Customize Your Resources

No matter how you organize your teaching resources, Glencoe has what you need.

The Teacher's Classroom Resources for Understanding Psychology provides you with a wide variety of supplemental materials to enhance the classroom experience. The booklets are designed to open flat so that pages can be easily photocopied without removing them from their booklet. However, if you choose to create separate files, the pages are perforated for easy removal.

The individual booklets supplied in Teacher's Classroom Resources give you the flexibility to organize these resources in a combination that best suits your teaching style. Below are several alternatives.

- **Organize all resources by category**
  (all tests, all enrichment and extension activities, all cooperative learning activities, etc., filed separately)
- **Organize all resources by category and chapter**
  (all Chapter 1 activities, all Chapter 1 tests, etc.)
- **Organize resources sequentially by lesson**
  (activities, quizzes, readings, etc., for Chapter 1, Chapter 2, and so on)
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To the Teacher

Critical Thinking Skills Activities are higher level thinking activities. They provide teachers with exercises that help students develop their abilities to interpret information, to compare, contrast, and assess that information and to use information to extrapolate, make predictions and reach logical and valid judgments and conclusions. Critical thinking skills are vitally important to a student’s ability to function successfully in almost any endeavor later in life. They will also assist students in meeting the requirements posed by many of today’s proficiency and standardized testing programs.
**CRITICAL THINKING SKILLS ACTIVITY 1**

**Organizing and Analyzing Information**

**Directions:** Using the information below and local or national newspapers, write a report about how psychology affects our daily lives.

Many people are fascinated with human behavior and how the mind works. Psychologists and psychological inquiry are part of everyday life. Sports figures ask psychologists to help them improve their mental outlook on the game. Police departments consult psychologists to better understand criminal behavior. Businesses analyze the buying behaviors of potential customers. Advertisers use psychologists’ understanding of human behavior to attract our attention.

1. Obtain your local newspaper or a national newspaper for seven days.
2. Review each day’s paper for articles and advertisements related to psychology, the mind, and human behavior. Create a clipping file of these articles and advertisements.
3. Organize the articles and advertisements into groups according to the particular type of psychology they discuss. Then take each group of articles and advertisements and organize them according to the field of psychology involved. Use a graphic organizer similar to the one below to help you organize the information you collect.
4. Write a report analyzing the trends and patterns you see in the articles. Does one type of psychology dominate? Does one field of psychology appear more often? Which approaches to psychology seem to play the most prominent roles in everyday life?

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Subject of Articles and Advertisements</th>
<th>Types of Psychology Discussed</th>
<th>Fields of Psychology Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Day 2</td>
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<td>Day 3</td>
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<td>Day 4</td>
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<td>Day 5</td>
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<td>Day 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Directions: Follow the steps below to study the relationship between two variables.

1. Select two items that you believe are correlated. For example, you may believe that the height of a basketball player is positively correlated to the average number of points the player scores per game. When selecting the two items to test for correlation, choose two items that are measurable, such as height and average points per game.

2. If the population is large, select a sample that is representative of an entire population.

3. Gather the data for the sample. Depending upon the type of data you need to gather, you may need to develop a survey or ask your sample participants to keep a log.

4. Identify the independent and dependent variables.

5. Chart the data on the graph below, placing the dependent variable on the x-axis and the independent variable on the y-axis.

6. Create a frequency distribution for the data.

7. Identify the following measures of central tendency for the independent variable: mean, median, and mode.

8. Using the statistics, answer the following questions:
   
   A. Is there a positive or negative correlation between the dependent and independent variables? Explain.

   B. What does the frequency distribution tell you about the data?

   C. What do the measures of central tendency tell you about the independent variable?

   D. Do your results indicate a cause-and-effect relationship between the dependent and independent variables? Why or why not?
Directions: Use the following steps to form a hypothesis about childhood development.

1. As a student of psychology, you have become a keen observer of human behavior. During the past few days you have observed the following interesting behaviors of children.
   A. A five-year-old boy finished his meal and refused to stay seated while his parents finished their meals. He ran around the restaurant, knocked over a server’s tray, and deliberately knocked a drink off the next table. His parents occasionally asked him to sit down, but when he did not, they continued eating and seemed oblivious to his behavior. The manager finally asked the family to leave the restaurant.
   B. Two neighbors arrange for their three-year-old girls, Sheila and Tammy, to play together. Sheila is in a preschool program three afternoons a week. Her parents leave her with a babysitter once a week. Tammy’s mother invites children to her house to play with Tammy twice a month. Occasionally Tammy’s parents leave her with her grandmother for a couple of hours. Other than those times, she has rarely been separated from her parents for more than a few minutes.

As the girls play together, Sheila starts bossing Tammy around and making the decisions about what they are going to do. Within a few minutes, Tammy comes running to her mother and says she does not want to play with Sheila anymore. The two mothers settle the dispute and the girls begin playing together again. This pattern is repeated several times during the afternoon’s play session.

2. Select one of the above scenarios and analyze the questions or problems that are raised. Write them below.

Questions/Problems Raised: ________________________________________________________________

3. Use a specific problem or question to form a hypothesis. Write it below.

Specific Problem: ___________________________________  →  Hypothesis: ___________________________________

4. Design a method to test the hypothesis and to gather additional information. Describe the additional information you would need to gather to test the hypothesis.

Research Method: ___________________________________  Sample Population: ___________________________

Independent and Dependent Variables (if applicable): _____________________________________________

Additional Information Needed: _______________________________________________________________

5. On a separate sheet of paper list the information that would support your hypothesis. Then list information that would counter it.

6. Assume the additional information counters your hypothesis. Restate your hypothesis to accommodate this new information. Write it below.

New Hypothesis: ___________________________________________________________________________
CRITICAL THINKING SKILLS ACTIVITY

4

Designing an Experiment

Directions: Use the following steps to design an experiment about an aspect of adolescent behavior.

1. The following statements about adolescent behavior have appeared recently in various newspapers.

   Nearly four of 10 teenagers who have been incarcerated admit they drove drunk at least 10 times before they were stopped by police.
   
   *Albuquerque Tribune, December 25, 1999*

   Adolescents tend not to tip well.
   
   *Los Angeles Times, December 4, 1999*

   Adolescents have a sense of invulnerability that makes it difficult for them to understand that their behavior could have tragic consequences.
   
   *Atlanta Journal-CONSTITUTION, November 13, 1999*

   I remember a story of an 11-year-old girl who didn’t want to go to the mall with her mom because of the shoes her mother was wearing. Three years later, she borrowed those same shoes as often as her mother would let her.
   
