

Psyching Out the ACT PLAN

The **BIG** Idea

- What kinds of questions will I find on the ACT PLAN, and what strategies should I use to answer them?

MATERIALS

Approx. 45 minutes

- I. Warm Up (5 minutes)
- II. Play “Bull’s Eye! The ACT PLAN Game Show” (35 minutes)
- III. Wrap Up (5 minutes)

STUDENT HANDBOOK PAGES:

- Student Handbook pages 55–65, “Bull’s-Eye! The ACT PLAN Game Show”

FACILITATOR PAGES:

- Facilitator Resource 1, DO NOW, Taking Tests 2: Psyching Out the ACT PLAN
- Facilitator Resource 2, “Bull’s-Eye! The ACT PLAN Game Show” Answer Key
- Facilitator Resource 3, Test Strategies
- Facilitator Resource 4, “Bull’s-Eye! The ACT PLAN Game Show” Score Card

- White board, marker, and eraser for each pair (or student response cards labeled A, B, C, D, and E)

- Sharpened pencils

- Small prizes (if you’re rewarding Bull’s-Eye winners)

- Timer

- Calculators

OBJECTIVES

During this lesson, student(s) will:

- Become familiar with the format of the ACT PLAN (four sections), and learn that it tests students’ knowledge of reading, writing, and math skills.
- Describe strategies for answering at least two types of questions on the ACT PLAN.

OVERVIEW

By participating in a mock game show, students get a taste of the kinds of reading, writing, and math questions they might encounter on the ACT PLAN. During this activity, the facilitator presents strategies for tackling each kind of multiple-choice question.

PREPARATION

- Write the **BIG IDEA** and the day's agenda on the board.
- The following handouts can be made into overhead transparencies or copied onto chart paper:
 - **Student Handbook pages 55–65, “Bull’s-Eye! The ACT PLAN Game Show”**
 - **Facilitator Resource 1, DO NOW**
 - **Facilitator Resource 3, Test Strategies**
- Make one copy, per class, of the **Facilitator Resource 4, “Bull’s-Eye! The ACT PLAN Game Show” Score Card**.
- You may wish to visit <http://www.act.org/planstudent/tips/> for a complete discussion of preparing for the ACT PLAN.
- Try out RUPrepareND.com’s test prep tool, available in the College Planning section.
- Pair students for the ACT PLAN Bull’s Eye Game. You should pair up academically stronger students with students who need more support.

IMPLEMENTATION OPTIONS

DO NOW:

(You may choose to present the Warm Up activity as a written DO NOW. Present the questions on the board or overhead, and have students write only their answers on index cards.)

Questions:

1. If you have to answer 13 questions in 25 minutes, how much time do you have to answer each question?
2. What are some things you can do to make sure you have enough time to answer all the questions on the ACT PLAN?
3. Prediction question: Should you guess on the ACT PLAN if you have no clue what the answer is? If so, why?

[Give the students three minutes to answer these questions. Then start with the discussion in the Warm Up as written. Call on students to volunteer their answers when they are directly addressed in the discussion.]

About eight minutes has been allotted for examples and discussion of each of the four types of ACT PLAN questions. If you run short on time, one math example and one science example may be omitted. Detailed explanations of test question answers aren't necessary. Focus on the strategies for each section. If students seem to want more detailed explanations for a section, brainstorm who they could get help from. For example, if students struggle with the math questions, you may want to suggest that they ask their math teacher for help.

You may choose to have a student in each class keep track of each team's points, using **Facilitator Resource 4, "Bull's-Eye! The ACT PLAN Game Show" Score Card**.

ACTIVITY STEPS

I. WARM UP (5 minutes)

1. **SAY SOMETHING LIKE:** Last week, we reviewed simple facts about the ACT PLAN. This week, we're going to look at the kinds of questions you'll find on the test and some strategies for answering them.

Before we get started, let's talk about two things that are important to know when taking any standardized test.

- How do I make sure I have enough time to answer all the questions?
- Should I guess if I'm not sure of an answer?

