sources are cited and summarized.

Question students to make sure they know that annotations:

- **Paraphrase** the main points and important details
- **Evaluate** the credibility, accuracy, and reliability of the source
- **Reflect** on why the source was chosen

**Task: What to Do**

Students create annotated bibliographies of their sources and explain why they chose each source to help them write their narrative essays. If students have kept their bibliographies accurate and complete, they only need to add a short annotation for each source.

You may want to review the example of an annotated bibliography with the whole class or particular students before they begin the task. Remind students if you want them to use a particular citation format. If you have a presentation station, you can annotate a few sources with the whole class before students begin the task.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with annotation and plagiarism.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name
Date

Annotated Bibliography

**Tsunami – Sri Lanka**
This Web site gives firsthand accounts from people who actually experienced the tsunami in Sri Lanka on December 26, 2004. This site gives information about what happened during the tsunami. This is probably a reliable source because the site is sponsored by the *International Federation of Library Associations*

**The Deadliest Tsunami in History**
This site describes what happened during the tsunami in Sri Lanka. It has information that can be used for statistics on the number of people killed and the damage that occurred. National Geographic is a reliable company, so I can feel confident that the information will be accurate.

**Earthquake Spawns Tsunami**
http://earthobservatory.nasa.gov/NaturalHazards/shownh.php3?img_id=12643
This Web site explains what a tsunami is and what causes it. The pictures on this site are excellent and can be helpful in visualizing what took place. NASA is a reliable government agency, so the information is most likely accurate.
**Tsunami Recovery Program**


This site can be helpful in understanding what the survivors did to help in the rescue and recovery efforts. The Red Cross describes what they were able to do to help after the tsunami. The information on the site is probably reliable because the Red Cross is a respected organization.

**World**


This site has a wealth of information about the tsunami, including, where it happened, some hotels that were involved and how some people survived. It has many first hand accounts. I feel comfortable with the information on this site because CNN is a well known and respected news agency.
Online Research | Look Back

Thinking about Learning
In this module, students explored research skills and used them to locate and evaluate online sources. Students found credible and reliable sources of accurate information and organized the information by summarizing their sources in annotated bibliographies.

Students have learned:

- How to make sure they use credible information sources when they conduct research
- How the Web uses hypertext to link related documents together and combines different kinds of information into a single document
- How to use keywords for the best results from search engines and search directories
- How to use specific criteria to decide whether a Web site is credible, accurate, and reliable
- How to organize information from credible sources with annotated bibliographies

Checklist for Online Research
Help students use the checklist to make sure they have completed all the tasks in this activity. Completing all the tasks ensures that students are ready to write their narrative essays in the next module.

Rubric for Online Research
Help students use the rubric to self-assess their sources and annotations. If necessary, remind students of the importance of paying attention to writing mechanics. Make sure students’ self-assessments are accurate. Encourage students to use their self-assessments to improve their annotated bibliographies.

Reflection on Narrative Writing
Ask individual students questions that encourage reflection any time you find an opportunity. If possible, give students time to share their annotated bibliographies with each other. Students can share their reflections with the whole class, in small groups, or in pairs.

Encourage students to discuss the following points:

- What they learned about research
- Why they chose each of their sources
- What they learned about annotating a bibliography
- How they wrote their best annotations

Encourage students to take their annotated bibliographies home to share with parents, guardians, or other trusted family members.
Research, Write, Publish
Writing Process

Module Overview
In this module, students learn that the best stories are carefully planned, creatively drafted, thoroughly revised, and strictly edited. Students should know the purpose of each stage of the writing process, so they can use the process to write effective narrative essays. You can help students understand that the process can be used for all types of writing in school, work, and life.

Module Questions

- How can literary elements help students plan their narrative essays?
- How can a word processing application help students be better writers?
- What are some ways to stimulate creativity when writing a first draft?
- What are some strategies for revising narrative essays to give audiences the best possible stories?
- How does editing narrative essays help make stories ready for an audience?

Activity 1: Essay Planning
Students learn how to use literary elements to plan narrative essays. Students create main characters by imagining the plot and setting from the character’s point of view.

Activity 2: Word Processing
Students learn the basic purposes and features of word processing applications, and expand their technical vocabularies. Students learn how to recognize and use graphical user interfaces.

Activity 3: Essay Drafting
Students learn how to maintain a consistent point of view and include dialogue and details when drafting narrative essays. Students learn that drafting provides an opportunity to be
Creative.

Activity 4: Essay Revision
Students learn how to put themselves in the minds of their readers when revising narrative essays. Students learn how to make sure they use literary elements effectively.

Activity 5: Essay Editing
Students learn how to make sure their essays are free from mechanical errors by proofreading carefully and using spelling and grammar tools effectively and systematically.

Look Back
Students reflect on their learning in this module. They should be ready to create desktop publications based on their fictional narratives. You may want to use the checklist to make sure students completed their tasks, and you may want to use the rubric to assess students' narrative essays.
Writing Process | Activity 1: Essay Planning

Activity Overview
In this activity, students explore the use of literary elements to plan the stories they want to tell before they begin to write. They learn to create main characters by imagining the plot and setting of the stories from the characters’ points of view.

Activity Questions
- How can students make their characters come alive for them and their readers?
- What is special about each student’s character that makes him or her interesting?
- How can students use plot and setting to draw readers into their stories?

Vocabulary: Words to Remember
Introduce vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with brainstorm. If possible, review the five main literary elements and difference between first person and third person. You may want to have the whole class act out the words or draw an image or symbol that represents each word.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about planning narrative essays. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Make sure students know that prewriting is planning an essay before they begin to write. You may want to remind students of the meaning of the prefix pre-. Students should understand how to brainstorm ideas for and ask questions about characters, plots, and settings to help them plan the stories they want to tell.
Question students to make sure they know how to use literary elements to plan their essays:

- Creating a *character* involves understanding all the special qualities that make a person unique from everyone else. Authors can brainstorm these special qualities and eventually begin to imagine that they *are* the characters.
- An effective *plot* draws readers into the story and gives readers a chance to get to know the characters. One prewriting strategy is to map out the events that take place in a story, especially some kind of conflict or crisis.
- Specific details of a *setting* can help readers picture the story in their minds. One prewriting strategy is to describe some important details about the setting, such as unusual features of the location where the story takes place.

**Task: What to Do**

Students answer their interview questions by imagining that they are the main characters in their stories. Student use their main characters, plots, and settings to paint clear pictures of the stories they want to tell. Make sure every student locates an appropriate prewriting tool to help plan a narrative essay. You may want to model the use of a prewriting tool for the whole class or particular groups of students.

Ask students to describe their stories to you or to their peers. You can ask students questions about their stories and have students respond as their main characters would respond. You may want to have students stay *in character* as they discuss their stories with their peers.

Discuss the example of *interview question responses* with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with basic strategies for using character, plot, and setting to plan narrative essays.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Interview Question Answers

1. Why did you go to Sri Lanka?
I went to Sri Lanka because I needed a break from work. I decided to look on the Internet to see what the newest exciting hotspot was. I found a hotel on Kalutura beach in Sri Lanka that sounded perfect.

2. Do you think you were in Sri Lanka when the Tsunami hit for a reason?
I don’t know if I was in Sri Lanka for a reason, but I do know that I learned a valuable lesson. I don’t take life for granted anymore. I appreciate every day that I am given and live it to the fullest.

3. Describe what happened during the tsunami.
During the tsunami the water from the Indian Ocean erupted and engulfed the beach where I was sunbathing without any warning. It rose as high as the hotel that we were staying at. It swept away everyone that was on the beach. There was no time to prepare. Some people were able to grab hold of a fixed object but many people were thrown into buildings and cars.

4. Were you able to help with the relief effort?
We were able to help a doctor who set up an impromptu hospital in our devastated hotel lobby. We tired to help make people comfortable till the doctor could attend to them. When the Red Cross moved in we helped give out fresh food and water to those who needed it. We were able to help each other by just listening.

5. Is there something you might have done differently?
There is nothing I would have done differently. We were put in a difficult situation and we were lucky enough to survive. I feel good about the fact that we weren’t seriously hurt and that we were able to help some people that weren’t as lucky as we were.

6. What did you learn from your experience?
I learned that I am resourceful and that I was able to think quickly under difficult circumstances. I now know what a tsunami is and that I wouldn’t want to experience it again. I learned that by helping others I was able to begin healing myself. As I mentioned before, I learned to value every day that I am given.

7. **Do you think there was a reason you survived and others didn’t?**
I think that I survived because it wasn’t my time. I also think that it was a wake-up call for me. I might have taken things too much for granted in my life. I now have a much better appreciation for my friends and family and I am not as concerned about material things as I once was. Since I’ve been home I spend a lot of time thinking about the meaning of life.
Writing Process | Activity 2: Word Processing

Activity Overview
In this activity, students explore the purposes and features of word processing applications. Students should become aware that most applications they use have similar graphical user interfaces. You can help students understand how to take advantage of this knowledge to use common software tools productively.

Activity Questions
- How does word processing make writing a narrative essay easier?
- What are the main parts of a word processing application’s graphical user interface?

Vocabulary: Words to Remember
Introduce vocabulary words to students with a brief explanation of each term. Help students understand that a good technical vocabulary helps them use technology productively. In the 21st century, using correct terminology to discuss technology is an essential literacy skill.

Help students associate an image or symbol with key terms such as application, graphical user interface, icon, and program. Make sure students can distinguish input from output.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires a fundamental technical vocabulary.

Exploration: Learning from the Web
Explain to students why everyone should be able to explain the basic features of word processing applications using correct terminology. Make sure students review the guiding questions for this activity before they explore Web sites to learn how word processing applications work. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.
Information: What to Know
Make sure students understand that word processing applications provide tools that help make writing, editing, formatting, and printing documents easier. Students know that they can use word processing applications to create multimedia documents, such as brochures, greeting cards, and Web pages.

Student should be able to distinguish common input devices from common output devices:

- A keyboard is an input device, because you use it to enter information into an application.
- The mouse is an input device used to select menus and click icons and buttons in a graphical user interface.
- A monitor is an output device, because it sends information out from the application for a person to view.
- A printer is also an output device.

You may want to have students speculate about how the ability of modern word processing applications to produce multimedia documents could have been related to the development of a graphical user interface (GUI). You can have students brainstorm ideas in pairs or small groups and then lead a whole class discussion.

Task: What to Do
Students explore their word processing application’s graphical user interface to describe five actions they can select from the menus and explain how they can use the five actions to write their narrative essays. If you are a classroom teacher, this task provides an excellent opportunity to collaborate with the computer teacher. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of a menu identification with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Quiz: Check Your Understanding
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with the graphical user interface and can distinguish common input devices from common output devices.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Using Graphical User Interface (GUI) with My Narrative Essay

1. **Format Menu > Font**
   The font tool can be used to enhance my narrative essay by changing the font style. For example, I can add bold or italicize words in my essay.

2. **Format Menu > Paragraph**
   The paragraph tool can be used to change the line spacing from single to double space in my narrative essay.

3. **Format Menu > Bullets and Numbering**
   The bullets and numbering tool can be used to add different styles of bullets and numbered lists to my essay.

4. **Insert Menu > Comment**
   The comment tool can be used when I peer review one of my classmate’s essays.

5. **Tools Menu > Spelling and Grammar**
   The spelling and grammar tools can be used to check if there is spelling or grammatical errors throughout my essay.
Writing Process | Activity 3: Essay Drafting

Activity Overview
In this activity, students use what they have learned about their topics and the characters they have created to draft their narrative essays. Students learn that a first draft gives them the freedom to try out any ideas they may have about how to tell their stories. Whether a student chooses to write in first person or third person, the student should maintain a consistent point of view and include dialogue and details to bring the story to life. Students should understand that creativity is the most important objective while drafting a narrative.

Activity Questions
- What information does a good story need to contain?
- What are some good examples of setting, plot, or theme in stories students have read?
- How can students use setting, plot, and theme to make their stories interesting?

Vocabulary: Words to Remember
Introduce the new vocabulary word draft to students and help students associate an image or symbol with the term. You may want to brainstorm as a class when drafts have been or are currently used, such as for books, laws, letters, and movie scripts. Encourage students to remember and visualize draft any time they are reading or writing a narrative.

Review key terms such as dialogue, point of view, first person, and third person. Discuss how these terms are used when writing a draft. Ask students to recall the images or symbols they associated with these words. Make sure students understand how narrate, narrative, and narrator are related. You may want to have students use the three words in one sentence to make sure they understand the precise definition of each term.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about drafting essays. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Ask students to think about some good stories they have read and what made them memorable. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.
**Information: What to Know**
Make sure students understand that writing a first draft allows authors to focus on developing the main elements of a narrative with dialogue and details. Encourage students to allow their ideas to flow freely without worrying about writing mechanics.

Make sure students know the basic purpose of an introduction, body, and conclusion.

Pose questions and lead a short class discussion to make sure students understand the importance of maintaining a consistent point of view and developing a meaningful theme:

- In first person, the main character narrates the story from their *point of view*. In the third person, the story is told from the *point of view* of the author or another character.
- A narrative *theme* should not be obvious to readers, but rather emerge from the characters, plot, and setting. An effective narrative theme enlightens without teaching or preaching.

**Task: What to Do**
Students draft narrative essays about the characters they created to answer their interview questions, using literary elements to make their stories as interesting and meaningful as possible.

Discuss the example of a *narrative essay draft* with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Remind students to be as creative as they can while drafting their narrative essays. Monitor progress to make sure that each student maintains a consistent point of view and develops a meaningful theme.

**Quiz: Check Your Understanding**
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students know the importance of creativity, maintaining a consistent point of view, and developing a meaningful theme while drafting a narrative essay.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name
Date

Our Vacation

The ad in the luxury hotel brochure said, You will experience golden beaches with glistening sand caressed by the gentle roll of the Indian Ocean so I decided that I would spend Christmas 2004 in Sri Lanka at the Palms Hotel. I called my best friend to see if she would like to join me in paradise and she quickly replied, “Count me in!”

We left for Sri Lanka on December 23, 2004. We couldn’t wait to put our toe in the Indian Ocean and feel the gentle roll of the ocean on our feet as promised. Our hotel was on Kalutara Beach. We spent the days at the beach and the evenings sight seeing.

December 26, 2004 started out like any other day in paradise. It was about 10:28 and we were lying on the beach soaking up the sun, when we heard screams. My friend and I jumped up and we couldn’t believe what we saw! What was seconds earlier a gentle rolling ocean turned into a people-eating monster.

We ran as fast as our bodies could carry us. We tried to stay ahead of the water, but it became impossible. The water carried us until we were lucky enough to grab onto a pole. Suddenly the pole gave way and we were slammed into a tree. My friend and I were still together. We were able to climb the tree and look over the devastation that lay before us.

We clung to the tree for dear life. We climbed down carefully and knew immediately that we needed to help. We ran into a Doctor who quickly set up a makeshift hospital in our
devastated hotel lobby. We did what we could. Helping others kept us busy so we were not able to dwell on our small problems.

It wasn’t until later that night that we got a name for what happened. It was a Tsunami! It was explained to us as an earthquake under the ocean. It registered 9.2 on the Richter scale. It wasn’t till days later that we learned that approximately 229,000 people were killed, 30,000 in Sri Lanka alone. It was the deadliest disaster in Modern History and my friend and I had been a part of it and survived.

On our way home we realized how lucky we were to be alive. We knew that we would never be the same and in some way that was alright with us. As our lives were passing in front of us we realized that it was not cars, money or jewelry that was important, but family and friends and helping others. Somehow the words, “golden beaches with glistening sand caressed by the gentle roll of the Indian Ocean,” will never again sound the same.
Writing Process | Activity 4: Essay Revision

Activity Overview
In this activity, students learn how to improve their narrative essays by putting themselves in the minds of their readers. Make sure students understand that readers must be interested in the plot, care about the characters, and understand the theme. Help students learn to look at their writing from different points of view when they revise their essays.

Activity Questions
- How can students put themselves in the minds of their readers?
- How can students identify the strengths and weaknesses of their writing?
- What can students do to improve their writing?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as revise, objective, antonym, and synonym. Ask students to give examples of antonyms and synonyms, and present examples where students match words with their antonyms and synonyms.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone learns the vocabulary words.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites on information that helps them revise their narrative essays. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Make sure students know that the purpose of revision is to make their essays as interesting and meaningful as possible. Encourage students to focus on content without worrying about
writing mechanics. Students should understand the importance of being as objective as possible when they revise their essays.

Pose questions and lead a short class discussion to make sure students know basic revision strategies:

- Remove words, sentences, and paragraphs that are not important to the story
- Rewrite or reorganize long or confusing sentences and paragraphs
- Add details and replace general words with descriptive words
- Make sure each character’s point of view is consistent throughout the story

**Task: What to Do**

Students revise their narrative essays to give their readers the best stories they can tell. Discuss the example of a revised narrative essay with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Make sure students know how to use the thesaurus feature in the word processing software before they begin the task. If you are a classroom teacher, you may want to check with the computer teacher to make sure students know how to use the thesaurus feature. If you have a presentation station, you may want to model effective use of the thesaurus to revise an essay. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Remind students to focus on content and be as objective as possible while revising their narrative essays. Monitor progress to make sure students revise their essays carefully, use the thesaurus to find descriptive words, maintain consistent points of view, and tell coherent stories.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students know the importance of objectivity, maintaining a consistent point of view, and telling a coherent story while revising a narrative essay.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

A Vacation in Paradise

The ad in the luxury hotel brochure said, "You will experience golden beaches with glistening sand caressed by the gentle roll of the Indian Ocean," so I decided that I would spend Christmas 2004 in Sri Lanka at the Palms Hotel. I called my best friend to see if she would like to join me in paradise and she quickly replied, “Count me in!”