   *Boston Globe, November 12, 1999*

   Study after study has shown that the average American gets far less sleep than the eight hours per night—nine for adolescents—the body needs.
   
   *Los Angeles Times, October 29, 1999*

   Drug use among teenagers fell about 15 percent last year to about 1 in 10 adolescents . . .
   
   *Los Angeles Times, August 19, 1999*

   Alarmed by a dramatic increase in cigar consumption, particularly among adolescents, the Federal Trade Commission on Wednesday proposed applying the same advertising and labeling restrictions to cigars that now govern cigarettes and chewing tobacco.
   
   *Los Angeles Times, July 22, 1999*

2. Select one of the behaviors indicated in the above quotes that you could investigate using an experiment.

3. Form an hypothesis about the behavior.

4. Identify the dependent and independent variables.

5. Design and conduct an experiment to test the hypothesis.

6. Collect the data from the experiment and graph the results.

7. Analyze the results and determine if your hypothesis is true or false.
**CRITICAL THINKING SKILLS ACTIVITY 5**

**Identifying Cause-and-Effect Relationships**

**Directions:** Read the scenarios below. Identify the cause-and-effect relationships in each scenario. Remember that some of the relationships may involve multiple events. In the space provided following each scenario, create a cause-and-effect diagram similar to the one below:

<table>
<thead>
<tr>
<th>(Cause)</th>
<th>(Effect)</th>
<th>(Cause)</th>
<th>(Effect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoke to relax</td>
<td>Become addicted to nicotine</td>
<td>Get lung cancer</td>
<td></td>
</tr>
</tbody>
</table>

1. The life expectancy of men and women in the United States has been increasing as nutrition and health practices have improved.

2. Researchers have found that reminiscing about past events reduces, at least temporarily, some signs of aging and can improve memory functioning.

3. In a study of crystallized intelligence, 70-year-olds performed as well as 40-year-olds on untimed vocabulary tests. When the same participants were given a timed vocabulary test, the 70-year-olds did not perform as well as the 40-year-olds.

4. Marital satisfaction declines for many couples when their children are born. Often couples report that marital satisfaction increases after the children leave home.

5. Melody was an excellent college athlete. She continued playing competitive sports in her 20s. When she had her first child, she gave up competitive sports although she remained physically active. As her children grew older, she had the opportunity to return to competition. She, however, decided that it would be more fulfilling to coach a high school team.
Distinguishing Fact From Opinion

**Directions:** For each of the following statements, write *Fact* or *Opinion* to identify the item as a fact or an opinion, then explain your reasoning.

1. The human brain has 100 million brain cells, which is 10 times more than monkeys.

2. When Egyptian pharaoh Tutankhamen was mummified, his heart, liver, lungs, stomach, and intestines were preserved. The brain, however, was removed from his skull and discarded.

3. It seems to me that I study best when I am listening to my favorite music. Listening to music must stimulate the parts of my brain that help me concentrate.

4. Although the cause of multiple sclerosis has not yet been discovered, doctors do know that the disease destroys the myelin sheath that protects the axons.

5. Sir Francis Galton believed that people with large heads had larger brains and were, therefore, more intelligent.

6. The goal of education is to engage students in the learning process. It is my judgment that the best way to engage students is to appeal to all their senses. Therefore, I recommend to the board that they approve the spending plan that will allow us to bring dynamic multimedia presentations into every classroom.

7. Our clients say that rhythmic, electronically altered music effectively manages their pain. They report that the music seems to move like a slow, swinging pendulum from one brain hemisphere to the other.

8. Several writers have suggested that men use the left side of their brain, while women use the right side.

9. About nine out of ten people are right-handed.

10. I think the most profitable area of psychology is biological psychology.
**Interpreting Charts, Tables, Graphs, and Diagrams**

**CRITICAL THINKING SKILLS ACTIVITY 7**

**Directions:** Use the bar graphs to answer the following questions in the space provided.

1. Which substance shows the lowest usage at all grade levels?

2. What is the usage trend for all substances from 8th to 12th grades?

3. How do you explain the noticeable decline in the use of alcohol in all grades in 1993?

4. The 1999 Omnibus Sleep in America poll conducted by the National Sleep Foundation reports that 62 percent of adults have felt drowsy when driving at some point during the past year. Of those adults, younger adults were more likely to drive while drowsy as shown in the following table:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage Who Drive While Drowsy</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 to 29 year olds</td>
<td>73%</td>
</tr>
<tr>
<td>30 to 64 year olds</td>
<td>62%</td>
</tr>
<tr>
<td>65 years of age and older</td>
<td>32%</td>
</tr>
</tbody>
</table>

Use the numbers in the table to create two graphs: a line graph and a bar graph. Make sure that the graphs have a title, a key, and proper labels.
Directions: Use the information below as well as your textbook to design an experiment to test the signal-detection theory.

The absolute threshold theory holds that there is a minimum level of a stimulus that will produce a response in 50 percent of subjects. The signal-detection theory extends the absolute threshold theory to recognize that we rarely receive a single stimulus in isolation. The signal-detection theory seeks to identify the minimum amount of a stimulus that can be detected among competing stimuli. For example, assume you are cooking an Italian dinner. What amount of garlic can you use and not have the house smell like garlic to most of your guests?

You will design an experiment using sound to test the signal-detection theory. Use the following steps to design and conduct the experiment.

1. Gather information about the types of sounds that are common in your surroundings. Identify an important sound that your friends or classmates would easily recognize. Identify sounds that frequently compete with the chosen sound.

2. Form a hypothesis using the signal-detection theory.

   State your hypothesis: ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

3. Design the experiment to test your hypothesis. Your design should:
   - Identify the dependent and independent variables.

     State your variables:
     Dependent Variable: ______________________________________________________________
     Independent Variable: _____________________________________________________________
   - Explain how you will set up and conduct the experiment. (Who will be the participants? What will they be asked to do? How will you record the results? Where will you conduct the experiment?)
   - Describe how you will control the independent variable(s).

4. Conduct the experiment.

5. Collect the data from the experiment and graph the results.

6. Analyze the results and determine if your hypothesis is true or false.

   Was the hypothesis confirmed or contradicted? Explain. ____________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

7. Write a report of your findings.
Comparing and Contrasting

CRITICAL THINKING SKILLS ACTIVITY 9

Directions: Read the two training scenarios below. Then compare and contrast positive and negative reinforcement as a way of training animals by completing the table below, and answering the question that follows in the space provided.