[These questions should be written on the board, overhead transparency, or chart paper.]

Let's talk about the first question: "How do I make sure I have enough time to answer all the questions?" One way to do this is to take a practice test and get a feel for how quickly you need to work. The other is to figure out how much time you have for each question. For example, if you'll be expected to do 30 questions in 25 minutes, you know you need to answer each question in a little less than a minute.

Let's try another example. If you had to answer 13 questions in 25 minutes, how much time should you spend on each question?

[Give the students 30 seconds to figure this out. Then call on a volunteer to give the answer, a little under two minutes. You may want to work this problem out on the board, overhead projector, or chart paper to assist struggling students. **Note:** If your students completed the DO NOW, skip the second example, which has already been answered.]

If you're struggling to answer a question, what should you do? [Allow students to respond. Answer: Skip it and come back to it at the end, if you have more time.]

The second question is simple. "Should I guess if I'm not sure of an answer?" The answer is... "Yes." That's because the ACT PLAN and ACT do not take points off for guessing. Your scores on the multiple-choice tests are based on the number of questions you answer correctly. Therefore, it's important to attempt to answer every question. Of course, make sure you read all possible answers before choosing one.

II. Play “Bull’s-Eye! An ACT PLAN Game Show” (35 minutes)

1. **SAY SOMETHING LIKE:** The ACT PLAN is divided into four sections. Who can remember from last class, which subjects are tested on the ACT PLAN? (Allow students to respond- English, math, reading and science.) There is one English section, one Math section, one reading section, and one science section. Today, we’re going to take a look at the kinds of questions you’ll find on the ACT PLAN. You’ll be working with a partner to solve each problem.

Here is how the game will work. I am going to assign each of you a partner. You and your partner will complete three practice questions from the English section, two from reading, four from math, and three from the science section on the ACT PLAN. I’m going to put a question on the overhead, and you are going to work with your partner to figure out the answer. You also have all the questions listed on **Student Handbook pages 55–65, “Bull’s-Eye! The ACT PLAN Game Show.”** Before we begin each section, I will tell you how much time you will have to complete the question. I will be keeping track with my timer. When you hear the timer start beeping, you need to put your pens/pencils down immediately. Groups who continue to work after the allotted time will not be awarded points for that question.

I will then ask one person from each pair to hold up their white board (or response card) so I can see your answer. All teams with the right answer get one point each. While I’m excited to see if you got the right answer, today the most important thing is to explain how you figured it out. For each question, one team with the right answer will be chosen to explain how they got the answer. I will only select pairs who have worked well together. You need to talk and work out the problem with your partner. If your explanation makes sense, your pair will get five bonus points.

[Explain how the score will be tracked. See **Implementation Options** for a suggestion on keeping score. Divide the class into pairs. Give each pair of students a white board, eraser, and erasable marker, or a set of answer response cards, each with the letters A through E.]

[**NOTE:** Feel free to award prizes at the conclusion of the game, or eliminate points altogether if competition will make it difficult for your students to focus on the explanations.]

[Place the transparency of **Student Handbook pages 55–65, “Bull’s Eye! the ACT PLAN Game Show”** on the overhead projector, and instruct students to turn to that page in their handbook. Use a piece of paper to cover all but one question so the students can focus on just one question at a time. Use **Facilitator Resource 2, “Bull’s-**

Eye! The ACT PLAN Game Show” Answer Key to work through the sample test questions, explanations, and strategies.]

III. WRAP UP (5 minutes)

[Thank students for playing “Bull’s-Eye!”. Tell them that if they would like to get some more practice, they can use RUPrepareND.com’s test prep tool, available in the College Planning section.

www.RUPrepareND.com

They can also visit go to the ACT PLAN Web site:

<http://www.act.org/planstudent/tests/epas.html>

DO NOW

Taking Tests 2: Psyching Out the ACT PLAN

Directions: You will have three minutes to read the questions below and write your responses.