We left for Sri Lanka on December 23, 2004. We couldn’t wait to put our toes in the Indian Ocean and feel the gentle roll of the ocean on our feet as promised. Our hotel was on Kalutara Beach. We spent the days at the beach and in the evening, we went sightseeing.

December 26, 2004 started out like any other day in paradise. It was about 10:28 and we were lying on the beach soaking up the sun, when we heard screams. My friend and I jumped up and we couldn’t believe what we saw! What was seconds earlier, a gentle rolling ocean, turned into a people-eating monster!

We ran as fast as our bodies could carry us. We tried to stay ahead of the water, but it became impossible. The water carried us until we were lucky enough to grab onto a pole. Suddenly the pole gave way and we were slammed into a tree. My friend and I were still together. We were able to climb the tree and look over the devastation that lay before us.

We clung to the tree for dear life. We climbed down carefully and knew immediately that we needed to help. We ran into a Doctor who quickly set up a makeshift hospital in our
devastated hotel lobby. We did what we could. Helping others kept us busy so we were not able to dwell on our small problems. With all of the support we provided, it seemed like we were there for months.

It wasn’t until later that night that we got a name for what happened. It was a Tsunami! It was explained to us as an earthquake under the ocean. It registered 9.2 on the Richter scale. It wasn’t till days later that we learned that approximately 229,000 people were killed, 30,000 in Sri Lanka alone. It was the deadliest disaster in Modern History and my friend and I had been a part of it and survived.

On our way home we realized how lucky we were to be alive. We knew that we would never be the same and in some way that was alright with us. As our lives were passing in front of us we realized that it was not cars, money or jewelry that was important, but family and friends and helping others. Somehow the words, “golden beaches with glistening sand caressed by the gentle roll of the Indian Ocean,” will never again sound the same.
Writing Process | Activity 5: Essay Editing

Activity Overview
In this activity, students learn how to ensure that their narrative essays are free from distracting mechanical errors. Make sure students understand that poor writing mechanics can ruin an otherwise interesting and meaningful story. Help students learn to look at their writing carefully and systematically as well as use spelling and grammar tools effectively when editing an essay.

Activity Questions
- Why is editing important?
- What should students concentrate on when they edit?
- What are the strengths and weaknesses of students’ writing?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as edit, mechanics, and proofread. Ask students to give examples of possible mechanical errors.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires an editing vocabulary.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about editing essays. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Make sure students know that the purpose of editing is to find and correct problems with writing mechanics. Encourage students to develop the habit of examining their writing carefully and systematically. Students should understand that good writing mechanics help keep readers interested and engaged in a story.
Make sure students know how word processing software can help them edit their writing. Emphasize that word processing tools can help them check both spelling and grammar, but technology tools are not substitutes for their good judgment.

**Task: What to Do**

Students edit their narrative essays to find and correct any mechanical problems. Make sure students know how to use the spelling and grammar features of the word processing software before they begin the task. If you are a classroom teacher, you may want to check with the computer teacher to make sure students know how to check spelling and grammar.

If you have a presentation station, you may want to model effective use of the spelling and grammar tools to revise an essay.

Remind students to focus on content and be as careful and systematic as possible while editing their narrative essays. Monitor progress to make sure students proofread their essays carefully, edit their essays systematically, and use spelling and grammar tools judiciously.

Discuss the example of an *edited narrative essay* with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with strategies for editing an essay.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

A Vacation in Paradise

The ad on the Internet travel site said, "You will experience golden beaches with glistening sand caressed by the gentle roll of the Indian Ocean," so I decided I needed a break from work and I would spend Christmas 2004 in Sri Lanka at the exquisite Palms Hotel. I called my best friend to see if she would like to join me in paradise and she quickly replied, "Count me in!" I couldn't believe it! In three weeks I was going to be in paradise.

We left for Sri Lanka on December 23, 2004. We couldn't wait to put our toes in the Indian Ocean and feel the gentle roll of the waves on our feet as promised. Our hotel was on Kalutara Beach and it was more stunning than we could have imagined. The view from our hotel room was breathtaking. The Indian Ocean was calm and the water glistened in the warm sun. We congratulated ourselves on making such a great decision for a winter getaway. We spent the days at the beach and the evenings sight seeing. Sri Lanka was gorgeous and the people were wonderful.

December 26, 2004 started out like any other day in paradise. It was about 10:28 A.M. and we were lying on the sun-drenched beach soaking up the golden rays of the sun, when we heard ear-piercing screams. My friend and I jumped up and we couldn't believe what we saw! What was seconds earlier, a gentle rolling ocean, turned into a man-eating monster.

We ran as fast as our sun-burned bodies could carry us. We tried to stay ahead of the water, but it became impossible. The water dragged us until we grabbed onto a pole. Suddenly the pole gave way and we were slammed into a tree. My friend and I were still
together. We were able to climb the tree and look over the devastation that lay before us. The killer waves left a path of death and destruction that was hard to imagine.

We clung to the tree for dear life. It took about two hours for the water to subside. We climbed down carefully and knew immediately that we needed to help. We ran into a Doctor who quickly set up a makeshift hospital in our devastated hotel lobby. We did what we could. Everything was destroyed for miles and there was no place for anyone to stay. Later the Red Cross came and set up temporary headquarters a few miles from our hotel and we were able to help deliver fresh food and water for those who needed it. Helping others kept us busy so we were not able to dwell on our small problems.

It wasn’t until later that we got a name for what happened. It was a Tsunami! It was explained to us as an earthquake under the ocean. It registered 9.2 on the Richter scale. Later we learned that approximately 229,000 people were killed, 30,000 in Sri Lanka alone. It was the deadliest disaster in Modern History and my friend and I had been a part of it and survived

On our way home we realized how lucky we were to be alive. We knew that we would never be the same and in some way that was alright with us. As our lives were passing in front of us we realized that it was not cars, money or jewelry that was important, but family and friends and helping others. Somehow the words, “golden beaches with glistening sand caressed by the gentle roll of the Indian Ocean,” will never again sound the same. Our next journey will be to find meaning in why we survived and others didn’t.
Writing Process | Look Back

Thinking about Learning
In this module, students explored the writing process. Students used narrative elements and word processing applications to help them plan, draft, revise, and edit their narrative essays.

Students have learned:

- How to use character and point of view to bring stories to life for their readers
- How word processing makes creating complex documents quick and easy
- How to use plot, setting, and theme to engage their readers in their stories
- How to give their readers the best stories they can by revising their narrative essays
- How to make sure that mechanical errors do not distract their readers

Checklist for Writing Process
Help students use the checklist to make sure they have completed all the tasks in this activity. Completing all tasks ensures that students are ready to create desktop publications based on their narrative essays.

Rubric for Writing Process
Help students use the rubric to self-assess their essay and writing mechanics. Make sure students’ self-assessments are accurate. Encourage students to use their self-assessments to improve their essays and writing mechanics.

Reflection on Writing Process
Ask individual students questions that encourage reflection any time you find an opportunity. If possible, give students time to share their narrative essays with each other. Students can share their reflections with the whole class, in small groups, or in pairs.

Encourage students to discuss the following points:

- What they learned about narrative elements
- How they created the characters in their stories
- What they learned about the process of writing a good story
- How they used their narrative essays to help readers understand their topics

Encourage students to take their narrative essays home to share with parents, guardians, or other trusted family members.
Research, Write, Publish
Desktop Publishing

Module Overview
In this module, students learn how to use desktop publishing tools to share their knowledge with an authentic audience. Students should know which technology tools can be used for desktop publishing, and they should be able to use the tools effectively. You can help students understand how to identify an audience and publish their writing in an appropriate format for their purposes and audiences. Students should know how to find, manipulate, and employ images to communicate visual information that enhances their writing.

Module Questions

- How do technology tools make publishing for an audience easier for authors?
- What kinds of information can be effectively communicated with a brochure?
- What do authors need to know about images to communicate visual information?
- Under what conditions can authors use images in their publications?
- How can authors use graphic design principles to communicate effectively?

Activity 1: Publishing Tools
Students learn how technology tools for desktop publishing enable effective communication with an audience. Students format the text of their fictional narratives for publication.

Activity 2: Brochure Template
Students explore various purposes and formats of brochures. Students learn how to use templates to help them produce quality publications based on their narrative essays.

Activity 3: Image Search
Students learn how to locate images to communicate information and add color and visual appeal to publications. Students find images that enhance their brochures.

Look Ahead
Review the checklist and rubric before introducing the module to students. When you introduce the module, discuss the checklist and rubric with the whole class or have students to review the checklist and rubric individually or in small groups.

See the checklist: Desktop Publishing Checklist
See the rubric: Desktop Publishing Rubric
Activity 4: Copyright and Fair Use
Students learn how copyright laws protect the rights of people who create original work. Students review the limited rights they have to use copyrighted images in their work.

Activity 5: Graphic Design
Students learn how graphic design uses type and graphics to make text visually appealing. Students use basic principles of graphic design to make their brochures attractive.

Look Back
Students reflect on their learning in this module. They should be ready to confidently produce brochures. You may want to use the checklist to make sure students completed their tasks, and you may want to use the rubric to assess students' brochures.
Desktop Publishing | Activity 1: Publishing Tools

Activity Overview
In this activity, students explore how technology tools for desktop publication enable effective communication with an audience. Students learn that specialized desktop publishing applications allow precise control over the appearance of a document, but word processing applications can also be used effectively for basic desktop publishing.

Activity Questions
- What makes a publication attractive and easy to read?
- How can students use technology tools to make their narrative essays attractive and easy to read?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as audience, desktop publishing, graphics, and type.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires desktop publishing vocabulary.

Exploration: Learning from the Web
Students explore common technology tools for producing quality publications. Remind students that modern word processing applications can be used to produce multimedia documents. Make sure students understand how these tools can help students interest an audience in their writing. You may want to ask students what questions they have, what ideas they have, or what they already know about how to create attractive publications. You may also want to have students turn in notes or report out their exploration to the class.

Information: What to Know
Question students to make sure they understand why desktop publishing requires three major technology tools:
- An application to format a publication

Copyright © Intel Corporation. All rights reserved. Adapted with permission. Intel, the Intel logo and the Intel Education Initiative are trademarks of Intel Corporation or its subsidiaries in the U.S. and other countries.
*Other names and brands may be claimed as the property of others.
- A computer to run the application
- A printer to print the publication

Like any technology tool, the results you get with desktop publishing depend on your knowledge, efforts, and skills. To create attractive publications, students should use many of the features of their technology tools but not on the same page! Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

**Task: What to Do**

Students prepare their narrative essays for publication by formatting text to make their essays as attractive and easy to read as possible, emphasizing the most important parts.

Discuss the example of a formatted narrative essay with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Make sure students know how to use the formatting features of the word processing software before they begin the task. If you have a presentation station, you may want to format a document with the whole class or small groups before students begin working on the task. If you are a classroom teacher, this activity is an excellent time to collaborate with the computer teacher. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with desktop publishing concepts.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

A Vacation in Paradise

The ad on the Internet travel site said, "You will experience golden beaches with glistening sand caressed by the gentle roll of the Indian Ocean," so I decided I needed a break from work and I would spend Christmas 2004 in Sri Lanka at the exquisite Palms Hotel. I called my best friend to see if she would like to join me in paradise and she quickly replied, "Count me in!" I couldn’t believe it! In three weeks I was going to be in paradise.

We left for Sri Lanka on December 23, 2004. We couldn’t wait to put our toes in the Indian Ocean and feel the gentle roll of the waves on our feet as promised. Our hotel was on Kalutara Beach and it was more stunning than we could have imagined. The view from our hotel room was breathtaking. The Indian Ocean was calm and the water glistened in the warm sun. We congratulated ourselves on making such a great decision for a winter getaway. We spent the days at the beach and the evenings sight seeing. Sri Lanka was gorgeous and the people were wonderful.

December 26, 2004 started out like any other day in paradise. It was about 10:28 A.M. and we were lying on the sun-drenched beach soaking up the golden rays of the sun, when we heard ear-piercing screams. My friend and I jumped up and we couldn’t believe what we saw! What was seconds earlier, a gentle rolling ocean, turned into a man-eating monster.

We ran as fast as our sun-burned bodies could carry us. We tried to stay ahead of the water, but it became impossible. The water dragged us until we grabbed onto a pole. Suddenly the pole gave way and we were slammed into a tree. My friend and I were still
together. We were able to climb the tree and look over the devastation that lay before us. The killer waves left a path of death and destruction that was hard to imagine.

We clung to the tree for dear life. It took about two hours for the water to subside. We climbed down carefully and knew immediately that we needed to help. We ran into a Doctor who quickly set up a makeshift hospital in our devastated hotel lobby. We did what we could. Everything was destroyed for miles and there was no place for anyone to stay. Later the Red Cross came and set up temporary headquarters a few miles from our hotel and we were able to help deliver fresh food and water for those who needed it. Helping others kept us busy so we were not able to dwell on our small problems.

It wasn’t until later that we got a name for what happened. It was a Tsunami! It was explained to us as an earthquake under the ocean. It registered 9.2 on the Richter scale. Later we learned that approximately 229,000 people were killed, 30,000 in Sri Lanka alone. It was the deadliest disaster in Modern History and my friend and I had been a part of it and survived.

On our way home we realized how lucky we were to be alive. We knew that we would never be the same and in some way that was alright with us. As our lives were passing in front of us we realized that it was not cars, money or jewelry that was important, but family and friends and helping others. Somehow the words, “golden beaches with glistening sand caressed by the gentle roll of the Indian Ocean,” will never again sound the same. Our next journey will be to find meaning in why we survived and others didn’t.

Desktop Publishing | Activity 2: Brochure Template
Activity Overview
In this activity, students explore various purposes and formats for brochures. Students learn how to use templates to help them produce quality publications.

Activity Questions
- What are the advantages of using a template?
- How can students use templates to publish brochures based on their narrative essays?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with brochure and template. You may want to have students use each word in a sentence or act out the word. You may want to have students discuss some brochures they have seen in pairs or small groups.

Exploration: Learning from the Web
Make sure students understand how to use the guiding questions for this activity to focus their exploration of Web sites about desktop publishing templates. You may want to ask students if they have ever used a template before. You may also want to have students think of some ways they could use templates and report out on their exploration to the class.

Information: What to Know
Make sure students understand the importance of determining the types of publications that are most appropriate for their purposes and audiences. Students should know that a brochure usually describes or promotes a product, idea, opinion, organization, or event. Brochures can be useful for numerous audiences because they are very adaptable and come in many formats and styles.

Make sure students know that templates are computer files that have been created in a specific application to provide formatting for a publication. Students can create quality publications by adding their content to a file created from an existing template. Students should understand how to use templates to save time, improve consistency, get expert help, and learn desktop publishing.

Task: What to Do
Students use templates and the content of their narrative essays to create brochures that describe or promote products, ideas, opinions, organizations, or events related to their
topics. Help students brainstorm some ways to use their narrative essays to promote products, ideas, opinions, organizations, or events. Encourage students to make connections between the task for this activity and a variety of real-world tasks.

Discuss the example of a brochure template with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example. Make sure students know how to use templates in the word processing or desktop publishing software before they begin the task. If you have a presentation station, you may want to model effective use of the technology tools. If you are a classroom teacher, you may want to check with the computer teacher to make sure students know how to create a brochure.

Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

**Quiz: Check Your Understanding**
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students know how to choose and use templates for brochures.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Tsunami Relief Sri Lanka

Volunteering Opportunities

It is the mission of the Tsunami relief agency to serve all those in need. If you are unable to donate money you can still help. We are looking for volunteers to journey with me to Sri Lanka to help with cleanup and rebuilding. With your help many people will be able to return to their homes and have clean water and fresh food to eat. You could help Sri Lanka return to the land of golden beaches and gently rolling oceans.

I believe President Bush was right when he said, “Americans have a history of rising to meet great humanitarian challenges and of providing hope to suffering peoples.” Let’s continue this tradition. To volunteer please call 12-555-0125.

It is not cars or money that defines who we are, but what we do to help others.

Can You Help Me On My Next Journey?

The ad on the Internet travel site said, “You will experience golden beaches with glistening sand caressed by the gentle roll of the Indian Ocean,” so I decided I needed a break from work and I would spend Christmas 2004 in Sri Lanka at the exquisite Palms Hotel. Little did I know I would become involved in what has become the deadliest disaster in modern history. My friend and I survived, but many did not. I questioned why I survived and others didn’t. I then realized that my next journey would be to return to Sri Lanka and help those who were still suffering.

We need your help!