Scenario 1
A killer whale calf living at a marine park is being trained to perform for the park’s visitors. The trainer decides to rub the calf’s nose as a positive reinforcer. (The calf likes to have its nose rubbed.) The trainers then set a desired goal. They want the calf to leap from the water to ring a bell. The trainers place the bell in the water and give a positive reinforcer each time the calf brushes against the bell. The bell is then raised just out of the water, and the calf receives the positive reinforcer for raising its head out of the water to touch the bell. At first, the calf may ignore the bell or refuse to perform the action frequently. As the calf receives positive reinforcement for its behavior, however, the behavior becomes more frequent. Slowly, the bell is raised farther out of the water so that the calf must propel itself higher out of the water. In a fairly short period of regular training sessions, the calf has learned a skill that delights the crowd.

Scenario 2
Your family recently purchased a golden retriever puppy. Although you walk the dog twice a day, he still has abundant energy. Occasionally, he gets out and runs through the neighborhood. Your neighbors do not like him running across their landscaping. You want your puppy to get the exercise he needs, but you also want to maintain a good relationship with your neighbors. You decide to install an electronic wire system around your yard. Your puppy will wear a small battery-operated device on his collar. Each time he gets within five feet of the wire, the battery-operated device will give him a noticeable shock. The shock will continue until he backs away from the edge of the property. Initially, the shock will be fairly strong so that it cannot be ignored. The shock is not, however, strong enough to cause permanent damage to your puppy. Once the puppy has learned the boundaries of your yard, the battery-operated device can be reset to provide only a mild shock as a reminder.

<table>
<thead>
<tr>
<th>Scenario 1</th>
<th>Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What type of reinforcement is being used?</td>
<td></td>
</tr>
<tr>
<td>2. How effective is the method of reinforcement?</td>
<td></td>
</tr>
<tr>
<td>3. What similar types of reinforcers are commonly used?</td>
<td></td>
</tr>
<tr>
<td>4. What other types of behaviors could be trained with this method?</td>
<td></td>
</tr>
<tr>
<td>5. Which type of reinforcement do you think would be most effective in helping students study? Why?</td>
<td></td>
</tr>
</tbody>
</table>

Critical Thinking Skills Activities
CRITICAL THINKING SKILLS ACTIVITY

10

Reading and Making Graphic Organizers

Directions: Complete the following graphic organizer showing the codes used to encode through the senses.

Codes Used for Encoding

1. Repeating information aloud
2. Creating a mental picture
3. Making sense of information

Processes of Memory

4. Sensory Memory
5. 
6. 
7. 

Tulving’s Model

8. 
9. 

Squire’s Model

10. 
11. 

12. Directions: Create a graphic organizer on a separate sheet of paper illustrating the processes of retrieving information.
CRITICAL THINKING SKILLS ACTIVITY

Writing a Research Report/Essay

**Directions:** Read the information below and follow the steps to write a research report on dyslexia.

Dyslexia is a common reading disability that affects both boys and girls. Before dyslexia was identified as a reading disability, many children were labeled “slow” or “not very bright.” Today we know that most dyslexics have normal or above average IQs.

There are various forms of dyslexia. Some forms lead to only minor reading problems; others lead to great difficulty in reading. Leonardo da Vinci, the famous artist, suffered from an extreme form of dyslexia. He actually wrote backwards, from right to left. He was a very poor speller and his handwriting was difficult to read. Leonardo learned to express himself through his drawings, which are very detailed and precise. His difficulties with reading and spelling did not limit his creative abilities. He found a way to express his thoughts and introduce us to his inventions with drawings instead of words.

Many famous people are dyslexic or have exhibited symptoms of dyslexia. They include:

<table>
<thead>
<tr>
<th>Actors/Actresses</th>
<th>Inventors/Scientists</th>
<th>Artists/Writers</th>
<th>World Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom Cruise</td>
<td>Alexander Graham Bell</td>
<td>Pablo Picasso</td>
<td>Winston Churchill</td>
</tr>
<tr>
<td>Jay Leno</td>
<td>Thomas Edison</td>
<td>Agatha Christie</td>
<td>Thomas Jefferson</td>
</tr>
<tr>
<td>Whoopi Goldberg</td>
<td>Albert Einstein</td>
<td>Walt Disney</td>
<td>John F. Kennedy</td>
</tr>
</tbody>
</table>

As researchers learn more about genetics and the structures of the brain, they are learning the causes for dyslexia. At the moment, there is no “cure,” but there are many effective tools that can be used to help dyslexics learn to read and learn to manage their disability.

1. The topic for your report will be dyslexia. Begin your research by identifying the purpose for your report.
2. Write several main idea questions you want to answer about your topic such as: “How does the brain of a dyslexic differ from a normal brain?” “What tools can dyslexics use to learn to read?” “How have successful people who have dyslexia overcome their disability?” Organize these questions into an outline.
3. Conduct research about the topic and take notes. You may want to use index cards or small slips of paper that can later be grouped and rearranged.
4. Organize and analyze your information. Classify, synthesize, and outline the information that you have collected.
5. Write a first draft. Your research report should have an introduction, a body, and a conclusion. The introduction should explain the purpose of your report. After reading the introduction, your reader should be anxious to read the rest of the report. The body develops the main ideas of the report. The ideas are expressed in a logical manner with clear transitions between paragraphs and topics. The conclusion summarizes your findings.
6. Edit the first draft. Reorganize information, improve sentence structure and transitions, and correct grammar and spelling errors.
7. Write your final report.
Directions: Follow the steps to use the scientific method to analyze a motivation theory.

1. Ask one of the coaches at your school for permission to visit one of the team’s practices. Tell the coach that you are conducting research on motivation and want to observe a practice as a starting point for your research. Attend the entire practice, including any time that the coach spends talking to the team before or after the actual practice session. Write down your observations about what motivates the players, the coaches, the team’s trainer, or any other people connected with the team. Your goal is to collect as many observations as possible without being disruptive to the practice session.

2. Review your observations and analyze the data by asking as many questions as possible. For example, two players might have had to run laps before practice for violating a team rule. You might ask: “What makes the players willing to run the laps?” Select one of the observations for further analysis.

3. Form a hypothesis about one of your observations.

4. Design an experiment to test your hypothesis. In planning the experiment, identify the dependent and independent variables and select your experimental and control groups.