QUESTIONS:

1. If you have to answer 13 questions in 25 minutes about how much time do you have to answer each question?

2. What are some things you can do to make sure you have enough time to answer all the questions on the ACT PLAN?

3. Prediction question: Should you guess on the ACT PLAN if you have no clue what the answer is? Explain your answer.

“Bull’s-Eye! The ACT PLAN Game Show” Answer Key

[Note: The explanations for each question are intended as resources for the facilitator. If the students’ explanations for the questions are adequate, feel free to skip reading the explanations. If the students are unclear, you can use the explanations to clarify the question.]

ENGLISH TEST

In this section, you’ll be asked to read four short passages, each followed by multiple choice questions. These questions test six essential English and writing skills: punctuation; grammar, and usage; sentence structure; strategy; organization; and style. There are 50 questions in total, and during the real test, you’ll be allotted 30 minutes to complete this section. Give the students one minute to complete each question.

[1]

In the late 1890s, thousands of people crowded into penny arcades across the country to see a remarkable new invention: the movie. Seldom longer than one minute, the first movies were simply recordings of everyday events. A distantly speeding train toward the camera or a man watering his garden—these were typical subjects.

[2]

Within ten years, the movies were telling ten-minute stories. But they were still primitive, because moviemakers were still recording the story from only one viewpoint, just as their predecessors recorded the speeding train. For example, supposing the story called for a young man to propose marriage. The moviemaker would place the camera far from the stage, recording the entire scene from this single position.

1.

- A NO CHANGE
- B train speeding distantly
- C distant train speeding
- D train, distantly speeding

2.

- A NO CHANGE
- B supposedly
- C suppose
- D I suppose

3.

- A NO CHANGE
- B turn the camera and record the entire scene, placing it far from
- C record, place the camera far away, and turn to
- D turn, start, and recording

- **EXPLANATION OF QUESTION 1:**

The correct answer is choice C. The issue here is that “distant train,” one that is far away, is the only answer that makes sense. The other answers include “distantly speeding” or “speeding distantly.” “Distant” describes the train, not the speed.

- **EXPLANATION OF QUESTION 2:**

The correct answer is C. The writer is using the marriage proposal as an example, so B and D are out; “Supposedly” and “I suppose” change the sentence’s meaning. “Supposing” might be used in informal speech, but “suppose” is the correct choice. (What the author means is, “Let’s suppose.”)

- **EXPLANATION OF QUESTION 3:**

The correct answer is A, no change. Reading the sentence aloud is helpful here. There’s no question about where the camera is, or what’s being recorded. All of the other choices make the sentence more confusing.

- **STRATEGIES:**

- 1) Read through the passage to see if it “sounds right” — the punctuation is good, the subject and verb agree, the right tense is used, etc.
- 2) If the sentence is okay, select “NO CHANGE.”
- 3) If the sentence is not okay, substitute the words from each answer. Find the answer that corrects the error.
- 4) Some questions will not have underlined portions. Instead, you’ll be asked to think about the author’s tone, organization, arguments, and evidence — and make suggestions for improvement.

SAMPLE QUESTIONS: www.act.org/plan/pdf/sample.pdf

SOME STRATEGIES ADAPTED FROM: www.actstudent.org/testprep/tips/subtests.html, www.number2.com

READING TEST

This section measures how well you can think clearly and carefully about a small chunk of reading material, such as an excerpt from a book or magazine article. There are three small reading passages that are accompanied by 25 multiple-choice questions and, during the real test, you’re given 30 minutes to complete all of them. Give the students one minute to complete each question.

Questions 4 & 5

“Now, this is not your ordinary airplane,” Macon told Muriel.
“I wouldn’t want you to get the wrong idea. This is what they
call a commuter plane. It’s something a businessman would
take, say, to hop to the nearest city for a day and make a
5 few sales and hop back again.

The plane he was referring to—a little 15-seater that
resembled a mosquito or a gnat—stood just outside the
door of the commuters’ waiting room. A girl in a parka was
loading it with baggage. A boy was checking something on
10 the wings. This appeared to be an airline run by teenagers...