“Americans have a history of rising to meet great humanitarian challenges and of providing hope to suffering peoples.”
President Bush

Tsunami Relief
1234 Maple Rd.
Chicago, IL 60603
Phone (312) 555 0125
Fax (425) 555 0145

http://www.tsunamirelief.net
Desktop Publishing | Activity 3: Images Search

Activity Overview
In this activity, students learn how to use images to communicate information and add color and visual appeal to a publication. Students learn how to select images that are directly related to their topics and enhance their narrative essay publications.

Activity Questions
- What are the strengths and weakness of different image formats?
- How can students find images to enhance their brochures?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with compress, download, extension, and format. Make sure students understand how extension and format are related. You may want to have students use both terms in one sentence to make sure they understand the precise definition of each term.

You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires the vocabulary words.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites with information that helps them to find and download images. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. You may want to ask students if they have searched for images before and, if so, what kinds of problems they may have encountered. Emphasize to students the importance of understanding that images can be stored in different file formats depending on how the image will be used. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Make sure students know that every computer file is stored in a particular format and that a file extension indicates the kind of format a file uses. Students should understand that all
formats are good for some purposes but not for others. Make sure students are familiar with the major image formats, including GIF, JPG, PNG, and TIF.

**Task: What to Do**

Students find images on the Internet to enhance their brochures’ messages and visual appeal. Remind students to search for images that directly relate to their topics and enhance their narrative essay publications.

Make sure students know how to download images from the Web before they begin the task. If you have a presentation station, you may want to model the process of searching, selecting, and downloading images for a publication. If you are a classroom teacher, you may want to check with the computer teacher to make sure students know how to download images. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of an *image list with sources* with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with major image formats.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Images: A Vacation in Paradise

1. **Image Web Site:** [http://earthobservatory.nasa.gov/NaturalHazards/shownh.php3?img_id=12643](http://earthobservatory.nasa.gov/NaturalHazards/shownh.php3?img_id=12643)

   ![Image provided by DigitalGlobe](http://earthobservatory.nasa.gov/NaturalHazards/shownh.php3?img_id=12643)

2. **Image Web Site:** [http://www.sxc.hu/photo/866398](http://www.sxc.hu/photo/866398)

   ![Image](http://www.sxc.hu/photo/866398)

3. **Image Web Site:** [http://www.sxc.hu/photo/843417](http://www.sxc.hu/photo/843417)

   ![Image](http://www.sxc.hu/photo/843417)
4. **Image Web Site:** [http://www.sxc.hu/photo/311255](http://www.sxc.hu/photo/311255)
Desktop Publishing | Activity 4: Copyright and Fair Use

Activity Overview
In this activity, students learn how copyright laws protect the rights of people who create original works. Students should know the conditions and limitations of fair use of copyrighted materials for educational purposes. Students should also know when and how to obtain permission to use copyrighted images in publications.

Activity Questions
- When does fair use allow students to use copyrighted images?
- What are the limits on fair use?
- When should students get permission to use copyrighted images?

Vocabulary: Words to Remember
Introduce *fair use* to students and review key terms such as *copyright* and *public domain*. Help students associate an image or symbol with *fair use* and have students recall the images or symbols they associated with *copyright* and *public domain*.

Explain that terms are words or phrases with a particular meaning in a specific context, such as legal terms like *copyright* and *fair use*. You may want to have students use *copyright, fair use, and public domain* in one sentence to make sure they understand how these terms are related.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about copyright and fair use. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. You may want to ask students if they have ever used images, songs, or movies without permission. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Look Ahead
Task: Students determine the copyright status of the images they found.
Goal: For each image found, students determine if they can use the image without permission or if they need to obtain permission from the copyright holder.

Preview the example of *image copyright information* before introducing the activity to students.

See the example: Copyright Information
Information: What to Know
Make sure students know that copyright laws protect the works of authors, artists, and others by preventing people from changing creative works without permission and claiming the works as their own. Copyright laws also prevent people from profiting from other people’s work without permission. Make sure students understand that they must assume that a work is copyrighted, even when it is not marked with a copyright symbol ©.

Make sure students know that fair use of copyrighted works for educational purpose applies only under certain conditions and limitations. Students should understand that there are no exact rules for fair use in all cases, but they can follow some accepted guidelines for school projects. Make sure students understand that they should always give credit to the creators of images just as they cite the authors of text.

Task: What to Do
Students identify the copyright status of the images they found and determine if they can use the images without permission or if they need to obtain permission from the copyright holders. Monitor students to make sure they correctly identify the copyright status of their images.

Discuss the example of *image copyright information* with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Quiz: Check Your Understanding
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with the basic principles of copyright and fair use.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Web Citations: A Vacation in Paradise

5. Image Web Site: http://earthobservatory.nasa.gov/NaturalHazards/shownh.php3?img_id=12643

Copyright Permission Status: Copyright permission granted form DigitalGlobe

6. Image Web Site: http://www.sxc.hu/photo/866398

Copyright Permission Status: Image does not require copyright permissions.

Copyright Information: http://www.sxc.hu/info.phtml?f=help&s=8_2

7. Image Web Site: http://www.sxc.hu/photo/843417
Copyright Permission Status: Image does not require copyright permissions.

Copyright Information: http://www.sxc.hu/info.phtml?f=help&s=8_2

8. Image Web Site: http://www.sxc.hu/photo/311255

Copyright Permission Status: Image does not require copyright permissions.

Copyright Information: http://www.sxc.hu/info.phtml?f=help&s=8_2
Desktop Publishing | Activity 5: Graphic Design

**Activity Overview**
In this activity, students explore how graphic design uses type and graphics to make text visually appealing. Students should understand that desktop publishing provides the technology tools necessary to create a publication, and graphic design provides the knowledge and skills necessary to use the tools effectively.

**Activity Questions**
- What are the most important concepts to remember about graphic design?
- How can students use graphic design to attract readers to their brochures?
- How can type and fonts affect attractiveness and readability?

**Vocabulary: Words to Remember**
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key graphic design terms such as alignment, balance, contrast, proximity, repetition, and white space.
Encourage students to remember and visualize graphic design terms any time they read a publication.

**Exploration: Learning from the Web**
Make sure students review the guiding questions for this activity before they explore Web sites on information that helps them attract readers to their publications. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

You may want to ask students what questions or ideas they have about how to make a publication visually appealing and easy to read. You may also want to have students use graphic organizers, such as T-Charts, to take notes on “dos and don’ts” of graphic design.

**Information: What to Know**
Make sure students know that graphic design is the art of using type and graphics to produce quality publications. Students should understand that no strict rules can guarantee success, but some guidelines are effective in most cases.
Pose questions and lead a short class discussion to make sure students understand the six basic principles of graphic design:

- **Alignment** makes a publication easy to read.
- **Balance** sets the tone for a publication.
- **Contrast** directs a reader’s attention to a specific place or idea.
- **Proximity** uses space to show how type and graphics are related.
- **Repetition** helps a reader navigate through a publication.
- **White space** gives a reader’s eyes a rest.

Make sure students understand how to use the *rule of thirds*, which says that a design looks better if it is arranged along a grid like a tic-tac-toe game. The four points of the intersections of the lines can be used to align the features of a design. Consider inviting a graphic designer as a guest speaker.

**Task: What to Do**

Students use the principles of graphic design to make their brochures as visually appealing and easy to read as possible. Remind students to consider their purpose and audience when adding graphic design elements to their brochures.

Make sure students know how to find and use clip art in the word processing or desktop publishing software before they begin the task. If you have a presentation station, you may want to model effective use of clip art in graphic design. If you are a classroom teacher, you may want to check with the computer teacher to make sure students know how to find and use clip art. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of a final brochure with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with balance, alignment, and the rule of thirds.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Can You Help Me On My Next Journey?

The ad on the Internet travel site said, "You will experience golden beaches with glistening sand caressed by the gentle roll of the Indian Ocean," so I decided I needed a break from work and I would spend Christmas 2004 in Sri Lanka at the exquisite Palms Hotel. Little did I know I would become involved in what has become the deadliest disaster in modern history. My friend and I survived, but many did not. I questioned why I survived and others didn’t. I then realized that my next journey would be to return to Sri Lanka and help those who were still suffering.

SRI LANKA EXPERIENCE

December 26, 2004 started out like any other day in paradise. It was about 10:28 A.M. and we were lying on the sun-drenched beach soaking up the golden rays of the sun, when we heard ear-piercing screams. My friend and I jumped up and we couldn’t believe what we saw! What was seconds earlier, a gentle rolling ocean, turned into a man-eating monster!

We need your help!

http://earthobservatory.nasa.gov/NaturalHazards/shownh.php3?img_id=12643

“What was seconds earlier, a gentle rolling ocean, turned into a man-eating monster!”

http://www.sxc.hu/photo/311255

Tsunami Relief
1234 Maple Rd.
Chicago, IL 60603
Phone (312) 555 0125
Fax (425) 555 0145
http://www.tsunamirelief.net
Desktop Publishing | Look Back

Thinking about Learning
In this module, students explored how to use technology tools for desktop publishing and graphic design. Students used templates to publish their narrative essays in a brochure.

Students have learned:

- How to use technology tools to prepare text for publication
- How to use templates to publish their narrative essays in brochures
- How to find images on the Internet, recognize image file formats, and download images
- How to use copyrighted images legally and ethically in school projects
- How to use the principles of graphic design to create attractive publications that are easy to read

Checklist for Desktop Publishing
Help students use the checklist to make sure they have completed all the tasks in this activity. Completing all tasks ensures that students can confidently design and publish brochures.

Rubric for Desktop Publishing
Help students use the rubric to self-assess their brochures. Remind students the importance of paying attention to writing mechanics. Make sure students’ self-assessments are accurate. Encourage students to use their self-assessments to improve their brochures.

Reflection on Desktop Publishing
Ask individual students questions that encourage reflection any time you find an opportunity. If possible, give students time to share their brochures with each other. Students can share their reflections with the whole class, in small groups, or in pairs.

Encourage students to discuss the following points:

- What they learned about the process of desktop publishing
- What they learned about the principles of graphic design
- How they used desktop publishing to tell stories to an audience
- How they used graphic design to make their brochures visually appealing

Encourage students to take their brochures home to share with parents, guardians, or other trusted family members.
Think Critically with Data

Project Overview
In the *Think Critically with Data* project, students develop the fundamental skills needed to use technology in support of critical thinking, data analysis, and communication. Students also learn how to monitor and be accountable for their own thinking and analysis. In this project, you provide opportunities to build critical thinking skills by having students collect and analyze data. As students become more proficient, they begin to understand how an expert can generate new knowledge by asking original questions, collecting data through observation or measurement, analyzing and representing data, and sharing results with peers and other audiences.

Project Questions
- How can critical thinking skills help students learn about complex topics?
- Why should students know how to collect their own data?
- How does critical thinking help students analyze and represent data?
- How can students tell engaging and meaningful stories about data?

Critical Thinking
How can you improve students’ critical thinking skills? In this module, you help students understand that they can become critical thinkers if they learn some basic skills. Make sure students know why critical thinking requires the ability to look at a topic from multiple points of view, evaluate information carefully, and draw logical conclusions. With your facilitation, students apply critical thinking skills to interpret polling data. Then, students choose and research complex topics on which to create their own polls.

Data Collection
What can students do when they need more information to understand a topic? In this module, students learn how to collect data to supplement information from credible sources. You guide students as they summarize the information they gathered in annotated bibliographies. You also help students apply their critical thinking skills as they write poll questions and collect data from other students. After students collect their data, they use a spreadsheet application to create workbooks and enter their data into worksheets.
Data Analysis
Can your students use critical thinking skills to analyze and represent data? In this module, you facilitate an exploration of spreadsheet applications as an effective technology tool for analyzing and representing data. Students should know how to use formulas and functions to analyze their poll data. You help students understand why representing data visually is a good way to draw conclusions from data analysis, and then students visually represent their poll data with appropriate charts and graphs. Students also format their worksheets and visual representations before sharing their data with peers.

Newsletter Publication
Can your students communicate what they learn from their research and analysis? In this module, students apply their critical thinking skills to organize the information they gathered. You help students understand how they can use the narrative style of writing to tell stories about their topics. You also encourage students to explore the writing process and look for ways to make their stories engaging and meaningful. Students use desktop publishing tools and graphic design elements to produce visually appealing newsletters that share their research, data, and conclusions with an audience.
Think Critically with Data

Critical Thinking

Module Overview
In this module, students learn that critical thinking can help them understand complex topics. You can help students understand that anyone can become a critical thinker by learning some basic skills. Students should know why critical thinking requires the ability to look at a topic from multiple points of view, evaluate information carefully, and draw logical conclusions. Students should know how polls can help them understand complex topics better by collecting data on people and their opinions. Students should recognize how critical thinking skills can help them be successful in school, work, and life.

Module Questions

- What skills do students need to think critically about complex topics?
- What kinds of data can polls provide and how can poll data be used?
- What makes a topic a good choice for collecting poll data?
- How can research questions help students understand complex topics?
- What strategies can students use to locate credible online sources?

Activity 1: Thinking Skills
Students explore thinking skills and learn how to think critically by following a process. Students practice the thinking skills and process by thinking critically about current events.

Activity 2: Polling Data
Students learn that polls are a formal method for collecting data about people and their opinions. Students participate in polls and think critically about the results.

Activity 3: Topic Choice
Students explore the purposes and uses of poll data, and they choose topics for their own polls. Students learn how to use opinion data to learn about complex topics in many subjects.
Activity 4: Research Questions
Students explore how to ask different types of research questions to gather different kinds of information. Students write effective research questions to help them learn about their topics.

Activity 5: Online Research
Students explore some strategies for locating and evaluating online sources. Students learn how to judge Web sites against specific criteria to determine which Web sites are credible and reliable.

Look Back
Students reflect on their learning in this module. They should be ready to collect data on their topics. You may want to use the checklist to make sure students completed their tasks, and you may want to use the rubric to assess students’ topics and research questions.
Critical Thinking | Activity 1: Thinking Skills

Activity Overview
In this activity, students explore thinking skills and learn to apply them in a five-step critical thinking process. Students should understand that what they think can be less important than how they think.

Activity Questions
- Why is being able to think critically an important skill?
- What skills can help students think critically?
- When can critical thinking be useful?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as accurate, complex, concept, logical, objective, precise, and relevant. Make sure students understand that in this context critical does not imply finding fault.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires a critical thinking vocabulary.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they begin their exploration. Explain how the guiding questions help focus their reading on the Web. You may want to have students recall the vocabulary words as they explore thinking skills. Encourage students to visualize concept, accurate, logical, objective, precise, and relevant as they explore.

You may want to ask students what questions they have about and what they already know about how to think critically. You can have students write guiding questions of their own. You may also want to have students take notes or report out to the class, another student, or a small group of students. The thinking skills vocabulary is used throughout the project, so make sure students understand each term.

Information: What to Know
Make sure students understand the importance of being aware of not only what they think,
but how they think. Pose questions and lead a short class discussion to make sure students understand how all critical thinkers share some basic characteristics:

- **Accurate.** Critical thinkers are careful to use true information.
- **Logical.** Critical thinkers put information together in an orderly way.
- **Objective.** Critical thinkers put aside personal feelings and opinions.
- **Precise.** Critical thinkers use clear and specific ideas and language.
- **Relevant.** Critical thinkers only use important information.

Encourage students to use critical thinking skills in every subject, from art and literature to math and science. Question students to make sure they know how to follow a critical thinking process:

- Critical thinkers consider why a person is writing or speaking, or the purpose.
- Critical thinkers ask and answer their own questions about what they read and hear.
- Critical thinkers use accurate information to answer questions.
- Critical thinkers evaluate ideas and concepts objectively and logically.
- Critical thinkers make sure conclusions follow logically from relevant ideas and concepts.

**Task: What to Do**

Students read and analyze news stories about complex topics to show that they know how to think critically about current events. Monitor progress to make sure that each student understands concept, logical, objective, precise, and relevant and uses the terms correctly.

Students may read news stories from one of the online sources provided in the task, other sources on the Web, or a newspaper or magazine in your classroom or library. If you are a classroom teacher, this is an excellent time to collaborate with the librarian.

Discuss the example of a news article analysis with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Makes sure students read the feedback they get when they answer each question. The quiz makes sure students understand objectivity and logic, and are familiar with the critical thinking process.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Learning about Betty Ford

Article Title: *Back in View, a First Lady with Her Own Legacy*


Betty Ford became the First Lady in 1974 when her husband, Gerald Ford, became president. This article describes how she was a different First Lady in her candor from the ones that came before her. She had her own ideas and spoke her mind on important issues while most First Ladies before her did not. She followed the fashions and fads of the 1970s and voiced her opinions on the concerns of women and mothers. Because she was so honest in her opinions, she changed how Americans viewed the role of First Lady.

The purpose of this article was to explain the legacy that Betty Ford created while she was First Lady. The author, Jennifer Steinhauer, points out that Betty Ford had a different style as First Lady and answers questions about why Mrs. Ford was comfortable speaking out on controversial issues. She did not plan on being a First Lady. Her husband had been the Speaker of the House and was appointed to the Vice-Presidency in 1973. He became president when Richard Nixon resigned in 1974 and Mrs. Ford became First Lady. The article quotes a story from Betty Ford’s press secretary about her uncertainty about what to do as a First Lady.