5. Collect data from your experiment. Use the grid provided below to graph the results of your experiment.

6. Analyze your data and determine if your hypothesis has been confirmed.
CRITICAL THINKING SKILLS ACTIVITY

Using Critical Methods of Inquiry

Directions: Using the topic suggested below, conduct research and write a research report using several sources.

Since the early 1900s, when Alfred Binet did his pioneering work on intelligence testing, there has been controversy over how intelligence testing should be used. Among the questions that critics have raised are:

• Should labels, such as slow learner or gifted, be attached to children on the basis of their test scores?
• Are intelligence tests valid predictors of success in life and in various careers?
• Do intelligence tests measure all types of intelligence?
• Are intelligence tests biased against women, ethnic minorities, or the poor?

1. Conduct research on the history of intelligence testing focusing primarily on the uses of testing and the criticisms leveled at it. As you are conducting your research, determine if each of your sources is a primary source that provides first-hand information or a secondary source that describes or interprets events.

2. As you read the material, identify the main ideas and the supporting details. Consider the nature of the material. For each source, ask: “Is the material scientific or is it telling a story?”

3. Consider the author’s point of view as you distinguish fact from opinion. When you find conflicting information, consider the authority of each source. Psychologists may express their beliefs, but their statements have more authority when they are based on facts.

4. Check for bias or faulty reasoning. Even a person writing about bias is writing from a specific point of view. Search for the evidence that supports the writer’s conclusions. Conclusions reached without adequate evidence should be viewed as opinions, not as facts.

5. If possible, find multiple sources to verify the accuracy of the material. When two authoritative sources provide different points of view, you may consider presenting both positions.

6. Consider the origin of the source. Is the writer well known in the field of psychology? Does the writer have a degree and experience in the subject area? Has the author been cited in other sources as an authority on the topic?

7. If you have access to a computer, search for information on the Internet written by a well-known source. Consider the difference between a newspaper article and a flyer placed on your windshield in a parking lot. Either source may contain factual or fictional information. The difference is that you know the source of information printed in the newspaper. You do not know the source of the flyer on your windshield. Much of the information on the Internet lists no source or claims a source that cannot be verified. Do not use information on the Internet that does not list a source.

8. Organize your research and write a four- to five-page word-processed report on the uses and criticisms of intelligence testing. Your report should reference the source information using the style recommended by your teacher.
CRITICAL THINKING
SKILLS ACTIVITY

Organizing and Analyzing Information

Directions: Use the information below to conduct a cartoon search to find and categorize examples of defense mechanisms.

Sigmund Freud described various ways that the ego seeks to protect itself from the demands of the id and superego. He called these protections defense mechanisms. Common defense mechanisms include rationalization, repression, denial, projection, reaction formation, regression, displacement, and sublimation. All humans use defense mechanisms from time to time, but psychologically healthy people do not depend on these mechanisms. They find ways to confront and resolve problems rationally and realistically.

Satirists, humorists, and cartoonists help us see the silly things that people think and do. Cartoonists, for instance, often exaggerate a character's reactions in order to get us to laugh. They commonly show characters using a defense mechanism to handle a conflict. The cartoon strips seem especially insightful when we can see bits of ourselves in the characters. This helps us recognize times that we have used a particular defense mechanism to handle a problem confronting us.

1. Obtain the comic strips from local or national newspapers or other sources such as calendars. You will need at least a week's worth of papers to get an adequate number of samples.

2. Review each day's comic strips and comics from other sources to identify examples of at least four of the defense mechanisms. Create a clipping file of these examples. Include the date and the newspaper's name on your clippings.

3. Organize the comics in your clipping file by defense mechanism illustrated. During this process, you may find that different characters are using different defense mechanisms. Classify the comic with the defense mechanism of the main character.

4. When you find more than one example of a defense mechanism, rank the cartoons from the one that best expresses the defense mechanism to the one that makes the weakest connection to the mechanism.

5. Select one of the defense mechanisms and write a report analyzing how cartoonists use humor to teach us about ourselves. The samples of the comic strips should be included in the report. The report should explore how the cartoon character's use of the defense mechanism is similar to our own. How is it different? What is the short-term outcome of the defense mechanism? What are likely long-term outcomes of continued use of the defense mechanism? Analyze one way that you have learned to confront and resolve problems rationally and realistically.
**CRITICAL THINKING SKILLS ACTIVITY 15**

**Using Critical Methods of Inquiry**

**Directions:** Using the topic suggested below, conduct research and write a research report using several sources. As a starting point, use the source information provided below.

On April 19, 1995, Timothy McVeigh detonated a truck loaded with explosives at the Alfred P. Murrah federal office building in downtown Oklahoma City, killing 168 people, including a room full of children in a day care center. As a psychologist, you want to learn how people reacted to such a tragedy.

Blood spattered much of the debris. . . . Another team member paused while talking about the dead children, too choked with emotion to continue. “Firemen like to be macho,” said Don Schroder of the Sacramento team. “But things like this still bother each of us. We may not think about it until we get home and see our children.”

*Los Angeles Times*, Saturday April 22, 1995, p. 14

John Wilson, professor of psychology at Cleveland State University and director of the Center for Stress and Trauma, said that “A study of survivors of the Oklahoma City bombing has found that nearly half developed post-traumatic stress . . . depression or problems with drugs or alcohol . . . flashbacks, angry outbursts and sleep concentration problems.

*Los Angeles Times*, Thursday, August 26, 1999, p. 23

Oklahoma City Pastor James H. Avery tells, “I had three funerals, the first was a woman who was pregnant. She had gone into the Murrah building to show her office mates the sonogram of the baby she was carrying.

“The second funeral for me was also a woman. Within six months both her son and daughter had moved away. Neither one came back for the memorials one year later, and two years later.

“I was so busy helping with counseling and the aftermath that it didn't affect me immediately. Months later, when friends would come to town and want me to take them down to the place, that's when it was hard for me. I would look at it again and I cried, many times.”

During this interview, four years and 10 months after the tragedy, Pastor Avery wept as he remembered what had happened.

Interviewed by Rod Huron, Cincinnati, Ohio, March 1, 2000

1. Conduct research on how people reacted to the tragedy of the Oklahoma City bombing. As you are conducting your research, determine if each of your sources is a *primary source* that provides first-hand information or a *secondary source* that describes or interprets events. For example, are the sources above primary or secondary sources?

2. As you read the material, identify the main ideas and the supporting details.

3. If possible, find multiple sources to verify the accuracy of the material. Consider the origin of your sources. Which were written close to the date of the event? Which are written later? How much later were they written? Is the source reliable? Is the author biased?