...Other passengers struggled through, puffing and bumping
into things. Last came the copilot, who had round, soft, baby
cheeks and carried a can of Diet Pepsi. He slammed the
door shut behind him and went up front to the controls. Not
15 so much as a curtain hid the cockpit. Macon could lean out
into the aisle and see the banks of knobs and gauges, the
pilot positioning his headset, the copilot taking a final swig
and setting his empty can on the floor.

“Now, on a bigger plane, “ Macon called to Muriel as the
20 engines roared up, “you’d hardly feel the takeoff. But here
you’d better brace yourself.”

4. When Macon compares the plane he and Muriel are on with a bigger plane (lines 14–21), he is preparing for a:
- (A) smooth takeoff
 - (B) smooth flight
 - (C) short flight
 - (D) bumpy takeoff

Source: www.act.org/plan/pdf/sample.pdf

5. Since “not so much as a curtain hid the cockpit,” Macon’s view of the instrument panel and the crew was:
- (A) hidden
 - (B) unobstructed
 - (C) frightening
 - (D) scenic

• **EXPLANATION OF QUESTION 4:**

The correct response is (D) bumpy takeoff. In this question you are asked to focus your attention on a specific section of the passage, lines 14–21 (starting with “Not so much...” and ending with “..better brace yourself”). Within these eight lines of the passage, it is made clear that the plane they are on is small. We also learn in this passage that takeoffs on bigger planes are smoother (“...you’d hardly feel the takeoff”). By using the conjunction “but” (“..But here you’d better brace yourself”) we know that on this plane the takeoff is different from the takeoff of bigger planes. The opposite of a smooth takeoff is a bumpy takeoff.

• **EXPLANATION OF QUESTION 5:**

The correct answer is B, unobstructed. To answer this question you do not need to refer to the passage, all of the important information is given in the question. The line “not so much as a curtain hid the cockpit,” gives the reader a picture that the cockpit is completely visible to the people on the plane. The word that best fits this description is unobstructed.

• **STRATEGIES:**

- 1) There are four passages, with the easiest passage first. Passages get more difficult as you go along. Within each passage, the easiest questions are first, and the most difficult are last. Use this information to budget your time.
- 2) You may find it helpful to glance at the questions first to get an idea of what to look for. Or, you may prefer to read the passage and try to answer the questions.
- 3) You may find it helpful to mark the passages as you are reading, but don’t spend too much time making notes.
- 4) Pay special attention to the first and last sentences of each paragraph, which often give clues to the main idea.
- 5) Use context (words and sentences around a word) to figure out the meaning of an unfamiliar word.
- 6) Select the choice that best answers the question asked. Don’t be fooled by a choice just because it is a true statement.

SAMPLE QUESTIONS: www.act.org/plan/pdf/sample.pdf

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MATH SECTION

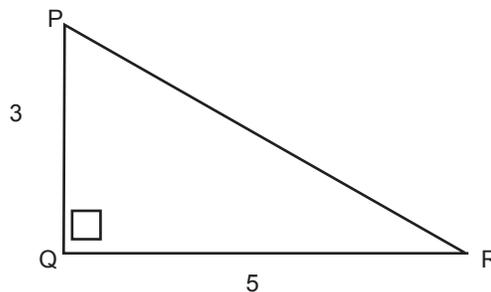
The ACT PLAN has math questions that test your basic understanding of pre-algebra, algebra, and geometry. So, you definitely want to pay attention in math class, do your homework, and ask your teacher questions if you don't understand something. The entire section is 40 multiple-choice questions, and, during the real test, you're given 40 minutes to complete it. Give the students one minute to complete each question.

Explain to the students that some of the math questions are very difficult and we may not be able to explain all of the answers. Brainstorm with the students where they can go for help. (Math teacher, after-school tutorials, etc.)