Everything changed two months later when Mrs. Ford had a mastectomy to treat her breast cancer. Any uncertainty she had about her role disappeared and she talked honestly about her battle with breast cancer to the American people. At that time, most people did not discuss breast cancer publicly and Mrs. Ford did so other women would learn more about tools to detect and treat breast cancer. Betty Ford campaigned for the Equal Rights Amendment, spoke about women’s rights, and voiced her support of abortion rights. These were issues that First Ladies before Betty Ford never discussed. These stories support the author’s belief that Mrs. Ford changed the way that Americans view the role of First Lady.

The important concepts in this article focus on the role of the First Lady of the United States. Betty Ford’s actions redefined the role of First Lady. The author describes her contribution to breast cancer awareness, women’s rights, and treatment of drug and alcohol abuse and supports these contributions with stories and quotes. The author concludes that Betty Ford has left a legacy for all First Ladies to be free to express their opinions on many topics related to politics and current issues of the day.
Critical Thinking | Activity 2: Polling Data

Activity Overview
In this activity, students explore thinking critically with data. Students learn how to use critical thinking skills to participate in polls and analyze the results. Students should understand that they cannot rely solely on polling data because opinions may or may not be supported by facts.

Activity Questions
- What can students learn from the results of a poll?
- Why do students need to think critically about poll results?
- How can students use a poll to collect data on a topic that interests them?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as chart, data, and percentage. Make sure students understand the differences between fact and opinion. Encourage students to remember and visualize these terms any time they participate in or read about a poll.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they begin their exploration. Explain how the guiding questions help focus their Web reading. You may want to have students share some of their opinions and discuss what facts could support their opinions. Remind students to use critical thinking skills as they explore polls. Encourage students to visualize chart, data, and percentage as they read and take polls.

Information: What to Know
Make sure students know that polls ask questions to collect data on people’s opinions about a topic. Remind students that an opinion is something a person believes about a topic while a fact is something that most people agree is true because it is supported by objective data.
Pose questions and lead a short class discussion to make sure students understand the difference between fact and opinion, and can think of examples:

- **Fact**: Downloading songs from the Internet without purchasing them is illegal.
- **Opinion**: Downloading songs from the Internet without purchasing them is acceptable because it does not hurt anyone.

Also, question students to make sure they understand how *percentages* are calculated and can read and interpret charts showing percentages.

**Task: What to Do**

Students take polls and analyze the results to show that they can think critically about poll data. Discuss the example of a *poll analysis* with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss the criteria that could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students know how to read and analyze basic poll data.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

It’s All in a Name


The purpose of the FactMonster poll that I took was to choose a name for your pet. The poll listed popular names from the American Society for the Prevention of Cruelty to Animals (ASPCA). The choices in poll order were Shadow, Smokey, Brandy, Max, Kitty, Bear, Sam, Lady, Buddy, and Molly. After you selected your favorite name, you could see the choices in order of popularity that other students chose. You can also link to the most popular names in order from the ASPCA site.

Using the poll is an easy way to see how your pet name choice matches up with other student’s choices and with pet owners’ choices. The most popular names are interesting because they seem to follow three patterns. There are specific names that would work only for certain types of pets. For example, Kitty seems to be a name for a cat and lady would work best for a female pet. Other names suggest certain characteristics of the pet, such as Shadow, Smokey, or Brandy for pets with the matching color fur, Bear for a large animal, or Buddy for a friendly pet. Finally, there are the names that people share, such as Max, Sam, and Molly.

After taking this poll, I can guess at the reasoning that some people use when they are naming their pets. However, the poll does not give enough information to develop an understanding of all the ideas people use to name pets. I would like to know more about how pet owner chose the name they did, but I think it will take more than this poll.
Critical Thinking | Activity 3: Topic Choice

Activity Overview
In this activity, students explore various ways that opinion data can be useful and choose topics about which their peers would have opinions. Help students understand that they can use opinion data to learn about topics in science, current events, literature, or art. Remind students that they will be using critical thinking skills to research their topics, collect and analyze poll data, and share what they learn with an audience.

Activity Questions

- Why do people tend to have strong opinions about certain topics?
- How does brainstorming help students choose topics?
- How can polling their peers help students understand their topics?

Vocabulary: Words to Remember
Discuss brainstorming with students and help them associate an image or symbol with the term. Encourage students to remember and visualize brainstorming any time they are generating ideas. Review key terms such as data, fact, objective, and opinion. Ask students to recall the images or symbols they associated with these words.

Exploration: Learning from the Web
Students explore some Web sites about choosing topics before brainstorming and refining ideas for topics on which they can poll their peers. Make sure students understand how to use the guiding questions for this activity to focus their exploration of Web sites on information that helps them choose topics. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Make sure students know that polls are useful whenever people’s opinions provide important data on a topic. Help students understand how polls can help them learn about many important topics in science, current events, literature, and art.
Pose questions and lead a short class discussion to make sure students know some strategies for choosing topics for polls:

- Make a list of topics by freely brainstorming ideas
- Evaluate the topics by looking at the list and considering whether the topics are appropriate
- Narrow the focus of the topic by focusing on a specific aspect of the topic
- Check for sources to make sure enough information is available about the topic

**Task: What to Do**

Students choose topics for their polls and show that they understand how poll data can help them learn about topics. Students may use the Web sites listed in the task to help them find topics, other Web sites with which they are familiar, and the school library or media center. If you are a classroom teacher, this activity is a good time to coordinate with the librarian.

Discuss the example of a *topic choice* with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss the criteria that could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Makes sure students read the feedback they get when they answer each question. The quiz makes sure students understand the purposes and limitations of polls.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

What Is the Best Class Pet?

This topic is important to me because I think having a class pet would be good for my class. Before I can talk to Ms. Randall, our teacher, about getting a class pet, I need to know more about what is involved in having a pet in school. There are many different kinds of animals that can be classroom pets so I need to learn which qualities of different kinds of pets would work best for our class. I also need to learn what is involved in the care of each pet choice and what the costs of each are.

After I learn more about how to choose the best pet, I will design a poll to find out how the other students in my room feel about having a classroom pet. The poll will help me understand how the students feel about this topic, an important step in helping me build a case for a pet in the classroom. I need to know whether the students are interested in having a pet, whether they can care for a pet, and what characteristics of a pet are important to each of them.

I would like to get as many points of view as possible on my topic. Others at my school need to be part of this poll because they would be involved with the classroom pet. Ms. Randall, our teacher, may have a different point of view on a class pet, so it will be important to get her opinion. Dr Santos, our principal and Mr. Haggs, the building engineer, will have valuable feedback for us about which class pet would work best. Finally, I want to include our Room Mom so I can get a parent’s opinion. It is important to get a wide range of opinions from people with different points of view. Putting all this information together will give a solid starting point on which to choose the best class pet for our room.
Critical Thinking | Activity 4: Research Questions

Activity Overview
In this activity, students learn how to ask different kinds of questions to focus their research on gathering particular kinds of information. Students should understand that interesting and complex topics usually require more than one type of information.

Activity Questions
- What types of questions should students ask to help them find out what they want know about their topics?
- How does the type of questions students ask affect the type of information they get?
- Why do students need different types of information?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with convergent, divergent, and evaluative. You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires a research vocabulary.

Encourage students to remember and visualize the terms any time they see or hear a question. You may want to have students use convergent, divergent, and evaluative in one sentence to make sure they understand the precise definition of each term.

Exploration: Learning from the Web
Make sure students understand how to use the guiding questions for this activity to focus their exploration of Web sites on information that helps them ask effective research questions. Remind students to think about and visualize convergent, divergent, or evaluative as they explore. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Make sure students understand that effective research questions are big enough to hold their interest and small enough to answer.
Question students to make sure they can distinguish among four different types of questions:

- **Fact questions** always have a correct answer.
- **Convergent (why) questions** require more explanation than fact questions, but they usually have correct answers.
- **Divergent (idea) questions** usually have many acceptable answers.
- **Evaluative (opinion) questions** require judgment to decide among various opinions or answers.

You may want to give several examples of each kind of question and have students vote on whether each question is factual, convergent, divergent, or evaluative. You may also want to have students brainstorm examples of each type of question in pairs, in small groups, or as a class.

**Task: What to Do**

Students write some questions to guide research on their topics and show that they understand how to use different types of questions effectively. Remind students to think about and visualize whether their questions are convergent, divergent, or evaluative.

Discuss the example of research questions with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example. You may want to have students generate examples of different types of questions before they begin.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Makes sure students read the feedback they get when they answer each question. The quiz makes sure students understand the differences among convergent, divergent, and evaluative questions.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

My Research Questions on Choosing the Best Classroom Pet

The purpose of my research is to determine what would be the best pet for our class. The research questions will guide me in learning more about this subject. Important issues in choosing a pet are determining who can care for the pet, how much time is needed to care for the pet, where the pet will live, and what the cost of having the pet will be.

Here are research questions:

1. What kinds of pets work best in a classroom?
2. How much care is needed for different kinds of pets?
3. How much time is needed each week to take care of the pet?
4. Where in the classroom should the pet live?
5. What are the costs of taking care of the pet?
6. Will the pet need daily exercise and grooming?

When I have answered these questions, I will be able to identify four types of animals that would be best as a pet for our class and to develop a list of the care, cost, and container requirements for each type of animal.
Critical Thinking | Activity 5: Online Research

Activity Overview
In this activity, students learn how to locate and evaluate online sources when gathering information for their research. Students learn how to judge a Web site against specific criteria to separate the reliable information from the unreliable.

Activity Questions
- What specific criteria are most important when evaluating Web sites?
- How can an evaluation form help students identify credible Web sites?
- How can critical thinking help students evaluate Web sites?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as credible, criterion, and reliable. You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires a research vocabulary.

Exploration: Learning from the Web
Make sure students understand how to use the guiding questions for this activity to focus their exploration of Web sites on information that helps them locate credible and reliable online sources. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own.

Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students. Remind students to think about and visualize accurate, credible, criterion, and reliable as they explore specific criteria and forms for evaluating Web sites.

Information: What to Know
Students should understand that evaluation requires judging a Web site against specific criteria. You can find many different lists of criteria, but they all have at least three goals in
common. They all include criteria to make sure that a Web site is *credible, accurate, and reliable*.

If you have a presentation station, you can model Web site evaluation and then lead the whole class in evaluating a few Web sites before students begin evaluating their sources independently. If you are a classroom teacher, this is an excellent time to collaborate with the librarian.

**Task: What to Do**
Students find some credible and reliable sources on their topics to help them answer their research questions. You may give students an evaluation form to use or allow them to create their own evaluation form.

Discuss the example of a source list with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**
Remind students that the quiz is not scored and answers are not recorded. Encourage students to read the feedback they get when they answer each question. The quiz makes sure students understand credibility, accuracy, and reliability.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You can also have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Finding Resources for Choosing the Best Classroom Pet

Here are the sites I will use for my research on choosing a classroom pet:

- Choosing the Right Classroom Pet
  [http://www.spca.bc.ca/Educators/rightpet.asp](http://www.spca.bc.ca/Educators/rightpet.asp)
- Pet Web Site
- AVMA’s Care for Animals
- Classroom Animals and Pets
- ASCPA Animaland
- Petfinder
Critical Thinking | Look Back

Thinking about Learning
In this module, students explored critical thinking skills and learned how and why polls collect data on people and their opinions. Students chose topics for their own polls, wrote effective research questions, and identified credible and reliable sources.

Students have learned:

- How to use critical thinking skills to analyze complex topics
- How polls collect data about people and their opinions
- How polls can help people with different points of view to understand topics
- How to write effective questions to guide their research
- How to locate credible sources of reliable information

Checklist for Critical Thinking
Help students use the checklist to make sure they have completed all the tasks in this activity. Completing all tasks ensures that students are ready to collect data.

Rubric for Critical Thinking
Encourage students to evaluate their critical thinking and identify areas for improvement. Help students use the rubric to self-assess their topics and research questions. Explain to students the importance of paying attention to writing mechanics. Make sure students’ self-assessments are accurate.

Reflection on Critical Thinking
Ask individual students questions that encourage reflection any time you find an opportunity. If possible, give students time to share their topic and research questions with each other. Students can share their reflections with the whole class, in small groups, or in pairs.

Encourage students to discuss the following points:

- What they learned about critical thinking
- What poll results tell us and why polls are used
- Why they chose the topics of their polls
- How they wrote their most effective research questions

Encourage students to take their topic and research questions home to share with parents, guardians, or other trusted family members.
Think Critically with Data
Data Collection

Module Overview
In this module, students learn how to collect data to supplement information from credible sources. Students summarize the information they gathered in annotated bibliographies. You can help students understand that sometimes researchers must collect information directly from observation or measurement. Students write poll questions and collect data from other students in personal interviews. Students learn to use a spreadsheet application to create workbooks and enter data into worksheets.

Module Questions
- How do annotated bibliographies help students summarize their sources?
- What are the characteristics of effective questions for a poll?
- When are personal interviews an effective way to collect data?
- How can spreadsheet applications help students collect and analyze data?
- How do students enter their polling data into a spreadsheet application?

Activity 1: Annotated Bibliography
Students learn how to organize information by summarizing their sources in annotated bibliographies. Students learn that summarizing information generates knowledge.

Activity 2: Poll Questions
Students learn that the key to a good poll is writing effective questions. Students learn how critical thinking skills can help them write effective poll questions without favoring one point of view.

Activity 3: Personal Interviews
Students learn how to collect data by using their poll questions to conduct personal interviews. Students collect poll data by interviewing classmates or other students.
Activity 4: Spreadsheet Basics
Students explore the basic purposes and features of spreadsheet applications. Students learn how graphical user interfaces can help them use applications productively.

Activity 5: Data Entry
Students learn that entering data correctly is an important part of data collection. Students learn how to create workbooks and enter polling data into worksheets.

Look Back
Students reflect on their learning in this module. They should be ready to analyze their poll data. You may want to use the checklist to make sure students completed their tasks, and you may want to use the rubric to assess students’ questions, annotated bibliographies, and worksheets.
Data Collection | Activity 1: Annotated Bibliography

Activity Overview
In this activity, students learn how to organize information by summarizing their sources in annotated bibliographies. You can help students understand how writing effective summaries of sources helps them learn about their topics.

Activity Questions
- What kind of information should students include in their annotations?
- What are some ways to write complete, but short, annotations?

Vocabulary: Words to Remember
Introduce the new vocabulary words to students with a brief explanation of each word. Help students understand how annotate, paraphrase, and summarize are similar and different from each other.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires the vocabulary words.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about writing annotated bibliographies. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Make sure students can explain the difference between paraphrasing and summarizing a source. Students should understand that summarizing involves more analysis than paraphrasing. Explain to students that summarizing sources is the best way for them to avoid plagiarism, but they still must cite their sources in bibliographies. An annotated bibliography is a useful tool for organizing and summarizing sources.

Look Ahead
Task: Students create annotated bibliographies of their sources.
Goal: Students summarize their sources and organize information that is relevant to their topics.
Preview the example of an annotated bibliography before introducing the activity to students.
See the example: Annotated Bibliography
bibliography helps ensure that all sources are cited and summarized.

Pose questions and lead a short class discussion to make sure students know that annotations:

- Paraphrase the main points and important details
- Evaluate the credibility, accuracy, and reliability of the source
- Reflect on why the source was chosen

**Task: What to Do**

Students write annotated bibliographies of their sources and explain why they chose each source to help them write their narrative essays. If students have kept their bibliographies accurate and complete, they only need to add a short annotation for each source. Remind students if you want them to use a particular citation format. If you have a presentation station, you can annotate a few sources with the whole class before students begin the task.

Discuss the example of an annotated bibliography with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Encourage students to read the feedback they get when they answer each question. The quiz makes sure students understand annotation and plagiarism. Make sure that every student understands these concepts well enough to avoid plagiarism before continuing.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Gathering Evidence about Choosing the Best Classroom Pet

- **Choosing the Right Classroom Pet**
  [http://www.spcabc.ca/Educators/rightpet.asp](http://www.spcabc.ca/Educators/rightpet.asp)
  This site lists seven different types of pets that are suitable for classroom pets. Each animal is evaluated on its life span, size, origin, status, diet, and pros and cons when compared to the other animals. The site also has links to other pages with information on caring for classroom pets and lists of the benefits of classroom pets. The site is developed by the British Columbia Society for the Prevention of Cruelty to Animals so the information given on the site is reliable and accurate.

- **Pet Web Site**
  This site has lots of information about many kinds of pets. It includes many of the pets that could be classroom pets. You can pick the pet you want information about by clicking on it. There are articles, book reviews and care information. Be careful, though, there are links for products on sale and eBay listings. These sponsors may influence some of the information, so this site may not be the best place for information to help us choose a classroom pet.

- **AVMA’s Care for Animals**
  This site is from the American Veterinary Medical Association. It was written by vets that take care of animals. The links help you decide on which pet is best for you. There are questions you can answer to see what kind of pet will work best for your space, family, and activities. The site also has puzzles, games, and playsheets that teach you how to be a good pet owner. This information would be very useful in selecting a classroom pet.