4. Organize your research and write a 4- to 5-page word-processed report on people's reactions to this major tragedy. Your report should reference the source information using the style recommended by your teacher.
CRITICAL THINKING SKILLS ACTIVITY

Comparing and Contrasting

Directions: Read the introduction below. Then compare and contrast the behavior of average soccer fans with the behavior of hooligans by completing the table below and answering the questions that follow in the space provided.

Introduction

The game of soccer began in England and has grown to become the world’s most popular sport. In 1996, England hosted more than 300,000 fans for the 16 nation Euro 96 tournament. The overwhelming majority of these fans behaved in a civilized, “normal” manner. They yelled and supported their teams, but they avoided violence and excessive behavior. A small number of fans, however, persisted in violent and unruly behavior that has come to be known as hooliganism.

Scenes of violence have become common during large soccer tournaments. In 1985, at Heysel Stadium in Brussels, English supporters from Liverpool attacked Italian fans. When the riot was over, 38 Italians were dead. At a soccer match between England and Ireland in Dublin in February 1995, Ireland scored the first goal. English fans began cursing, then broke seats and threw pieces of wood and metal on the field. The game was stopped, and a bloody fight broke out with police. Violent incidents during soccer games have not been limited to Europe. Some Brazilian fan clubs operate more like street gangs, fighting before, during, and after games. Between September 1994, and May 1995, at least six people were killed before or during games in Brazil.

Bill Buford has spent eight years researching violence among Britain’s soccer hooligans. He rejects the usual explanations that the working class in Britain has always been violent, that hooliganism is a symptom of the decay of our times, or that hooligans are rebelling against economic or social deprivation. Buford contends that a bored, empty, decadent generation has become so numb that “it uses violence to wake itself up.”

1. What do you consider to be normal behavior by fans at a soccer game?

2. How do you explain the violent behavior of some fans?

3. Complete the table below to compare and contrast the behavior of the average soccer fan with that of a hooligan.

<table>
<thead>
<tr>
<th></th>
<th>Average Soccer Fans</th>
<th>Hooligans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is his or her behavior normal? Explain.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the person able to adjust to the rules of society? Explain.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is he or she psychologically healthy? Why or why not?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Distinguishing Fact From Opinion**

**Directions:** For each of the following statements, write *Fact* or *Opinion* to identify the item as a fact or an opinion, then explain your reasoning.

1. During times of personal crisis, we may feel the need to engage the services of a therapist to help us with our problems.

2. Most people think that shock treatments are a barbaric holdover from the Middle Ages.

3. It is very possible that Alcoholics Anonymous, with chapters in nearly every population center, is the most successful self-help group ever developed.

4. In contrast to Sigmund Freud’s theory that personality is formed in the first few years of life, recent research shows that although early childhood experiences are formative and can have a lasting impact on us, development is, in many ways, a lifelong process.

5. During psychoanalysis, it is not unusual for the analyst to begin to appear in the client’s associations and dreams.

6. Cognitive therapies seem to work better with people who have a high intelligence quotient (IQ).

7. Developed by Albert Ellis, rational-emotive therapy confronts patients with their irrational beliefs and provides information about ways to change the behavior.

8. Clinical depression ordinarily lasts only a few weeks, but 50 to 60 percent of those who experience a major depression suffer a recurrence which is longer lasting and more severe.

9. One theory of schizophrenia proposes that a person develops schizophrenia when his or her dopamine level is too high.

10. Psychotherapy may be an easy way out for people who are too weak to face their own insecurities.
CRITICAL THINKING SKILLS ACTIVITY

18

Forming a Hypothesis

Directions: Read the following scenario, then answer the questions that follow in the space provided.

Jeff was popping popcorn when his father heard him scream. His father, Richard, came running and saw, to his horror, that the pan had tipped over, spilling boiling oil on Jeff’s arm. Yelling to tell Jeff’s mother that he was taking the boy to the hospital, Richard left her with Jeff’s brother and put the boy in the car.

Driving through Westlake, Richard careened down the two lane road, passing other cars, accelerating when he could, braking when he had to, taking the turns as fast as possible, his son still screaming on the front seat.

Suddenly Richard heard the wail of a siren. “Drat; drat; drat,” he muttered as he pulled over. When the police officer saw the boy, he reacted instantly. “Follow me,” he said to Richard. “Stay right behind me.”

Lights flashing, siren wailing, within minutes the two cars were at the hospital.

The emergency room personnel, who had been alerted by radio from the patrol car, immediately took charge. Jeff had severe burns down his arm, requiring extensive skin grafts and rehabilitation. Fortunately, Jeff’s arm suffered no permanent damage.

1. As they watched Richard’s car speed down the road, what hypothesis might other drivers have formed?

2. What is a possible hypothesis that Richard formed when he saw the flashing lights and heard the siren of the police car?

3. What hypothesis did the police officer probably make when he saw Richard’s speeding car?

4. What hypothesis is probably considered by emergency room personnel when they see an injured child?

5. Select one of the hypotheses above and describe the first impression that was probably formed as a result of the hypothesis.

6. If the person in question 5 had an opportunity to gather additional information would their first impression have been accurate? Why or why not?
CRITICAL THINKING SKILLS ACTIVITY 19

Interpreting Charts, Tables, Graphs, and Diagrams

Directions: Use the bar graph to answer the following questions on a separate sheet of paper.

Measuring Social Loafing

[Bar graph showing the amount of effort by each person in different group sizes]

1. Who performed at the highest level?

2. Did individuals in a group of six perform at a higher or lower level than individuals in a group of two?

3. According to the information given in the graph, do individuals exert more effort when they are working as a part of a group or less effort?

4. What type of correlation exists between the number of people in a group and the amount of work that is accomplished?

Directions: The bystander effect describes a situation in which many people will not stop to help someone when there are other people around. For example, if a person faints in a crowded store, each person may expect someone else to help, and, as a result, no one helps. A study of the bystander effect found the following:

<table>
<thead>
<tr>
<th>Number of People</th>
<th>Percentage of People Who Helped</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 (the victim and the bystander)</td>
<td>85%</td>
</tr>
<tr>
<td>4 (the victim and three bystanders)</td>
<td>62%</td>
</tr>
<tr>
<td>6 (the victim and five bystanders)</td>
<td>31%</td>
</tr>
</tbody>
</table>

5. Use the numbers in the table to create a bar graph and a line graph. The graphs should include a title and the axes should be labeled.