Multiple Choice

6. In $\triangle PQR$ below, $\square PQR$ is a right angle; \overline{PQ} is 3 units long; and \overline{QR} is 5 units long. How many units long is \overline{PR} ?

- (A) 2
- (B) $2\sqrt{2}$
- (C) 4
- (D) $\sqrt{34}$
- (E) 8



• **EXPLANATION OF QUESTION 6:**

The correct response is (D), $\sqrt{34}$.

We are told in the question that $\square PQR$ is a right angle. This makes the triangle a right triangle. In a right triangle you can find any side using the formula $a^2 + b^2 = c^2$, otherwise known as the Pythagorean theorem. PQ represents side a in this equation, while QR represents side b, which makes PR side c.

When you plug the values into the formula you get:

- $3^2 + 5^2 = c^2$
- $9 + 25 = c^2$
- $34 = c^2$
- Since you want to find the value of c not c^2 , you need to take the square root of 34, which is answer D.

Source: www.act.org/plan/pdf/sample.pdf

7. In the figure below, A, B, C, and D are collinear; \overline{AD} is 35 units long; \overline{AC} is 22 units long; and \overline{BD} is 29 units long. How many units long is \overline{BC} ?

- (A) 5
 (B) 6
 (C) 7
 (D) 13
 (E) 16



• **EXPLANATION OF QUESTION 7:**

The correct response is (E), 16.

In the question you are told that AD is 35 units long and that BD is 29 units long. If you subtract BD (29 units) from AD (35 units) you can find the value of AB. This means that AB is equal to 6 units long. However, the question asks for the length of BC. Now that you know the value of AB (6 units), you can find the value of BC. Subtracting AB (6 units) from AC (22 units) gives you the value of BC, 16 units.

8. If $3x - 10 = 24$, then $x = ?$

- (A) 31
 (B) 18
 (C) $11 \frac{1}{3}$
 (D) $4 \frac{2}{3}$
 (E) -2

• **EXPLANATION OF QUESTION 8:**

The correct answer is (C), $11 \frac{1}{3}$.

To find the value of x , complete the following steps:

$$3x - 10 = 24$$

$$\underline{\quad + 10 \quad +10}$$

$$\underline{3x} = \underline{34}$$

$$3 \qquad \qquad 3$$

$$x = 11 \frac{1}{3}$$

Step 1: Add 10 to both sides of the equation

Step 2: Divide each side of the equation by 3.

Source: www.act.org/plan/pdf/sample.pdf

9. A certain school's enrollment increased 5% this year over last year's enrollment. If the school now has 1,260 students enrolled, how many students were enrolled last year?

- (A) 1,020
- (B) 1,197
- (C) 1,200
- (D) 1,255
- (E) 1,323

• **EXPLANATION OF QUESTION 9:**

The correct response is (C), 1,200.

To find out how many students were enrolled last year set up the following ratio. Since this year's enrollment is 5% more than last year you want to add .05 for this year's percentage.

$$\frac{\text{Last Years Enrollment}}{\text{This year's enrollment}} = \frac{100\%}{105\%} \quad (1.0.) \quad (1.05)$$
$$\frac{x}{1260} = \frac{1}{1.05}$$

When you cross-multiply, you get: $1.05 x = 1260$; so $x = 1200$.

• **STRATEGIES:**

1. Read each question carefully to make sure you understand the type of answer required.
2. Take notes or draw pictures if it helps you keep track of information. Use a calculator you're comfortable with.
3. Don't be fooled by answers that aren't reasonable (for example, are 10 times the correct answer), or answer a different question than the one that was asked.
4. If you don't see your answer among the choices, see if your answer can be written in another form.
5. Check your work.

SOURCE: www.act.org/plan/pdf/sample.pdf

SOME STRATEGIES ADAPTED FROM: www.actstudent.org/testprep/tips/subtests.html, www.number2.com

SCIENCE TEST

This section consists of 30 multiple choice questions and, during the real test, you're given 25 multiple choice minutes to complete them. To test your scientific reasoning skills, you'll be presented with information in forms such as graphs, charts, and research summaries, and asked to critically examine, interpret, and evaluate the information provided. No calculators are permitted in this section. Give the students about one minute to answer each question.