- **Classroom Animals and Pets**
  This site was created by a teacher and is part of the TeacherWebShelf web site. It provides information on housing, food, maintenance, characteristics, and food for different animals that can be classroom pets. Educational ideas and curriculum to involve classroom pets in the curriculum are provided. The pictures on the site make it...
to locate information on this site, but the website has not been updated since July 2001. Although the information may still be accurate, it will need to be compared to information from other sources to make sure it is still usable.

- **ASCPA Animaland**
  
  
  The Animaland site was created by the American Society for the Prevention of Cruelty to Animals (ASPCA). The ASPCA knows a lot about animals and about pets. They are experts at choosing pets. The site has links for an Animal Encyclopedia, Career Center, Pet Care Guide, and more. The Animal Encyclopedia shows pictures of lots of animals with links to more information. But most of these animals would not be good pets. The Pet Care Guide has better links. They are to animals that could be good pets for a classroom. The links have great information on each of these pets.

- **Petfinder**
  
  
  The Petfinder site has information on animals that would be good pets. It is easy to click and choose the pet you want to learn more about. You can pick by animal, breed, and size. The site has information on how to adopt pets and will help you find pets to adopt. The site is sponsored by Purina, Heartguard, Frontline, and Petco, but I did not find any influences from the sponsors. This would be a great site to help us adopt a classroom pet after we decide which pet is best.
Data Collection | Activity 2: Poll Questions

Activity Overview
In this activity, students learn how to write effective poll questions. An effective poll question is accurate, precise, and relevant with logical answers. Students should understand why an effective poll question cannot favor one opinion or point of view over others.

Activity Questions
- What kinds of questions should students ask in their polls?
- What kinds of questions should students avoid?
- What characteristics do most effective questions have in common?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as bias, close-ended, and open-ended. Make sure students understand the distinction between close-ended and open-ended questions.

Look Ahead
Task: Students create questionnaires for their polls.
Goal: Students show that they know how to write effective poll questions.
Preview the example of a questionnaire before introducing the activity to students.

See the example: Questionnaire

Review key terms such as fact, logical, objective, opinion, and point of view. Ask students to recall the images or symbols they associated with these words. Encourage students to remember and visualize bias, close-ended, and open-ended any time they read or write a poll question.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires polling vocabulary.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about writing effective poll questions. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.
**Information: What to Know**

Make sure students know that two basic types of poll questions are *close-ended* and *open-ended*. Students should understand the advantages and disadvantages of each type. Explain to students that no strict rules exist for creating an effective questionnaire, but some basic guidelines help in most cases.

Question students to make sure they know that effective poll questions:

- Do not favor one opinion or point of view over others
- Are accurate, precise, and relevant
- Ask about a single concept or idea
- Are in a logical order
- Do not influence how people respond

Question students to make sure they know that effective questionnaires:

- Are as short as possible without sacrificing important information
- Ask questions in a logical order
- Do not influence how people respond

**Task: What to Do**

Students create questionnaires to show that they know how to write effective poll questions. Monitor progress to make sure that each student understands *open-ended* and *close-ended* questions, and can write both types of questions effectively.

Discuss the example of a questionnaire with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students understand the distinction between *open-ended* and *close-ended*.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Sample

Student Name

Date

Poll on Choosing the Best Classroom Pet

Here are my questions I will use for my poll.

1. Would you like to have a classroom pet in our room?
   - Yes
   - No

2. Are you allergic to any types of animals?
   - Yes
   - No
   If yes, what kind of animals? ______________________________________________________

3. How much time can you spend every week in taking care of a classroom pet?
   - Less than one hour per week
   - One to two hours per week
   - One-half hour every day
   - One hour every day

4. Is it important to have a pet that is warm and cuddly to hold?
   - Yes
   - No

5. How much time do you want to play with the pet each day?
   - I would prefer to just look at the pet.
   - I would like to play with the pet once or twice a week.
   - I would like to play with the pet every day.

6. What animal characteristics are most important to you for a pet in our class?
   - Soft and furry to hold.
• Likes to play with boys and girls.
• Fun to watch.
• Easy to take care of.

7. Which pet do you think would be best for our class?
   • Hamster.
   • Rabbit.
   • Guinea Pig.
   • Turtle.

   Why did you pick that pet? ____________________________________________

8. Are you willing to help raise money for a pet?
   • Yes
   • No
Data Collection | Activity 3: Personal Interviews

Activity Overview
In this activity, students explore various ways of using questionnaires to collect poll data. Students learn how to collect data by conducting personal interviews using their questionnaires.

Activity Questions
- What are some ways to conduct a poll or survey?
- What are the advantages and disadvantages of personal interviews?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with interview, pilot, professional, and respondent. Review key terms such as bias, objective, close-ended, and open-ended. Ask students to recall the images or symbols they associated with these words.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires an interviewing vocabulary.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about conducting personal interviews. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. You may want to ask students what questions they have and what they already know about how to interview their peers. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Some of the Web sites in this activity are quite advanced. You may want to ask a resource teacher, instructional aide, or parent to provide any needed assistance with reading and taking notes. You may also want to put students in heterogeneous pairs or small groups.
Information: What to Know
Make sure students understand the advantages and disadvantages of collecting data with personal interviews.

Pose questions and lead a short class discussion to make sure students know some guidelines that will help them collect valuable data:

- **Conduct a pilot test.** Give the questionnaire a test run with one or two respondents.
- **Be professional.** Establish a good working relationship with respondents.
- **Use the questionnaire.** Follow the questionnaire exactly as written.
- **Be objective.** Be careful not to influence how respondents answer the questions.
- **Finish strong.** Conclude the interview on a positive note.

Task: What to Do
Students interview each other to collect polling data on their topics for analysis in the next activity. If you are a classroom teacher, you may want to check with the computer teacher to make sure students know how to use a word processing application to create a form. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of poll data with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Quiz: Check Your Understanding
Remind students that the quiz is not scored and answers are not recorded. Makes sure students read the feedback they get when they answer each question. The quiz makes sure students know when and how to use personal interviews to collect data.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

My Poll Results on Choosing the Best Classroom Pet

Here are the data I collected from my poll.

9. Would you like to have a classroom pet in our room?
   - Yes   19
   - No    9

10. Are you allergic to any types of animals?
    - Yes   4
    - No    24
    If yes, what kind of animals? _____Cats, birds ____________________________

11. How much time can you spend every week in taking care of a classroom pet?
    - Less than one hour per week 2
    - One to two hours per week 7
    - One-half hour every day 12
    - One hour every day 7

12. Is it important to have a pet that is warm and cuddly to hold?
    - Yes  21
    - No   7

13. How much time do you want to play with the pet each day?
    - I would prefer to just look at the pet. 6
    - I would like to play with the pet once or twice a week. 12
    - I would like to play with the pet every day. 10

14. What animal characteristics are most important to you for a pet in our class?
15. Which pet do you think would be best for our class?

☐ Hamster. 9
☐ Rabbit. 8
☐ Guinea Pig. 7
☐ Turtle. 4

Why did you pick that pet? __A friend has one; read about the pet; easy to care for

16. Are you willing to help raise money for a pet?

☐ Yes 19
☐ No 9
Data Collection | Activity 4: Spreadsheet Basics

**Activity Overview**
In this activity, students explore the basic purposes and features of spreadsheet applications. Students should become aware that most applications they use have similar graphical user interfaces. You can help students understand how to extend this knowledge to use common software tools productively.

**Activity Questions**
- How is a spreadsheet application similar to a word processing application? What are the differences?
- How does a spreadsheet application use math?
- How can students use a spreadsheet application to analyze their poll data?

**Vocabulary: Words to Remember**
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as *application, graphical user interface, spreadsheet, worksheet,* and *workbook*. Encourage students to remember and visualize these terms any time they use a spreadsheet application.

Make sure students understand how *cell, column, row,* and *reference* are related. You may want to have students use all four terms in one sentence to make sure they understand the precise definition of each term. Remind students that a good technical vocabulary helps them use technology productively.

**Exploration: Learning from the Web**
Explain to students why everyone should be able to explain the basic features of spreadsheet applications using correct terminology. Students explore some Web sites to learn how to use spreadsheets to analyze their poll data. Encourage students to take notes or draw pictures while they explore Web sites to learn how spreadsheet applications work.

**Information: What to Know**
Make sure students know that a spreadsheet is basically a table made up of *rows* and *columns* with a *cell* that can hold data at the intersection of each row and column. Make sure students understand the difference between a single spreadsheet, sometimes a *worksheet,* and a spreadsheet file which can contain multiple worksheets, sometimes called a *workbook.*
Make sure students know that spreadsheet applications have a *graphical user interface* (GUI). You may want to discuss the similarities and differences between a spreadsheet GUI and GUIs in applications students have probably used more frequently, such as word processing applications.

Question students to make sure they can identify the location and purpose of the main menus and toolbars in the spreadsheet software’s interface. If you have a presentation station, you can lead the whole class in a tour of the spreadsheet application’s GUI and ask students to identify features that you name or to give the names of features that you identify.

**Task: What to Do**
Students describe five menu options in their spreadsheet application’s graphical user interface and explain how they can be used to analyze their polling data. Monitor progress and question students to make sure they can use spreadsheet vocabulary words correctly. If you are a classroom teacher, you may want to check with the computer teacher to find out how much students know about using a spreadsheet application. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of a *GUI explanation* with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**
Remind students that the quiz is not scored and answers are not recorded. Makes sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with a standard GUI for a spreadsheet application.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name
Date

**Five Features of Excel**

Here are the five features in Excel that will help me analyze my poll data:

<table>
<thead>
<tr>
<th>Feature</th>
<th>What It Does</th>
<th>Why I Will Use It</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formulas</td>
<td>Lets you calculate numbers.</td>
<td>I can make changes to my numbers and all the sums will update when I use a formula.</td>
</tr>
<tr>
<td>Functions and Ranges</td>
<td>Calculate sums, averages, and counts on the numbers in cells.</td>
<td>I can use a range within a function to make the math simpler.</td>
</tr>
<tr>
<td>AutoFormat</td>
<td>Makes your spreadsheet look good automatically by selecting colors, borders, fonts, and formats.</td>
<td>I can design the way my data looks so it is easier to read.</td>
</tr>
<tr>
<td>Toolbars</td>
<td>Gives you shortcuts to menu options.</td>
<td>I can click on toolbars options faster than finding the menu option so I have more time to analyze my numbers.</td>
</tr>
<tr>
<td>Chart Wizard</td>
<td>Creates a chart of the numbers in the spreadsheet quickly.</td>
<td>I can create charts that show a visual image of the numbers from my poll and make the relationships of the numbers easier to understand.</td>
</tr>
</tbody>
</table>
Data Collection | Activity 5: Data Entry

Activity Overview
In this activity, students learn how to create workbooks and enter their poll data into worksheets. You can help students understand that data entry is an important part of data collection. If students enter their data incorrectly, they may draw incorrect conclusions when they analyze their data.

Activity Questions
- What are the main parts of a spreadsheet that are used to enter data?
- How can students use spreadsheets to enter their poll data correctly?

Vocabulary: Words to Remember
Introduce formula to students with a brief explanation and help students associate an image or symbol with the term. Review key terms such as application, cell, column, graphical user interface, reference, row, spreadsheet, worksheet, and workbook. Ask students to recall the images or symbols they associated with these words.

You may want to have students use each word in a sentence or act out the word. You may also want to have students pair up to quiz each other on the terms and discuss how they might use spreadsheet terminology later in their lives.

Exploration: Learning from the Web
Make sure students understand how to use the guiding questions for this activity to focus their exploration of Web sites on information that helps them enter data into a spreadsheet. You may want to ask students what questions they have and what they already know about entering data into a spreadsheet. You may also want to have students turn in notes or report on their exploration.

Information: What to Know
Explain to students that knowing some basic terms can help them enter data in a spreadsheet accurately. Question students to make sure they can identify the location and purpose of the active cell, format menu, formula bar, and name box. Ask students to elaborate on the similarities and differences between a spreadsheet GUI and GUIs in applications students have probably used more frequently, such as word processing applications.
Task: What to Do
Students enter their poll data into worksheets and show that they can identify and use a spreadsheet application’s menus and toolbars. Monitor progress and question students to make sure they can use spreadsheet vocabulary words correctly to explain their work.

Discuss the example of a spreadsheet worksheet with poll data with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

If you have a presentation station, you can model effective use of a spreadsheet application’s GUI to enter data before students begin working independently. If you are a classroom teacher, you may want to check with the computer teacher to find out how much students know about entering data into a spreadsheet application. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Quiz: Check Your Understanding
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with some basic features of spreadsheet applications that can be used to enter data.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name
Date

Poll Results for Choosing the Best Classroom Pet

1. Would you like to have a classroom pet in our room?
   - Yes: 19
   - No: 9

2. Are you allergic to any types of animals?
   - Yes: 4
   - No: 24
   If Yes, which animals? *Cats and birds*

3. How much time can you spend every week in taking care of a classroom pet?
   - Less than one hour per week: 2
   - One to two hours per week: 7
   - One-half hour every day: 12
   - One hour every day: 7

4. Is it important to have a pet that is warm and cuddly to hold?
   - Yes: 21
   - No: 7

5. How much time do you want to play with the pet each day?
   - I would prefer to just look at the pet: 6
   - I would like to play with the pet once or twice a week: 12
   - I would like to play with the pet every day: 10

6. What animal characteristics are most important to you for a pet in our class?
   - Soft and furry to hold: 11
   - Likes to play with boys and girls: 9
   - Fun to watch: 6
   - Easy to take care of: 2
7. Which would be the best pet for our class?
   - Hamster. 9
   - Rabbit. 8
   - Guinea Pig. 7
   - Turtle. 4

   Why did you pick that pet? __A friend has one; read about the pet; easy to care for__

8. Are you willing to help raise money for a pet?
   - Yes. 19
   - No. 9
Data Collection | Look Back

Thinking about Learning
In this module, students created annotated bibliographies of their sources and wrote effective questions to poll their peers. Students collected polling data by interviewing classmates or other students and used a spreadsheet application to enter data into worksheets.

Students have learned:

- How to summarize sources and organize information by annotating bibliographies
- How to use critical thinking skills to write effective questions for a poll
- How to collect polling data through personal interviews
- How a spreadsheet application can help them analyze and represent data
- How to create workbooks and enter data into worksheets

Checklist for Data Collection
Help students use the checklist to make sure they have completed all the tasks in this activity. Completing all tasks ensures that students are ready to analyze their data.

Rubric for Data Collection
Help students use the rubric to self-assess their poll questions, annotated bibliographies, and spreadsheets. Make sure students’ self-assessments are accurate. Encourage students to use their self-assessments to improve their spreadsheets.

Reflection on Data Collection
Ask individual students questions that encourage reflection any time you find an opportunity. If possible, give students time to share their poll questions and annotated bibliographies with each other. Students can share their reflections with the whole class, in small groups, or in pairs.

Encourage students to discuss the following points:

- What they learned about annotating a bibliography
- What they learned about their topics when they summarized their sources
- How to write effective poll questions
- How to conduct a personal interview efficiently and effectively
- How spreadsheet applications work and what information they can provide

Encourage students to take their poll questions and annotated bibliographies home to share with parents, guardians, or other trusted family members.
Think Critically with Data
Data Analysis

Module Overview
In this module, students learn how to use a spreadsheet application to analyze and represent data. Students also use formulas and functions to analyze their poll data. You can help students understand why representing data visually is a good way to draw conclusions from data analysis. Students learn how to represent their poll data visually with appropriate charts and graphs. Students format their worksheets and visual representations before sharing their data with peers.

Module Questions
- How can students use formulas and functions to analyze poll data?
- What strategies can students use to read and interpret charts and graphs?
- Which types of charts and graphs best represent various kinds of data?
- How can students choose the charts and graphs that best represent their data?
- How can students share their data analysis and what they learned with peers?

Activity 1: Formulas and Functions
Students learn to use spreadsheet formulas and functions to analyze poll data. Students use critical thinking skills to select and use the most appropriate formulas and functions.

Activity 2: Chart Basics
Students explore how different types of charts and graphs best represent different kinds of data. Students practice reading and interpreting visual representations of data.

Activity 3: Chart Types
Students learn the purposes and characteristics of the three most common visual representations of data. Students practice reading and interpreting the most common types of charts and graphs.

Activity 4: Data Representation

Look Ahead
Review the checklist and rubric before introducing the module to students. When you introduce the module, discuss the checklist and rubric with the whole class or have students review the checklist and rubric individually or in small groups.

See the checklist:
Data Analysis Checklist

See the rubric:
Data Analysis Rubric
Students choose the types of charts and graphs that best represent their poll data. Students use a spreadsheet application’s toolbar and wizard features to create charts.

**Activity 5: Data Formatting**
Students format their worksheets and charts so they can share their data analysis with other students. Students use their formatted worksheets and charts to explain their conclusions.

**Look Back**
Students reflect on their learning in this module. They should be ready to publish newsletters based on their data analysis. You may want to use the checklist to make sure students completed their tasks, and you may want to use the rubric to assess students' worksheets, charts, and analyses.
Data Analysis | Activity 1: Formulas and Functions

Activity Overview
In this activity, students learn to use spreadsheet formulas and functions to analyze their poll data. You can help students understand how their critical thinking skills can help them select and use the most appropriate formulas and functions to answer their research questions.