6. Create circle graphs, one for each row of the table above. Remember, a circle graph must add up to 100 percent. Each circle graph will have two pieces, the percentage of people who helped and the percentage of people who did not help.
**CRITICAL THINKING SKILLS ACTIVITY**

**20 Interpreting Statistics**

**Directions:** Follow the steps below to study the relationship between people's expectations and self-fulfilling prophecies.

1. People's expectations can become a self-fulfilling prophecy when the results are what people predicted. For example, when students take part-time jobs, do they expect their grade point average to increase or decrease? Is there a correlation between expectations and results? Select a way to measure the correlation between people's expectations and the outcomes they obtain.

2. Select a population from which to gather information about the self-fulfilling prophecy. If the population is large, select a sample that is representative of the entire population.

3. Gather the data for the sample. Depending upon the type of data you need to gather, you may need to develop a questionnaire or survey. For example, to determine changes in grade point average resulting from having a part-time job, you could design a questionnaire that asks for the following information:
   - gender
   - whether participant has a part-time job
   - number of hours worked each week
   - whether participant expects grade point average to be higher or lower as a result of working part-time
   - grade point average before taking the job
   - grade point average after taking the job

4. Identify the independent and dependent variables.

5. Identify at least two ways to interpret the data. For example, you could analyze the entire sample and then analyze the sample by gender.

6. Graph the results placing the dependent variable on the x-axis and independent variable on the y-axis.

7. Identify the following measures of central tendency for the independent variable: mean, median, and mode.

8. Using the statistics, answer the following questions.
   - **A.** Is there a correlation between people's expectations and the results? If so, describe the correlation.
   - **B.** What do the measures of central tendency tell you about the independent variable?
   - **C.** Do your results indicate a cause-and-effect relationship between the dependent and independent variables? Why or why not?
Directions: Using the information below and other sources, write a report or essay related to psychology as a career.

United States government statistics indicate that the median compensation for psychiatrists in the American Medical Association in 1997 was $133,700. In order to become a psychiatrist, you will need to complete a medical degree from a medical school, plus a residency in psychotherapy. Currently, psychiatrists are the only mental health professionals qualified to prescribe drugs.

A clinical psychologist must earn a doctorate degree in psychology and will conduct testing, diagnosis, treatment, and research. The median salary of clinical psychologists in individual practice with 5 to 10 years of experience was $72,000 in 1995.

A psychiatric social worker will have a master’s degree in social work and special training in counseling.

Forensic psychologists may have both a doctorate and a law degree, and study criminal behavior. They often serve as expert witnesses in court. Insurance companies, law firms, courts, and government agencies may consult them.

Consumer psychologists research why people buy and consume products. They help companies identify what motivates people to make purchases, how consumers choose among products, and why they will purchase a product a second time. A company or a government agency may employ consumer psychologists. Many consumer psychologists, however, are consultants hired to conduct specific research or to interpret buying behaviors.

1. The topic for your essay will be an in-depth look at the career possibilities in psychiatry or a field of psychology. If you are considering the field of psychology as a career, you may write the essay from a first-person point of view.

2. Write several main idea questions that you want to develop in your essay, such as: “Why would someone (or Why would I) select this field as a career?” “What training is required?” “What kind of work does the psychologist in this field perform?” “Where does this type of psychologist work?”

3. Conduct research about the topic and take notes. You may want to use index cards or small slips of paper that can later be grouped and rearranged.

4. Organize and analyze your information. Classify, synthesize, and outline the information you have collected.

5. Write a first draft. Your essay should have an introduction, a body, and a conclusion. The introduction should explain the purpose of your report or essay. After reading your introduction, the reader should be eager to read the rest of your report. The body develops the main ideas of the report. The ideas are expressed in a logical manner with clear transitions between paragraphs and topics. The conclusion summarizes your findings.

6. Edit the first draft. Reorganize information, improve sentence structure and transitions, and correct grammar and spelling errors.

7. Write your final report.
Critical Thinking Skills Activity 1

Students’ reports will vary widely. Their reports should demonstrate ability to organize and classify information about psychology and human behavior. Trends may be seen in the types of therapy available. For example, under managed health care, therapies that are less expensive, like group therapy, may be favored.

Critical Thinking Skills Activity 2

Although there are many items that can be correlated, for this activity students should select two items that can be measured precisely. The correlation may show a positive or negative correlation. Note that one item not addressed in the text is no correlation. If the points on the graph are scattered so widely that no trend is apparent, the two items show no correlation.

The frequency distribution should show the possible values for the independent variable from lowest to highest and show the number of responses that occurred for each variable. The distribution shows how many times each independent variable occurred.

The measures of central tendency show the various midpoints of the data. The mean is commonly called the average. The mode is the most frequent score. The median is the middle item with an equal number of items falling below and above it.

The data may infer a cause-and-effect relationship, but it does not prove one. Additional tests would be needed to prove a cause-and-effect relationship.

Critical Thinking Skills Activity 3

1.–2. Student answers will vary. For scenario A, possible questions include: Why did the boy get up and run around? Why did his parents ignore him? For scenario B, possible questions include: Does the preschool program make Sheila more aggressive? How does the fact that Tammy’s parents rarely leave her affect her behavior?

3. Student answers will vary. For scenario A, a possible hypothesis would be “children of uninvolved parents seek attention from other people.” For scenario B, a possible hypothesis would be “participation in preschool programs increases aggressiveness.”

4. Student answers will vary. They should clearly state the research method that they would use to collect the data and the approximate sample size that they would use. If their method involves an experiment, they should identify the independent and dependent variable. If it involves a survey, samples of the questions that would be asked should be included. If they plan to use naturalistic observation, they should describe their specific plan to gather the information in a scientific manner.

5. Student answers will vary. The additional information will vary depending on the research method. The information should be measurable in some objective way in order to determine if it supports or counters the hypothesis.

6. Student answers will vary. The restatement should take into account the findings of their initial research.

Critical Thinking Skills Activity 4

Students’ experiments will vary. Remind students that your evaluation will focus on the quality of the work, not on the outcomes of the experiment. Evaluate the students’ abilities to form a hypothesis, design an experiment to test the hypothesis, conduct the experiment using that design, graph the results, and analyze if the results support the hypothesis.

A possible hypothesis for each statement is as follows:

- Teens who drink are more likely to commit other crimes than teens who do not drink.
- The lower one’s income, the less one tips.
- Teens engage in more risky behavior than adults.
- During adolescent development, all children go through a phase in which they do not want to be seen in public with their parents.
- Americans are chronically sleep deprived.
- Anti-drug campaigns are working to prevent drug use among teens.
- Teens do not believe that cigars are as dangerous to their health as cigarettes and chewing tobacco.

