

# Reading and Study Skills

At the beginning of each section, you will find a reading strategy to help you study. Each strategy uses a graphic organizer to help you stay organized. The following strategies and graphic organizers are used throughout the text.

## Reading Strategies

### Using Prior Knowledge

This strategy helps you think about your own experience before you read a section. Research has shown that you learn new material better if you can relate it to something you already know.

### Previewing

Previewing a lesson can give you a sense of how the textbook is organized and what lies ahead. One technique is to look at the section topics (in green and blue type). You also can preview by reading captions. Sometimes previewing helps you simply because you find out a topic isn't as hard as you thought it might be.

### Predicting

You can preview a section and then make a prediction. For example, you might predict the meaning of an important concept. Then, as you read, check to see if your prediction was correct. Often you find out that you knew more about a topic than you realized.

### Building Vocabulary

Start building new vocabulary by previewing a section and listing boldface terms you don't recognize. Then look for each term as you read. Writing a sentence with a term, and defining a term in your own words are two techniques that will help you remember definitions.

### Identifying the Main Idea

The key symbols next to boldface sentences identify the main ideas in a section. You can use topic sentences to find the main idea in a paragraph. Often, a topic sentence is the first or second sentence in a paragraph.

### Identifying Cause and Effect

Cause-and-effect relationships are very important in science. A flowchart will help you identify cause-and-effect relationships as you read about a process.

### Comparing and Contrasting

Comparing and contrasting can help you understand how concepts are related. Comparing is identifying both similarities and differences, while contrasting focuses on the differences. Compare-and-contrast tables and Venn diagrams work best with this strategy.

### Sequencing

When you sequence events, it helps you to visualize the steps in a process and to remember the order in which they occur. Sequences often involve cause-and-effect relationships. Use flowcharts for linear sequences and cycle diagrams for repeating sequences.

### Relating Text and Figures

You can use diagrams and photographs to focus on the essential concepts in a section. Then find text that extends the information in the figures. You can also reinforce concepts by comparing different figures.

### Summarizing

Summarizing requires you to identify key ideas and state them briefly in your own words. You will remember the content of an entire section better even if you summarize only a portion of the section.

### Outlining

You can quickly organize an outline by writing down the green and blue headings in a section. Then add phrases or sentences from the boldface sentences to expand the outline with the most important concepts.

### Monitoring Your Understanding

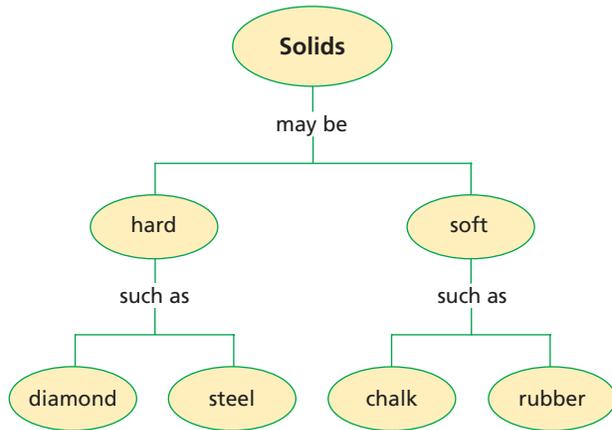
You can evaluate your progress with graphic organizers such as a Know-Write-Learn (KWL) table. To make a KWL table, construct a table with three columns, labeled K, W, and L. Before you read, write what you already know in the first column (K). In the middle column, write what you want to learn (W). After you read, write what you learned (L).

## Graphic Organizers

### Concept Maps and Web Diagrams

A **concept map** is a diagram that contains concept words in ovals and connects the ovals with linking words. Often the most general concept is placed at the top of the map. The content of the other ovals becomes more specific as you move away from the main concept. Linking words are written on a line between two ovals.

A **web diagram** is a type of concept map that shows how several ideas relate to one central idea. Each subtopic may also link to subtopics, creating the visual effect of a spider web. Linking words are usually not included.



### Compare-and-Contrast Tables

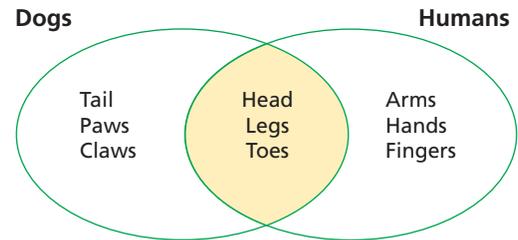
A **compare-and-contrast table** is a way of showing the similarities and differences between two or more objects or processes. The table provides an organized framework for making comparisons based on specific characteristics.

The items to be compared are usually column headings across the top of the table. Characteristics for comparison are listed in the first column. You complete the table by filling in information for each item.

Compare-and-Contrast Table		
Contents	Book	CD-ROM
Paper pages	Yes	No
Photographs	Yes	Yes
Videos	No	Yes

### Venn Diagrams

A **Venn diagram** consists of two or more ovals that overlap. Each oval represents a particular object or idea. Unique characteristics are shown in the part of each oval that does not overlap. Shared characteristics are shown in the area of overlap.



### Flowcharts

A **flowchart** is used to represent the order in which a set of events occurs. Each step in the sequence is described in a box. Each box is linked to the next box with an arrow. The flowchart shows a sequence from beginning to end.



### Cycle Diagrams

A **cycle diagram** shows boxes representing a cyclical sequence of events. As in a flowchart, boxes are linked with arrows, but the sequence does not have a beginning or end. The boxes are usually arranged in a clockwise circle.