Activity Questions
- What are some common characteristics of all spreadsheet formulas and functions?
- In what order do the parts of a formula have to be written?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as data analysis, operator, value, and variable. Encourage students to remember and visualize these terms any time they analyze data.

Make sure students understand the distinctions among equation, formula, and function. You may want to have students use equation, formula, and function in one sentence to make sure they understand the precise definition of each term.

Review key spreadsheet terms such as cell, column, reference, and row. Ask students to recall the images or symbols they associated with these words. Remind students that a good technical vocabulary will help them be successful in school, work, and life.

Exploration: Learning from the Web
Make sure students understand how to use the guiding questions for this activity to focus their exploration of Web sites on information that helps them use a spreadsheet application to analyze data. Ask students what questions they have and what students already know about formulas and functions.

Encourage students to take notes or draw pictures while they explore Web sites. You may want to pair students with complementary partners or peer tutors to make sure everyone knows how to use formulas and functions to analyze data. You may also want to have students report out to the class, another student, or a small group of students.

Look Ahead

Task: Students summarize their poll data so they can easily draw conclusions.

Goal: Students show that they know how to use formulas and functions to analyze data and draw conclusions.

Preview the example of a data analysis before introducing the activity to students.

See the example: Data Analysis
**Information: What to Know**

Make sure students know how spreadsheet applications use formulas and functions to calculate data. A formula is an equation you enter into a spreadsheet that can include cell references. A function is a standard formula that is built into a spreadsheet application. The difference is that you create formulas and the spreadsheet applications include functions.

Make sure students understand that they can use formulas and functions to perform hundreds or even thousands of calculations instantly. Question students to make sure they understand that spreadsheet applications have two main advantages:

- They can perform many calculations instantly.
- They can update calculations automatically when data changes.

Question students to make sure they know how to use formulas and functions in the spreadsheet software’s interface. If you have a presentation station, you can lead the whole class or groups of students in a tour of the relevant menus and toolbars, and ask students to identify features that you name or to give the name of features that you identify.

**Task: What to Do**

Students show that they know how to use formulas and functions to summarize their poll data so they can easily draw conclusions. Monitor progress to make sure that each student can correctly use key terms such as data analysis, equation, formula, function, operator, value, and variable to discuss their analysis.

Make sure students know how to use formulas and functions in the spreadsheet software before they begin the task. If you have a presentation station, you can model effective use of formulas and functions to analyze data. If you are a classroom teacher, you may want to collaborate with the computer teacher to make sure students can use formulas and functions correctly. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of data analysis with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students know how to use formulas and functions.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name
Date

Poll Results for Choosing the Best Classroom Pet

<table>
<thead>
<tr>
<th></th>
<th>Would you like to have a classroom pet in our room?</th>
<th>Tally</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>19</td>
<td>68%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>9</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28</td>
<td>100%</td>
</tr>
</tbody>
</table>

2. Are you allergic to any types of animals?
   | Yes | 4 | 14% |
   | No  | 24 | 86% |
   If Yes, which animals?  *Cats and birds*  28 100%

3. How much time can you spend every week in taking care of a classroom pet?
   | Less than one hour per week. | 2 | 7% |
   | One to two hours per week.   | 7 | 25% |
   | One-half hour every day.     | 12 | 43% |
   | One hour every day.          | 7 | 25% |
   |                               | 28 | 100% |

4. Is it important to have a pet that is warm and cuddly to hold?
   | Yes | 21 | 75% |
   | No  | 7  | 25% |
   |     | 28 | 100% |

5. How much time do you want to play with the pet each day?
   | I would prefer to just look at the pet. | 6 21% |
   | I would like to play with the pet once or twice a week. | 12 43% |
   | I would like to play with the pet every day. | 10 36% |
   |                                               | 28 100% |
6. What animal characteristics are most important to you for a pet in our class?

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft and furry to hold.</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Likes to play with boys and girls.</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Fun to watch.</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Easy to take care of.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100%</td>
</tr>
</tbody>
</table>

7. Which would be the best pet for our class?

<table>
<thead>
<tr>
<th>Pet</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamster</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Rabbit</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Guinea Pig</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Turtle</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100%</td>
</tr>
</tbody>
</table>

Why did you pick that pet? __A friend has one; read about the pet; easy to care for__

8. Are you willing to help raise money for a pet?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>9</td>
</tr>
<tr>
<td>68%</td>
<td>32%</td>
</tr>
</tbody>
</table>

My Findings

1. About 3/4 of the students in my class want a classroom pet.

2. About 2/3 of the students are willing to take care of a classroom pet daily.

3. The students in my class are closely split between wanting a pet that is soft and furry and one that likes to play with boys and girls.

4. The most popular choice for a pet was a hamster, followed by a rabbit, then a guinea pig, and, last, a turtle.

5. More than 2/3 of the students are willing to help raise money to fund a class pet.
Data Analysis | Activity 2: Chart Basics

Activity Overview
In this activity, students explore different types of charts representing different kinds of data. Students learn how to read and interpret visual representations of data.

Activity Questions
- What are the main parts of a chart?
- How do the parts of a chart help students read and interpret the chart’s data?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as chart, graph, grid, and legend. Make sure students understand how the x-axis and y-axis are related.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires a spreadsheet vocabulary.

Exploration: Learning from the Web
Make sure students know that everyone should be able to read and interpret visual representations of data using correct terminology. Encourage students to take notes or draw pictures while they explore Web sites.

Information: What to Know
Make sure students understand that they must be able to recognize the main parts of a chart or graph in order to interpret the meaning of a visual representation of data.

Question students to make sure they know the main parts of a chart:
- The title of a chart should quickly tell you what the chart is about.
- The x-axis should have a title that tells you what type of data is shown horizontally in the graph.
- The y-axis should have a title that tells you what type of data is shown vertically in the graph.
- The legend describes how data is represented in the chart.

Look Ahead
Task: Students summarize their poll data so they can easily draw conclusions.
Goal: Students show that they know how to use formulas and functions to analyze data and draw conclusions.
Preview the example of a data analysis before introducing the activity to students.
See the example: Interpretation
Task: What to Do
Students read and interpret a chart to show that they know how to use the main parts of a chart or graph to understand its meaning. If you have a presentation station, you can lead the whole class or small groups of students through reading and interpreting a few charts and graphs.

Discuss the example of a chart interpretation with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Quiz: Check Your Understanding
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with some of the basic parts of charts and graphs.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Chart Showing the Average Price of Gasoline

Here are my answers on the questions for the chart.

• What is the title of the chart?
  Chart of the Week for April 16-22, 2004

• What does the x-axis represent?
  Months from January 2002 to April 2004

• What does the y-axis represent?
  Average Price Per Gallon Unleaded

• What information does the legend provide?
  There is no legend.

• What conclusions can you draw from the chart?
  The average price of gasoline goes up and down, but it is higher at the end of the time on the chart.
Data Analysis | Activity 3: Chart Types

Activity Overview
In this activity, students learn how certain kinds of data are best represented by particular types of charts. Students learn the purposes and characteristics of the three most common visual representations of data.

Activity Questions
- What are the most common types of charts?
- What kind of data does each type of chart represent?
- Can students think of some other examples of that kind of data?

Vocabulary: Words to Remember
Introduce bar chart, line graph, and pie chart to students with a brief explanation of each term. Help students associate an image or symbol with each type of chart or graph. Encourage students to remember and visualize bar, line, and pie any time they see a chart or graph.

Review key terms such as chart, graph, grid, legend, x-axis, and y-axis. Ask students to recall the images or symbols they associated with these words. Explain to students why the ability to use correct terminology to discuss visual representations is an essential literacy skill for the 21st century.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites to help them learn to read and interpret different types of charts and graphs. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own.

Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students. Make sure students know that everyone should be able to explain the meaning of visual representations of data using correct terminology.

Information: What to Know
Make sure students understand that certain kinds of data require particular types of charts and graphs to represent them.

Look Ahead
Task: Students read and interpret four types of charts.
Goal: Students show that they know what kind of data is appropriate for each type of chart.

Preview the example of a chart types analysis before introducing the activity to students.

See the example: Chart Types Analysis
Question students to make sure they know the most common types of charts and graphs:

- A bar chart compares similarities and differences in a set of data.
- A line graph shows how a set of data changes over time.
- A pie chart compares parts of a set of data with each other and to the whole set.

**Task: What to Do**
Students read and interpret four different kinds of charts to show that they know what type of chart is appropriate for different kinds of data. Monitor progress to make sure that each student can correctly identify bar charts, line graphs, and pie charts and use the terms correctly.

Discuss the example of a chart types analysis with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students know the basic purposes of the three main types of charts and graphs.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Looking at Different Types of Charts

Here are my answers on the questions for the Airline On-Time Statistics and Delay Causes chart.

- What is the title of the chart?
  On-Time Arrival Performance
  National – September 2006
- What type of chart is it?
  Pie Chart
- What kind of data does the chart represent?
  Reasons why airplanes are late arriving at the airport
- Why was this type of chart chosen to represent this data?
  A pie chart shows how much each reason for delayed arrivals compares with other reasons for delayed arrivals.

Here are my answers on the questions for the International Per Capita Consumption of Turkey chart.

- What is the title of the chart?
  Graph 2 – Per Capita Consumption of Turkey
- What type of chart is it?
  Line chart
- What kind of data does the chart represent?
  How many kgs. of turkey were eaten in Canada from 1983 to 2003.
- Why was this type of chart chosen to represent this data?
  A line chart shows how the amount of turkey eaten by Canadians changes.

Here are my answers on the questions for the Average Price of Gasoline chart.

- What is the title of the chart?
  Chart of the Week for April 16-22, 2004
- What type of chart is it?
  Line Chart
- What kind of data does the chart represent?
  The price of gasoline per gallon
• Why was this type of chart chosen to represent this data?
  A line chart shows how the prices for gasoline changes over time.

Here are my answers on the questions for the Percentage of Students Who Reported Being Bullied at School chart.

• What is the title of the chart?
  There is no chart title.
• What type of chart is it?
  Pie Chart
• What kind of data does the chart represent?
  Whether a student is a bully, a victim, both a bully and a victim, or neither a bully nor a victim.
• Why was this type of chart chosen to represent this data?
  A pie chart shows how each student identification as a bully or a victim compares with other students.
Data Analysis | Activity 4: Data Representation

Activity Overview
In this activity, students choose the types of charts and graphs that best represent their poll data. Students use the toolbar and wizard features of a spreadsheet application to create charts.

Activity Questions
- What features do spreadsheet applications provide to help students create charts?
- How can students use spreadsheet features to make sure their charts are easy to read and interpret?
- How can students use critical thinking skills to make sure their charts support the conclusions they have drawn from analyzing their data?

Vocabulary: Words to Remember
Introduce interactive and wizard to students and help students associate an image or symbol with each term. Make sure students understand how interactive and wizard are related. You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires the vocabulary words.

Review bar chart, line graph, and pie chart and have students recall the images or symbols they associated with these words. You may want to review other key terms such as chart, graph, grid, legend, x-axis, and y-axis.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about using a spreadsheet application to create charts. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.
Information: What to Know
Make sure students understand how wizards and toolbars simplify common tasks in a spreadsheet application. Remind students that technology tools such as charts and wizards do not substitute for good judgment.

Question students to make sure they know the four basic steps for creating a chart with a wizard:

- **Chart Type.** Select a chart type from the list.
- **Chart Source Data.** Indicate whether the data you want to represent is stored in rows or columns.
- **Chart Options.** Give a descriptive title to the chart, the x-axis, and the y-axis.
- **Chart Location.** Place the chart on a new worksheet or an existing worksheet in the same workbook.

Question students to make sure they know the three essential components of a toolbar:

- **Chart Type.** Select a chart type from the drop-down menu.
- **Chart Object.** Select the part of the chart you want to edit from the drop-down menu.
- **Format Selected Object.** Click the Format icon to revise or format the selected part.

Remind students to select Print Preview from the File menu whenever they revise or format a chart to see how the chart will look when it is printed.

Task: What to Do
Students visually represent their polling data so that they can easily draw conclusions. Students should demonstrate that they know how to use charts and graphs to represent their polling data accurately and appropriately.

Discuss the example of data charts with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Make sure students know how to use the chart wizard and toolbar in the spreadsheet software before they begin the task. If you have a presentation station, you may want to model effective use of the wizard and toolbar to create charts and graphs. If you are a classroom teacher, this is an excellent opportunity to collaborate with the computer teacher. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.
Quiz: Check Your Understanding
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students have a basic knowledge of how and why to use the chart wizard and toolbar in a spreadsheet.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
## Task Example
*(Excel Template)*

### Poll Results for Choosing the Best Classroom Pet

<table>
<thead>
<tr>
<th>Question</th>
<th>Short Answers for Chart</th>
<th>Tally</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Would you like to have a classroom pet in our room?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Want Pet</td>
<td>19</td>
<td>68%</td>
</tr>
<tr>
<td>No</td>
<td>No Pet</td>
<td>9</td>
<td>32%</td>
</tr>
<tr>
<td>2. Are you allergic to any types of animals?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Allergic</td>
<td>4</td>
<td>14%</td>
</tr>
<tr>
<td>No</td>
<td>Not Allergic</td>
<td>24</td>
<td>86%</td>
</tr>
<tr>
<td>If Yes, which animals?</td>
<td>Cats and birds</td>
<td>28</td>
<td>100%</td>
</tr>
<tr>
<td>3. How much time can you spend every week in taking care of a classroom pet?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than one hour per week</td>
<td>Less than 1 Hour</td>
<td>2</td>
<td>7%</td>
</tr>
<tr>
<td>One to two hours per week</td>
<td>One to Two Hours Per Week</td>
<td>7</td>
<td>25%</td>
</tr>
<tr>
<td>One-half hour every day</td>
<td>1/2 Hour Every Day</td>
<td>12</td>
<td>43%</td>
</tr>
<tr>
<td>One hour every day</td>
<td>One hour Every Day</td>
<td>7</td>
<td>25%</td>
</tr>
<tr>
<td>4. Is it important to have a pet that is warm and cuddly to hold?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Like Warm and Cuddly</td>
<td>21</td>
<td>75%</td>
</tr>
<tr>
<td>No</td>
<td>Not Important</td>
<td>7</td>
<td>25%</td>
</tr>
<tr>
<td>5. How much time do you want to play with the pet each day?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would prefer to just look at the pet.</td>
<td>Just Look</td>
<td>6</td>
<td>21%</td>
</tr>
<tr>
<td>I would like to play with the pet once or twice a week</td>
<td>Play 1-2 Times Per Week</td>
<td>12</td>
<td>43%</td>
</tr>
<tr>
<td>I would like to play with the pet every day</td>
<td>Play Every Day</td>
<td>10</td>
<td>36%</td>
</tr>
<tr>
<td>6. What animal characteristics are most important to you for a pet in our class?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fun to watch</td>
<td>Fun to Watch</td>
<td>6</td>
<td>21%</td>
</tr>
<tr>
<td>Easy to take care of</td>
<td>Easy to Take Care Of</td>
<td>2</td>
<td>7%</td>
</tr>
<tr>
<td>7. Which would be the best pet for our class?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hamster</td>
<td>Hamster</td>
<td>9</td>
<td>32%</td>
</tr>
<tr>
<td>Rabbit</td>
<td>Rabbit</td>
<td>8</td>
<td>29%</td>
</tr>
<tr>
<td>Guinea Pig</td>
<td>Guinea Pig</td>
<td>7</td>
<td>25%</td>
</tr>
<tr>
<td>Turtle</td>
<td>Turtle</td>
<td>4</td>
<td>14%</td>
</tr>
<tr>
<td>Why did you pick that pet? <strong>A friend has one; read about the pet, easy to care for</strong></td>
<td></td>
<td>28</td>
<td>100%</td>
</tr>
<tr>
<td>8. Are you willing to help raise money for a pet?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Will Help Raise</td>
<td>19</td>
<td>68%</td>
</tr>
<tr>
<td>No</td>
<td>Will Not</td>
<td>9</td>
<td>32%</td>
</tr>
</tbody>
</table>

### My Findings

1. About 3/4 of the students in my class want a classroom pet.
2. About 2/3 of the students are willing to take care of a classroom pet daily.
3. The students in my class are closely split between wanting a pet that is soft and furry and one that likes to play with boys and girls.
4. The most popular choice for a pet was a hamster, followed by a rabbit, then a guinea pig, and last, a turtle.
5. More than 2/3 of the students are willing to help raise money to fund a classroom pet.

Copyright © Intel Corporation. All rights reserved. Adapted with permission. Intel, the Intel logo and the Intel Education Initiative are trademarks of Intel Corporation or its subsidiaries in the U.S. and other countries.

*Other names and brands may be claimed as the property of others.*
Data Analysis | Activity 5: Data Formatting

Activity Overview
In this activity, students format their worksheets so they can share their data analysis and explain their conclusions with others. Make sure students are aware that real-world researchers often share their data with peers to help them refine their analysis and conclusions before communicating their research results with an audience.

Activity Questions
- What are the most important formatting features of a spreadsheet?
- How can students use spreadsheet features to make their data attractive and easy to read?