Critical Thinking Skills Activity 5

Students may have different insights than those shown here. Evaluate students on correctly identifying cause-and-effect relationships.

1. cause: improved nutrition and health practices; effect: increased life expectancy

2. cause: reminiscing about past events; effect: reduced signs of aging and improved memory functioning

3. cause: untimed vocabulary test; effect/cause: older people perform as well as younger people; effect: crystallized intelligence does not decline cause: timing vocabulary tests; effect/cause: poor results for older people; effect: assumed decline in fluid intelligence

4. cause: birth of children; effect/cause: reduced marital satisfaction cause: empty nest; effect: increased marital satisfaction

5. cause: birth of children; effect/cause: reduced need to compete; effect: decision to coach (generativity)
Answer Key

Critical Thinking Skills Activity 6
1. Fact. This has been demonstrated by scientific research.
2. Fact. This states facts determined from studying the mummified remains.
3. Opinion. This is the writer’s personal opinion based on experience. The telltale clue is “It seems to me.”
4. Fact. This statement of fact indicates what is known and what is still to be discovered.
5. Opinion. Galton was not able to prove his belief. (Note: Today we know that head size is not an accurate measure of the size of the brain. The clue is the word “believed.”)
6. Opinion. No specific facts are cited. This is simply an appeal based on speculation that students learn better when all their senses are in action. The clue in the sentence is “It is my judgment.”
7. Opinion. The fact that clients find the music helpful does not provide concrete evidence of fact. They could be experiencing a self-fulfilling prophecy.
8. Opinion. Research has not shown that men and women use different halves of the brain.
10. Opinion. This is the writer’s personal belief. The clue words are “I think.”

Critical Thinking Skills Activity 7
1. Marijuana shows the lowest usage at all grade levels.
2. The percentage of students in each grade who have tried marijuana and alcohol increases from 8th to 12th grades. The percentage of students who have tried cigarettes, however, decreases between the 10th and 12th grades.
3. The footnote explains that the question was changed and the result was that fewer students fit the category of ever having used alcohol. (Note: The National Institute on Drug Abuse changed the questionnaire to exclude those who had simply tasted an alcoholic beverage at some time in their lives.)

The second part of this activity asks students to create a line and a bar graph using statistics on the percentage of drivers who have driven while drowsy. The graphs should have a title and the axes should be clearly labeled. See the sample graphs presented here.

Critical Thinking Skills Activity 8
Students’ experiments will vary. Remind students that your evaluation will focus on the quality of the work, not on the outcomes of the experiment. Evaluate the students’ abilities to form a hypothesis, design an experiment to test the hypothesis, conduct the experiment using that design, analyze the results, and then write the report.

Critical Thinking Skills Activity 9
1. Scenario 1: positive reinforcement; Scenario 2: negative reinforcement
2. Scenario 1: very effective; Scenario 2: very effective
3. Scenario 1: food, playing with a favorite toy, allowed its favorite activity; Scenario 2: scolding, hitting, confinement
4. Scenario 1: behaviors that the animal would not normally be expected to do; Scenario 2: other
obedience-type behaviors such as not chewing, or house breaking

5. Answers will vary, but most students will select some form of positive reinforcement.

Critical Thinking Skills Activity 10
1. acoustic codes
2. visual codes
3. semantic codes
4. short-term memory
5. long-term memory
6. iconic memory
7. echoic memory
8. semantic memory
9. episodic memory
10. declarative memory
11. procedural memory
12. The organizers should include recognition, recall, and state-dependent learning. They may also include the recall processes of reconstruction, confabulation, schemas, and eidetic memory.

Critical Thinking Skills Activity 11
1. You may require students to write in one or two sentences the purpose for their reports.
2. Encourage students to write as many questions as possible without trying to organize them. After they have exhausted their questions, then they can organize the questions into groups and put them in some kind of order. Remind students that organizing and outlining the questions may lead them to discard some questions or add additional questions.
3. Tell students the minimum number of sources that they should use for their reports. Much has been written about dyslexia so they should not have difficulty finding adequate source material.
4. Many students like to skip this step and begin writing as soon as they have completed their research. Using index cards to conduct their research will help them with this step.
5. Set a specific deadline for completion of the first draft that is a few days before the final report is due.
6. Students who are using word processors tend to let the spelling and grammar checks do this work. Provide examples of reports that have obvious errors that the software could not catch.
7. Set specific requirements for acceptable reports.

Critical Thinking Skills Activity 12
You may want to assign students to work in pairs on this activity. Enlist the cooperation from your school’s coaches before students ask to attend a practice. If it is not possible for all your students to observe a practice, you could have students observe people waiting in line in a crowded store, students leaving school at the end of the day, or other situations in which the motivations of people may be observed.

Remind students that the goal is to use the scientific method, not to prove the hypothesis. A student could conduct an excellent experiment and have the hypothesis proven false.

Critical Thinking Skills Activity 13
Students are directed to research the history of intelligence testing to explore the uses of testing and the criticisms that have been leveled at it. Provide students examples of the reference style you prefer, including styles for Internet references. There is considerable controversy on the topic of intelligence testing from well-known sources. There are also many claims that are not based on fact. One of the goals of this activity is to help students distinguish between the legitimate differences among researchers and the unsubstantiated information often found in popular media sources.

Evaluate the reports using criteria such as the quality of the sources used, the clear expression of the various ideas, and the ability to distinguish facts from opinions.

Critical Thinking Activity 14
Students’ reports will vary widely. Their reports should demonstrate the ability to recognize defense mechanisms, organize and classify the cartoons by defense mechanism, and analyze how they use defense mechanisms and other healthier approaches to resolve conflict.

Critical Thinking Activity 15
1. The first newspaper article is a primary source quoting people who were present during the aftermath. The second newspaper article may be either a primary or secondary source; it does not specify if John Wilson conducted the research (primary source) or if he was commenting on the results of a study done by someone else (secondary source). The interview is a primary source.
2. Students may want to outline the material, writing main ideas as the primary points and the supporting details as subpoints. For example, the reaction of people who helped with the rescue could be a main point. Subpoints could include the fact that they repress their feelings while they are working and the fact that the impact of the tragedy hits them after they have returned home.
3. Students should find and reference several sources containing information on this event. Ask
students what difference there would be between reading the quotes in a newspaper article and listening in person to someone who had lived through the tragedy.

4. Remind students of the reference source style that you prefer. Since students may use interviews, be sure to include a style for such references. Evaluate the reports using criteria such as the quality of the sources used, the clear expression of the various ideas, and the ability to identify the kinds of reactions that people have to a major tragedy.

Critical Thinking Skills Activity 16
1. Answers will vary. Possible answers include cheering, stomping your feet, booing the opponent, yelling, and wearing your team’s colors.
2. Answers will vary. Bill Buford suggests that some people feel empty and use violence to make them feel alive. Other possible responses include: boredom, lack of social structure, overuse of alcohol, and getting carried away by the crowd.
3. Answers will vary, but may include:
   - **Average Soccer Fans**
     Is his or her behavior normal? Explain. Yes, cheering for your team is recognized as a normal behavior.
     Is the person able to adjust to the rules of society? Explain. Yes, most fans enjoy cheering for their teams, but accept losses without resorting to violence.
     Is he or she psychologically healthy? Why or why not? The behavior of the average fan at a soccer game does not provide enough useful information to determine if the person is psychologically healthy. There is nothing in their actions at the game to suggest that they are not psychologically healthy.
   - **Hooligans**
     Is his or her behavior normal? Explain. No, committing acts of violence because your team loses or is losing is not considered normal.
     Is the person able to adjust to the rules of society? Explain. No, society does not sanction violence for losing a competitive event such as soccer.
     Is he or she psychologically healthy? Why or why not? The behavior of hooligans suggests that they are not psychologically healthy. Some may argue, however, that violence could be considered a step toward being fully functioning. This is not, however, what Jung and Maslow intended.

Critical Thinking Skills Activity 17
1. Opinion. This is the writer’s personal opinion. The clues are the words “may feel.”
2. Opinion. This is the writer’s opinion. The clues are the words “most people think.”
3. Opinion. Even though Alcoholics Anonymous does have chapters in nearly every population center, it is the author’s opinion about the success of these groups.
4. Fact. This has been demonstrated by scientific research.
5. Fact. Research by many psychologists and psychiatrists supports this fact.
6. Opinion. This may be someone’s hypothesis, but no research findings are presented to support this opinion. The words “seem to work better” are clues that this represents an opinion.
7. Fact. Albert Ellis wrote extensively on his ideas for rational-emotive therapy.
8. Fact. Research supports this finding.
9. Fact. This is a statement about a theory of schizophrenia. Notice that it does not claim to be the only theory, or the correct theory. It is a theory, however, that some research studies support.
10. Opinion. This is the writer’s opinion. The clues are the words “may be.”

Critical Thinking Skills Activity 18
1. Answers may vary. Most students will say that the drivers probably thought that the person was driving recklessly or was out for a joy ride.
2. Answers may vary. The most likely hypothesis is that Richard thought he would receive a citation for speeding.
3. Answers may vary. The most likely hypothesis is that the police officer thought that the person was driving recklessly and endangering the lives of others. He may have also thought that the person was fleeing the scene of a crime.
4. Answers may vary. The emergency room personnel would likely consider the possibility of child abuse as the cause of the injury.
5. Answers may vary. Possible answers for each item are: 1, the driver is dangerous, thoughtless, and reckless; 2, the police officer is unfair and unjust; 3, the driver is dangerous, reckless, and may be fleeing the scene of a crime; 4, Richard has burned his son.
6. Answers will vary depending on the answers to question 5. Using the answers above, possible answers are: 1, the impression would not have been completely accurate. Although he was acting recklessly, he was rushing to get treatment for his son. His primary interest was in getting to the hospital. For 2, Richard’s first impression would be incorrect; the police officer was not unfair or unjust. For 3, the first impression would not have been completely true. Richard was not fleeing a crime; he was driving recklessly, but it
was in an effort to get his son to the hospital. For
4, the emergency room's first impression would
have been incorrect. Richard did not harm his
son.

Critical Thinking Skills Activity 19
1. The person working alone performed at the high-
est level.
2. Individuals in groups of six performed at a lower
level than individuals in a group of two.
3. People exert less effort when they are working as
a part of a group.
4. There is a negative correlation between the num-
ber of people in the group and the amount of
work that is done.
5. The titles, labels, and legends of the students’
graphs will vary, but the data points should be
those referenced in the table. Examples are shown
here.

![Graph showing Bystander Effect]

Critical Thinking Skills Activity 20
1. Students may use the example given about the
expectations that students have when they take
part-time jobs about their grade point average.
Students may also select some other expectation
that may affect an outcome, such as, do people
who really believe they will win a race end up
winning more often than those who simply hope
to win?
2. Students should select a reasonable sample size,
even though the results may not be statistically
valid. A sample size of 20 to 25 should be suffi-
cient for this activity.
3. Students will need to design a way to gather the
information. Surveys and questionnaires are like-
ly choices. Be certain that students do not collect
names or other personal information that is not
needed for the activity.
4. The independent variable will be the self-fulfilling
prophecy and the dependent variable will be the
results or outcomes. The specific variables
depend on the type of self-fulfilling prophecy
being examined.
5. Students will analyze the entire sample and then
may break the sample down by gender, age, or
other relevant variables.
6. A bar or line graph should be created showing the
dependent variable identified in Step 4 on the x-
axis and the independent variable on the y-axis.

7. To verify that students correctly calculated the mean, median, and mode, require them to show their calculations.

8. A. Students should identify any correlations. If there is a correlation, it will most likely be positive. For example, if students expect their grade point average to increase, it will likely increase.
   B. The measures of central tendency show the various midpoints of the data. The mean is commonly called the average. The mode is the most frequent score. The median is the middle score with an equal number of scores falling below and above it.
   C. The data may infer a cause-and-effect relationship, but it does not prove one. Additional, more sophisticated tests would be needed to prove a cause-and-effect relationship.

Critical Thinking Skills Activity 21

1. You may require students to write a purpose statement for their essay before they begin their research.

2. Encourage students to write as many questions as possible without trying to organize them. After they have exhausted their questions, then they can organize the questions into groups and put them in some kind of order. Remind students that organizing and outlining the questions may lead them to discard some questions or add additional questions.

3. Tell students the minimum number of sources that they should use for their reports.

4. Many students like to skip this step and begin writing as soon as they have completed their research. Using index cards to conduct their research will help them with this step.

5. Set a specific deadline for completion of the first draft that is a few days before the final report is due.

6. Students who are using word processors tend to let the spelling and grammar checks do this work. Provide examples of reports that have obvious errors that the software could not catch.

7. Set specific requirements for acceptable reports.