Vocabulary: Words to Remember
Introduce alignment, font, and type to students with a brief explanation of each term. Help students associate an image or symbol with each term. Make sure students understand the distinction between font and type.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone the new vocabulary.

Review key spreadsheet terms such as cell, column, row, and reference. You may want to review the distinction between formula and function, and remind students to be aware of their spreadsheet application’s graphical user interface. You can have students recall the images or symbols they associated with these words.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about formatting data. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Remind students of the importance of using correct terminology when discussing spreadsheets and data. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.
Information: What to Know
Make sure students understand that formatting their spreadsheets is just as important as formatting their word processing documents. Remind students that the graphical user interface for formatting a spreadsheet is very similar to the GUI in a word processing application. Make sure students are familiar with the format menu and toolbar in the spreadsheet software.

You can help students understand how formatting and sharing data with peers can help them improve their data analysis and conclusions.

Pose questions and lead a short class discussion to make sure students know how to use critical thinking skills when formatting and sharing data:

- What is the purpose of students’ charts?
- How do students’ charts help answer their research questions?
- What kind of information can students’ charts provide?
- What ideas or concepts can students develop from the information?
- What conclusions can students draw from their charts?

Task: What to Do
Students format their polling data and charts so they are easy for peers to read, interpret, and understand. Students should demonstrate that they know how to use the formatting features of a spreadsheet application.

Make sure students know how to use the format menu and toolbar in the spreadsheet software before they begin the task. If you have a presentation station, you may want to model effective use of the menu and toolbar to format data and charts. If you are a classroom teacher, this is an excellent opportunity to collaborate with the computer teacher. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of a formatted data chart and a summary with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Quiz: Check Your Understanding
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students have a basic knowledge of how and why to use the format menu and toolbar in a spreadsheet application.

You may want students to take the quiz as a class if you have a presentation station. You
can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

(Format a Spreadsheet)

Formatting Data
You always want your work to look great! Formatting your spreadsheets is just as important as formatting your word processing documents. The graphical user interface for formatting a spreadsheet is very similar to the GUI in a word processing application and other applications. After you format your spreadsheet, you need to make sure it is properly set up for printing.

Format Menu and Toolbar

- **Font.** You can change the font, size, and style from either the Format menu or toolbar. You should use fonts that make your data easy to read. Use bold and italic sparingly for headings or emphasis. The Format menu offers more font choices than the toolbar.
- **Alignment.** A spreadsheet automatically aligns numbers to the right of a cell and words to the left. In most cases, this makes both numbers and words easier to read. Sometimes, you may want to change the alignment of a cell. For example, it is usually a good idea to center column headings. You can change alignment from either the Format menu or toolbar.
- **Numbers and Dates.** The ability to format numbers and dates is one of the most useful features of a spreadsheet. For example, you can choose the number of decimal places to display in a cell, row, or column. Another common number format is for percentages. For example, you can format the value 0.80 display as 80%, 80.0%, 80.00%, and so forth. The value of the data does not change, only the appearance of the data in the spreadsheet. You can change some number and date formats from the Format toolbar and many more are available from the Format menu.
- **Merge and Center.** Sometimes you may want to combine two or more cells into one cell. This usually happens when you want to create a heading for two or more columns. All you have to do is select the cells you want to merge and click the Merge And Center icon on the Formatting toolbar. Make sure the text for the heading is in the left-most cell. The contents of the other cells you merge will be lost.
- **Borders.** You can create borders for cells from either the Format menu or toolbar. Borders are especially useful for separating column headings from data. You should use borders sparingly in most cases.
- **Color.** You can change font color and the background color of cells from either the Format menu or toolbar. Color can make a spreadsheet much more attractive to view, but too much color can make it difficult to read. Be smart about what colors you use and how much you use them!
- **Column Width.** You can change column width from the format menu. You can also drag the line that separates one column from the next. You want to make sure that a column is wide enough to display all the data it contains. Autofit automatically adjusts the column width to accommodate your data.
- **Row Height.** You can change row height from the Format menu. You can also drag the line that separates one row from the next. Adjusting row height can make your spreadsheet more attractive and easier to read.
File Menu

- **Page Setup.** Page Setup allows you to control how a spreadsheet will look when it is printed. You can change the page orientation from portrait to landscape when the width of your data is greater than the height. You can reduce the size of a spreadsheet to fit onto a page. You can change the margins or create a header or footer to display at the top or bottom of each printed page. You can set a print area if you only want to print a certain part of a spreadsheet. You can set print titles so that column or row headings appear on every page. This is useful when your data requires more than one page to print. Page Setup is accessible from the File menu or Print Preview mode.

- **Print Preview.** Print Preview allows you to see how a spreadsheet will look when it is printed. You can enter Print Preview mode from the File menu or the Standard toolbar.

- **Print.** You can print a spreadsheet from the File menu or while in Print Preview mode.
**Task Example**

(Formatted Data Chart)

**Poll Results for Choosing the Best Classroom Pet**

<table>
<thead>
<tr>
<th>Question</th>
<th>Short Answers for Chart</th>
<th>Tally</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Would you like to have a classroom pet in our room?</td>
<td>Yes</td>
<td>19</td>
<td>68%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>9</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>No Pet</td>
<td>28</td>
<td>100%</td>
</tr>
<tr>
<td>2. Are you allergic to any types of animals?</td>
<td>Yes</td>
<td>4</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>24</td>
<td>86%</td>
</tr>
<tr>
<td></td>
<td>Not Allergic</td>
<td>28</td>
<td>100%</td>
</tr>
<tr>
<td>If Yes, which animals?</td>
<td>Cats and Birds</td>
<td>28</td>
<td>100%</td>
</tr>
<tr>
<td>3. How much time can you spend every week in taking care of a classroom pet?</td>
<td>Less than one hour per week</td>
<td>2</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>One to two hours per week</td>
<td>7</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>One-half hour every day</td>
<td>12</td>
<td>43%</td>
</tr>
<tr>
<td></td>
<td>One hour every day</td>
<td>7</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28</td>
<td>100%</td>
</tr>
<tr>
<td>4. Is it important to have a pet that is warm and cuddly to hold?</td>
<td>Yes</td>
<td>21</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>7</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>Not Important</td>
<td>28</td>
<td>100%</td>
</tr>
<tr>
<td>5. How much time do you want to play with the pet each day?</td>
<td>I would prefer to just look at the pet</td>
<td>6</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>I would like to play with the pet once or twice a week</td>
<td>12</td>
<td>43%</td>
</tr>
<tr>
<td></td>
<td>Play 1-2 Times Per Week</td>
<td>10</td>
<td>36%</td>
</tr>
<tr>
<td></td>
<td>Play Every Day</td>
<td>20</td>
<td>100%</td>
</tr>
<tr>
<td>6. What animal characteristics are most important to you for a pet in our class?</td>
<td>Soft and furry to hold</td>
<td>11</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td>Likes to play with boys and girls</td>
<td>9</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>Fun to watch</td>
<td>6</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>Easy to take care of</td>
<td>2</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28</td>
<td>100%</td>
</tr>
<tr>
<td>7. Which would be the best pet for our class?</td>
<td>Hamster</td>
<td>9</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>Rabbit</td>
<td>8</td>
<td>29%</td>
</tr>
<tr>
<td></td>
<td>Guinea Pig</td>
<td>7</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>Turtle</td>
<td>4</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28</td>
<td>100%</td>
</tr>
<tr>
<td>Why did you pick that pet?</td>
<td>A friend has some fun</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Are you willing to help raise money for a pet?</td>
<td>Yes</td>
<td>19</td>
<td>68%</td>
</tr>
<tr>
<td></td>
<td>Will Help Raise 5</td>
<td>20</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>9</td>
<td>32%</td>
</tr>
</tbody>
</table>

**My Findings**

1. About 3/4 of the students in my class want a classroom pet.
2. About 2/3 of the students are willing to take care of a classroom pet daily.
3. The students in my class are closely split between wanting a pet that is soft and furry and one that is less so.
4. The most popular choice for a pet was a hamster, followed by a rabbit, then a guinea pig, and, last, a turtle.
5. More than 2/3 of the students are willing to help raise money to find a class pet.
Task Example

(Data Summary)

Student Name

Date

Data Analysis of Choosing a Classroom Pet

My topic was to research classroom pets. I wanted to find out if there was a suitable pet for our classroom. My data was collected for two reasons:

- See if my classmates were interested in having a classroom pet
- Determine what kind of pet would be the best for our class

Two kinds of poll questions were used, Yes/No and Multiple Choice. The Yes/No questions helped divide the students in groups, while the multiple choice questions gave more information about student choices. These Yes/No groups included students interested in having a class pet and those who have an allergy, making having a class pet less likely. It also included those who like to hold pets, and those who were willing to sponsor the class pet. The multiple choice questions identified the time commitment the students were willing to make, the pet traits that were important to the students, and the best pet choice.

For each question, I wanted to know how many students chose each answer. Then I figured out what percentage each answer choice represented. Knowing how many helped me see the total number of students who felt the same way. Knowing the percentage for each choice helped me see how each choice measured up against the other choices. Seeing how the data worked in these two ways helped me understand how the students felt about having a class pet.

The data shows that most students (68%) want a classroom pet. Only a few students (4) have an allergy, but more information is needed to see how this affects having a pet in the classroom. Many students are willing to spend time taking care of the pet (68%) and playing with the pet (79%). Almost equal numbers of students want a pet that is soft and furry to hold (39%) and one that likes to play with boys and girls (32%). The top choice for a pet, a hamster, meets both these needs. My conclusions are that our class wants a pet and that my classmates are realistic about the kind of pet they want.
Data Analysis | Look Back

Thinking about Learning
In this module, students used formulas and functions to analyze their data, created charts to represent their data, and formatted their data and charts to be attractive and easy to read and understand.

Students have learned:

- How to summarize data with formulas and functions
- How to read and interpret charts by recognizing their main parts
- How to select the best types of charts to represent different kinds of data
- How to create charts that represent their data effectively
- How to format worksheets to be attractive and easy to read

Checklist for Data Analysis
Help students use the checklist to make sure they have completed all the tasks in this activity. Completing all tasks ensures that students are ready to publish their analysis in newsletters.

Rubric for Data Analysis
Help students use the rubric to self-assess their worksheets, charts, and analysis. Make sure students’ self-assessments are accurate. Encourage students to use their self-assessments to improve their worksheets, charts, and analysis.

Reflection on Data Analysis
Ask individual students questions that encourage reflection any time you find an opportunity. If possible, give students time to share their formatted charts and analyses with each other. Students can share their reflections with the whole class, in small groups, or in pairs.

Encourage students to discuss the following points:

- How they summarized their data and drew conclusions from their results
- What they learned about reading and interpreting charts
- Why they selected the types of charts they created to represent their data
- What they learned when they shared their data with others

Encourage students to take their formatted charts and analyses home to share with parents, guardians, or other trusted family members.
Think Critically with Data Newsletter Publication

Module Overview
In this module, students learn to use their critical thinking skills to organize the information they gathered. You help students understand how they can use the narrative style of writing to tell stories about their topics. Students learn how to use the writing process to make their stories engaging and meaningful. Students then use desktop publishing tools and graphic design elements to produce visually appealing newsletters that share their research, data, and conclusions with an audience.

Module Questions
- How can students use graphic organizers to support critical thinking?
- How can students use narrative nonfiction to tell stories about their topics?
- How does the writing process help make stories engaging and meaningful?
- How do templates help students produce quality newsletters?
- How can graphic design elements make newsletters visually appealing?

Activity 1: Graphic Organizers
Students learn how graphic organizers arrange pieces of information into logical ideas or concepts. Students create graphic organizers that show what they learned about their topics.

Activity 2: Narrative Nonfiction
Students explore how narrative nonfiction can tell engaging and meaningful stories about real events. Students use narrative nonfiction and graphic organizers to draft newsletter articles.

Activity 3: Writing Process
Students learn how to put themselves in the minds of their readers. Students revise their articles to improve content and edit their articles to make sure the articles are free from mechanical errors.

Look Ahead
Review the checklist and rubric before introducing the module to students. When you introduce the module, discuss the checklist and rubric with the whole class or have students review the checklist and rubric individually or in small groups.

See the checklist: Newsletter Publication Checklist
See the rubric: Newsletter Publication Rubric
Activity 4: Newsletter Template
Students explore how to use newsletters to share what they have learned about their topics. Students use templates to help them produce quality publications quickly and easily.

Activity 5: Newsletter Design
Students explore basic principles of graphic design. Students use graphic design elements and well-chosen images to enhance their newsletters’ visual appeal.

Look Back
Students reflect on their learning in this module. They should be ready to confidently publish visually appealing newsletters. You may want to use the checklist to make sure students completed their tasks, and you may want to use the rubric to assess students' newsletters.
Newsletter Publication | Activity 1: Graphic Organizers

Activity Overview
In this activity, students learn how to organize information and data graphically. Students learn how to use graphic organizers to arrange many different pieces of information into a few logical ideas or concepts. An effective graphic organizer shows how these ideas or concepts are supported by reliable information and objective data.

Activity Questions
- What are some different kinds of information students could organize?
- What are the strengths and weaknesses of different types of graphic organizers?
- Which graphic organizer is most appropriate for the information students have collected on their topics?

Vocabulary: Words to Remember
Introduce graphics and organize to students and discuss why concept maps and other tools are called graphic organizers. Help students associate an image or symbol with both terms. Review key critical thinking terms such as accurate, logical, objective, precise, and relevant. Ask students to recall the images or symbols they associated with these words.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about graphic organizers. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Make sure students understand that graphic organizers support critical thinking by combining many pieces of information into a few logical concepts or ideas. Make sure students know that an effective graphic organizer is a visual representation of knowledge. You may want to discuss the difference between information and knowledge with students.
Pose questions and lead a short class discussion to make sure students know how to choose the types of graphic organizers that will best help them accomplish their goals:

- The fishbone is a popular graphic organizer for showing cause-and-effect relationships.
- A Venn diagram is a popular graphic organizer for comparing and contrasting two or more concepts or ideas.
- A clustering diagram, also called a concept map, is an effective way to sort and group information into categories.
- Some graphic organizers, such as interaction outlines and problem-solution, represent special processes.

**Task: What to Do**

Students organize the information and data they collected and demonstrate that they can use graphic organizers to represent knowledge. Make sure students know how to create graphic organizers in the word processing or diagramming software before they begin the task.

If you have a presentation station, you may want to create a graphic organizer with the whole class or groups of students. If you are a classroom teacher, you may want to check with the computer teacher to find out what tools are available for students to use. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of a graphic organizer with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Makes sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with some different types of graphic organizers. You may want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

Using a Graphic Organizer

My research was to find out information about the best class pet for my classroom. My questions asked the other students about their interest in having a class pet and the pet traits that were important. I also wanted to see how time the students were willing to commit to a class pet.

When I looked for information on the Internet, I found out that there are many things to think about in choosing a pet. These include the money needed to feed and keep a pet and the time needed to take care of a pet. I analyzed the data that I collected from my poll of my classmates and found out that there was interest in having a class pet.

Most students were willing to spend the time needed to take of and play with a pet. Most students chose a hamster as our classroom pet and that was a good choice. A hamster is warm and furry to hold and likes to play with girls and boys. There were the two most important traits for a classroom pet in the poll.

My conclusion is that there is a lot of work involved in having a classroom pet, but the students in my room are willing to do the work. They agree on a pet that has the traits that most of the students want. If we get a classroom pet, I know more about what will be involved.

My graphic organizer shows the process that I used to gather information on my project. In order find out what animal would be the best class pet, I had to do several things. First, I had to find information on classroom pets. Then I had to think about questions to ask my classmates. I made a poll to ask the questions. I asked my classmates about a classroom pet. After I asked the questions, I put all the answers together and looked for interesting patterns and showed my data in charts. Finally, I reported to the class about what I learned.
My Quest for a Pet

Thinking about what is involved in having a pet

Charting the data to see the data patterns and results of the poll

Researching the topic to find the important issues

Analyzing the data to discover how my classmates felt about the issue

Creating a poll to discover classmate’s views about a class pet
Newsletter Publication | Activity 2: Narrative Nonfiction

**Activity Overview**
In this activity, students explore the narrative style of writing in nonfiction and draft newsletter articles to communicate their knowledge about their topics.

**Activity Questions**
- What are some good reasons to write a nonfiction narrative essay?
- How is the narrative style different from other writing students may have done?
- What are some examples of how narrative style is used in nonfiction writing in fields such as history and journalism?

**Vocabulary: Words to Remember**
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as *article*, *descriptive*, *draft*, and *essay*. Make sure students understand the distinction between *fiction* and *nonfiction*, as well as the difference between *first person* and *third person*.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires the new vocabulary words.

**Exploration: Learning from the Web**
Make sure students review the guiding questions for this activity before they explore Web sites about writing narrative essays. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

**Information: What to Know**
Make sure students understand that the purpose of writing a draft is to free them to be as creative as they can be. Discuss fields like journalism and history that often use narrative

---

Copyright © Intel Corporation. All rights reserved. Adapted with permission. Intel, the Intel logo and the Intel Education Initiative are trademarks of Intel Corporation or its subsidiaries in the U.S. and other countries.

*Other names and brands may be claimed as the property of others.
style in nonfiction writing.

Question students to make sure they know some basic strategies for writing a good nonfiction narrative essay:

- Personal thoughts show how people in the article felt about the experience.
- A well-crafted article makes an important point supported by specific details.
- Descriptive words help readers picture what happens.
- Quotes make the article come alive.

Make sure students know that writing an introduction, body, and conclusion is usually an effective way to organize narrative nonfiction.

**Task: What to Do**

Students draft articles that tell engaging and meaningful stories about their topics. Remind students that they are writing narrative nonfiction and should use the methods of that style. Monitor progress to make sure that each student uses first person or third person consistently. Remind students to use vocabulary appropriate to narrative nonfiction when they discuss their writing.

Discuss the example of an article draft with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**

Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students understand the purpose and uses of narrative nonfiction.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

How to Get a Classroom Pet

As long as I can remember, I have wanted a pet! Every year, I asked Santa to bring me some kind of pet. Maybe the reason I stopped believing in Santa was because he never seemed to listen to my deepest desire to have an animal in my life.

My mom and dad were not listening either. I have done research on many different kinds of pets, but my mom always had a reason why each pet would not work for our family. Lots of reasons and excuses, but still no pets for me.

This year, I decided I would try a different approach. I would see if my class could get a classroom pet. I was not sure how I would get this project started, but my teacher provided the perfect way. She asked each of us to select a topic to research. I did not need to be asked twice what I was going to research. I knew my topic would be choosing the best classroom pet.

After I researched how to choose the best pet for a classroom, I designed a poll with eight questions. I took the data I gathered and analyzed it to find out that a majority of students want a class pet and are willing to take care of it and help raise money for it. However, four students have allergies so a class pet may not work for our room.

I see now that our apartment is too small for most of the pets I researched and I do not have the time necessary to care for a pet. I have a better understanding why my parents are so unwilling to give me a pet. I’m glad that I learned all this and I can always walk over to my cousin’s when I want to play with his dog!
Activity Overview
In this activity, students learn how to improve their narrative nonfiction articles by putting themselves in the minds of their readers. Students revise their articles to improve content and edit their articles to make sure the essays are free from mechanical errors.

Activity Questions
- How can students put themselves in the minds of their readers?
- How can students identify the strengths and weaknesses of their writing?
- What should students concentrate on when they edit?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as *mechanics*, *proofread*, and *typographical error*. Make sure students understand the distinction between *edit* and *revise*.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word.

You may want to review key narrative nonfiction terms such as *article*, *descriptive*, *draft*, *essay*, *fiction*, *nonfiction*, *first person*, and *third person*. Ask students to recall the images or symbols associated with these words. You may want to have students form pairs or small groups to quiz each other on new and review words and discuss how they might use writing vocabulary later in their lives.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about the writing process. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Make sure students understand why revising and editing a first draft are important parts of
the writing process. Explain to students that the purpose of revising and editing is to make their articles as engaging and meaningful as possible. Remind students to be as objective as possible and try to get inside the minds of their readers.

Pose questions and lead a short class discussion to make sure students know some basic strategies for revision:

- Remove words, sentences, and paragraphs that are not important to the article
- Rewrite or reorganize long or confusing sentences or paragraphs
- Add details and replace general words with descriptive words
- Make sure each character’s point of view is consistent throughout the article

Encourage students to develop the habit of checking their writing for mechanical errors carefully and systematically. Make sure students know that word processing software can help them edit their writing, but technology tools are not substitutes for their good judgment.

Task: What to Do
Students revise and edit their article to make their stories as meaningful and engaging as possible. Make sure students know how to use the thesaurus and spelling and grammar check tools in the word processing software before they begin the task.

If you have a presentation station, you can model effective use of the thesaurus and spelling and grammar check tools to revise and edit. If you are a classroom teacher, you may want to check with the computer teacher to make sure students know how to use the thesaurus and spelling and grammar check tools. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of a revised and edited essay with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

Quiz: Check Your Understanding
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with revising and editing.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

Student Name

Date

How to Get a Classroom Pet

As long as I can remember, I have wanted a pet! Every year, I asked Santa to bring me some kind of pet. Maybe the reason I stopped believing in Santa was because he never seemed to listen to my deepest desire to have an animal in my life.

My mom and dad were not listening either. I have done research on many different kinds of pets, but my mom always had a reason why each pet would not work for our family. We did not have the space in our apartment for a guinea pig. We could not afford the care and feeding of a dog. My dad was allergic to cat hair. Our neighbor had a goldfish that only lived for a week. Any time I mentioned a pet, there were lots of reasons and excuses, but still no pets for me.

This year, I decided I would try a different approach. I would see if my class could get a classroom pet. I was not sure how I would get this project started, but my teacher provided the perfect way. She asked each of us to select a topic to research and poll our classmates for their opinion. I did not need to be asked twice what I was going to research. I knew my topic would be choosing the best classroom pet.

And I learned a lot about the care and feeding of pets! Having a pet is more than just playing and having a fun with an animal. There are lots of chores and responsibilities involved in taking care of a pet. You need to have the right setting for your pet and you need to be involved daily. You need to groom your pet and clean its cage or tank. You need to pay for food, toys, habitats, and vet bills. I guess I had not considered these aspects before I did my research.
After I researched how to choose the best pet for a classroom, I designed a poll with eight questions. I used the poll to discover how the other students in my class felt about having a classroom pet and taking care of it. I took the data I gathered and analyzed it to find out that a majority of students want a class pet and are willing to take care of it and help raise money for it. However, four students have allergies so a class pet may not work for our room.

I see now that our apartment is too small for most of the pets I researched and I do not have the time necessary to care for a pet. Now that I know more about the obligations that come with having a pet, I have a better understanding why my parents are so unwilling to give me a pet. I’m glad that I learned all this and I can always walk over to my cousin’s when I want to play with his dog!
Newsletter Publication | Activity 4: Newsletter Template

Activity Overview
In this activity, students explore how to use a newsletter to share the data they have collected, analyzed, and represented. Students learn how to use templates to help them produce quality publications quickly and easily.

Activity Questions
- What makes a publication attractive to readers?
- How can students use desktop publishing to interest people in their newsletters?
- How can students use templates to help them produce their newsletters?

Vocabulary: Words to Remember
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key terms such as audience, desktop publishing, and template.

You may want to have students use each word in a sentence or act out each word. You may also want to have students work in pairs or small groups to quiz each other or draw an image or symbol that represents each word. If necessary, pair students with complementary partners or peer tutors to make sure everyone acquires the new vocabulary words.

Exploration: Learning from the Web
Make sure students review the guiding questions for this activity before they explore Web sites about using templates. Explain how the guiding questions help focus their Web reading. You may want to have students write guiding questions of their own. Encourage students to take notes or draw pictures while they explore Web sites. You may also want to have students report out to the class, another student, or a small group of students.

Information: What to Know
Make sure students understand the importance of identifying their audience and choosing an appropriate publication for their readers. Emphasize that newsletters allow students to easily combine stories about a topic with tables, charts, and images relevant to the topic. Make sure students know that effective publications are not cluttered or difficult to read.
Students should know that templates are computer files that have been created in a specific application to provide formatting for a publication. Students can create quality publications by adding content to a file created from an existing template. They should understand how to use templates to save time, improve consistency, get expert help, and learn desktop publishing.

**Task: What to Do**
Students use templates to create newsletters based on their articles and poll data. Students should make their newsletters as attractive and easy to read as possible, emphasizing the most important parts. Help students identify an audience and brainstorm ideas for how to communicate their knowledge to their readers in their newsletters.

If you have a presentation station, you can model effective use of a template with the word processing or desktop publishing software. Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task. If you are a classroom teacher, you may want to check with the computer teacher to make sure students know how to use a template.

Discuss the example of a newsletter with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete. You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students are familiar with the basic purposes and methods of desktop publishing with templates.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
Task Example

A CLASS PET

Volume 1, Issue 1

Asking the Tough Questions

A Quest to Discover the Best Classroom Pet.

Student Name
West Ridge Middle School

As long as I can remember, I have wanted a pet! Every year, I asked Santa to bring me some kind of pet. Maybe the reason I stopped believing in Santa was because he never seemed to listen to my deepest desire to have an animal in my life.

No Help at Home

My mom and dad were not listening either. I have done research on many different kinds of pets, but my mom always had a reason why each pet would not work for our family. We did not have the space in our apartment for a guinea pig. We could not afford the care and feeding of a dog. My dad was allergic to cat hair. Our neighbor had a goldfish that only lived for a week. Any time I mentioned a pet, there were lots of reasons and excuses, but still no pets for me.

A Chance to Learn More

This year, I decided I would try a different approach. I would see if my class could get a classroom pet. I was not sure how I would get this project started, but my teacher provided the perfect way. She asked each of us to select a topic to research and poll our classmates for their opinion. I did not need to be asked twice what I was going to research. I knew my topic would be choosing the best classroom pet.

And I learned a lot about the care and feeding of pets! Having a pet is more than just playing and having a fun with an animal. There are lots of chores and responsibilities involved in taking care of a pet. News! You need to have the right setting for your pet and you need to be involved daily. You need to groom your pet and clean its cage or tank. You need to pay for food, toys, habitats, and vet bills. I guess I had not considered these aspects before I did my research.

The Results Are In

After I researched how to choose the best pet for a classroom, I designed a poll with eight questions. I used the poll to discover how the other students in my class felt about having a classroom pet and taking care of it. I took the data I gathered and analyzed it to find out that a majority of students want a class pet and are willing to take care of it and help raise money for it. However, four students have allergies so a class pet may not work for our room.

My Findings

- About 3/4 of the students in my class want a classroom pet.
- About 2/3 of the students are willing to take care of a classroom pet daily.
- The students in my class are closely split between wanting a pet that is soft and furry and one that is fun to watch.

Continued in next column
Newsletter Publication | Activity 5: Newsletter Design

**Activity Overview**
In this activity, students explore how to use basic principles of graphic design to make their newsletters visually appealing. Students should understand that desktop publishing provides the technology tools necessary to create a publication, and graphic design provides the knowledge and skills necessary to use the tools effectively.

**Activity Questions**
- What are the most important points to remember about graphic design? How can students use graphic design to attract readers to their newsletters?
- When does fair use allow students to use copyrighted images?
- When should students get permission to use copyrighted images?

**Vocabulary: Words to Remember**
Introduce the vocabulary words to students with a brief explanation of each term. Help students associate an image or symbol with key graphic design terms such as alignment, balance, contrast, proximity, repetition, and white space. Encourage students to remember and visualize graphic design terms any time they read a publication.

Introduce copyright and fair use, and help students associate an image or symbol with each term. Explain that terms are words or phrases with a particular meaning in a specific context, such as legal terms like copyright and fair use. You may want to have students use copyright and fair use in one sentence to make sure they understand how these terms are related.

**Exploration: Learning from the Web**
Make sure students understand how to use the guiding questions for this activity to focus their exploration of Web sites about graphic design, copyright laws, and fair use. You may want to ask students if they have ever used an image, song, or movie without permission. Ask students what questions they have and what they already know about how to make a publication visually appealing and easy to read. You may want to have students use graphic
organizers, such as a T-Charts, to take notes on “dos and don’ts” of graphic design.

**Information: What to Know**
Make sure students know that graphic design is the art of using type and graphics to produce quality publications. Students should understand that no strict rules can guarantee success, but some guidelines are effective in most cases.

Students should understand the six basic principles of graphic design:

- **Alignment** makes a publication easy to read.
- **Balance** sets the tone for a publication.
- **Contrast** directs a reader’s attention to a specific place or idea.
- **Proximity** uses space to show how type and graphics are related.
- **Repetition** helps a reader navigate through a publication.
- **White space** gives a reader’s eyes a rest.

Make sure students know that copyright laws protect the works of authors, artists, and others by preventing people from changing creative works without permission and claiming the works as their own. Copyright laws also prevent people from profiting from other people’s work without permission. Make sure students understand that they must assume that a work is copyrighted even when it is not marked with a copyright symbol ©.

Make sure students know that fair use of copyrighted works for educational purpose applies only under certain conditions and limitations. Students should understand that no exact rules exist for fair use in all cases, but they can follow some accepted guidelines for school projects. Make sure students understand that they should always give credit to the creator of an image just as they cite the author of a text.

**Task: What to Do**
Students use the principles of graphic design to make their newsletters as visually appealing and easy to read as possible. Remind students to consider purpose and audience when adding graphic design elements to their newsletters. Monitor students to make sure they correctly identify the copyright status of their images.

Make sure students know how to find and use clip art in the word processing or desktop publishing software before they begin the task. If you have a presentation station, you may want to model effective use of clip art in graphic design. If you are a classroom teacher, you may want to check with the computer teacher to make sure students know how to find and use clip art.

Make sure students know how to use the Intel® Education Help Guide to get just-in-time assistance with technology skills as they work through the task.

Discuss the example of a final newsletter with the whole class or small groups before students begin the task. Review the checklist and discuss whether the example is complete.
You may want to review the rubric and discuss what criteria could be used to assess the example.

**Quiz: Check Your Understanding**
Remind students that the quiz is not scored and answers are not recorded. Make sure students read the feedback they get when they answer each question. The quiz makes sure students understand balance, alignment, and fair use.

You may want students to take the quiz as a class if you have a presentation station. You can have students vote on each answer and then discuss why each answer is correct or incorrect. You may also want to have students write their own quiz questions and share them with a peer, a small group, or the whole class.
**Task Example**

**Volume 1, Issue 1 Date**

**A CLASS PET**

**Asking the Tough Questions**

*A Quest to Discover the Best Classroom Pet.*

**Student Name, West Ridge Middle School**

As long as I can remember, I have wanted a pet! Every year, I asked Santa to bring me some kind of pet. Maybe the reason I stopped believing in Santa was because he never seemed to listen to my deepest desire to have an animal in my life.

**No Help at Home**

My mom and dad were not listening either. I have done research on many different kinds of pets, but my mom always had a reason why each pet would not work for our family. We did not have the space in our apartment for a guinea pig. We could not afford the care and feeding of a dog. My dad was allergic to cat hair. Our neighbor had a goldfish that only lived for a week. Any time I mentioned a pet, there were lots of reasons and excuses, but still no pets for me.

**A Chance to Learn More**

This year, I decided I would try a different approach. I would see if my class could get a classroom pet. I was not sure how I would get this project started, but my teacher provided the perfect way. She asked each of us to select a topic to research and poll our classmates for their opinion. I did not need to be asked twice what I was going to research. I knew my topic would be choosing the best classroom pet. And I learned a lot about the care and feeding of pets! Having a pet is more than just playing and having a fun with an animal. There are lots of chores and responsibilities involved in taking care of a pet. You need to have the right setting for your pet and you need to be involved daily. You need to room your pet and clean its cage or tank. You need to pay for food, toys, habitats, and vet bills. I guess I had not considered these aspects before I did my research.

**The Results Are In**

After I researched how to choose the best pet for a classroom, I designed a poll with eight questions. I used the poll to discover how the other students in my class felt about having a classroom pet and taking care of it. I took the data I gathered and analyzed it to find out that a majority of students want a class pet and are willing to take care of it and help raise money for it. However, four students have allergies so a class pet may not work for our room.

*A hamster or a rabbit were most popular choices among my classmates for a classroom pet.*

I see now that our apartment is too small for most of the pets I researched and I do not have the time necessary to care for a pet. Now that I know more about the obligations that come with having a pet, I have a better understanding why my parents are so unwilling to give me a pet. I’m glad that I learned all this and I can always walk over to my cousin’s house when I want to play with his dog!

**My Findings**

- About 3/4 of the students in my class want a classroom pet.
- About 2/3 of the students are willing to take care of a classroom pet daily.
- The students in my class are closely split between wanting a pet that is soft and furry and one that is fun to watch.
Newsletter Publication | Look Back

Thinking about Learning
In this module, students used critical thinking to graphically organize their information and data. Students explored narrative nonfiction and wrote articles on their topics. Students used desktop publishing and graphic design to publish newsletters about their topics.

Students have learned:
- How to create graphic organizers that show what they learned
- How to use narrative nonfiction to draft articles about their topics
- How to improve their articles by revising and editing their writing
- How to use templates to publish their articles in newsletters
- How to design newsletters that are visually appealing and easy to read

Checklist for Newsletter Publication
Help students use the checklist to make sure they have completed all the tasks in this activity. Completing all tasks ensures that students can confidently design and publish newsletters.

Rubric for Newsletter Publication
Help students use the rubric to self-assess their newsletters. Explain to students the importance of paying attention to writing mechanics. Make sure students’ self-assessments are accurate. Encourage students to use their self-assessments to improve their newsletters.

Reflection on Newsletter Publication
Ask individual students questions that encourage reflection any time you find an opportunity. If possible, give students time to share newsletters with each other. Students can share their reflections with the whole class, in small groups, or in pairs.

Encourage students to discuss the following points:
- How they used they narrative nonfiction to help readers understand their topics
- How they used technology tools to create quality publications
- What they learned about the principles of desktop publishing and graphic design
- How they selected the images they used to enhance their newsletters

Encourage students to take their newsletters home to share with parents, guardians, or other trusted family members.