[In the sample test included in this lesson, a short passage is provided followed by three multiple-choice questions. Students are asked to use this information to answer each problem.]

The following figures contain information about how solar energy can be collected through the window of a house. Figure 1 shows the percent of possible sunshine, Figure 2 the average outdoor temperature during the heating season, and Figure 3 the net heat gained (in British thermal units, Btu) per hour per square foot of window area.

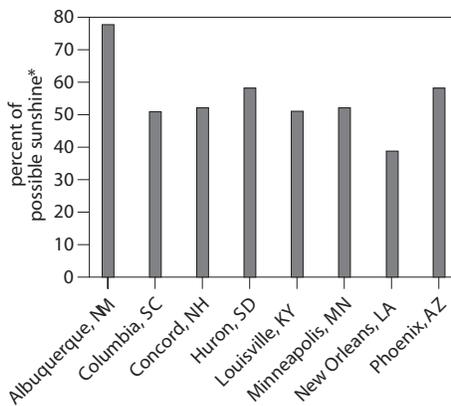


Figure 1

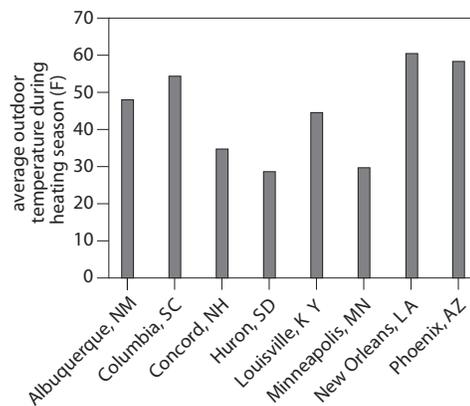


Figure 2

*percent of possible sunshine = $\frac{\text{actual hours of direct sunlight}}{\text{possible hours of sunlight}} \times 100$

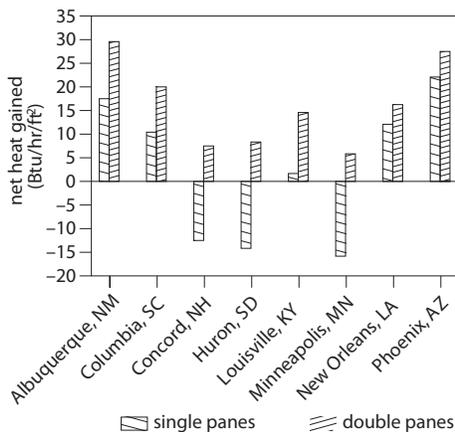


Figure 3

Science Test continued

10. According to the information in Figure 3, the greatest heat gained through double-pane glass occurs in which of the following cities?
- (A) Albuquerque
 - (B) Minneapolis
 - (C) New Orleans
 - (D) Phoenix

• **EXPLANATION OF QUESTION 10:**

The correct answer is (A), Albuquerque. In Figure 3, there are two data bars for each city. By using the legend at the bottom of the chart we know that one bar represents data for single-pane glass and the other for double-pane glass. Question 10 asks us to look for the greatest heat gained through **double-pane** glass. If we match the double-pane glass pattern provided in the legend to the patterns on the bars in the chart, we can see that the double-pane data bar for Albuquerque is the tallest of all cities on the chart.

11. Indianapolis, Indiana, receives 51% possible sunshine and has an average temperature of 40.3°F during the heating season. On the basis of the data presented, the net heat gained by a double-pane window in Indianapolis would be approximately?
- (A) -15 Btu/hr/ft²
 - (B) 7 Btu/hr/ft²
 - (C) 11 Btu/hr/ft²
 - (D) 27 Btu/hr/ft²

• **EXPLANATION OF QUESTION 11:**

The correct response is (C), 11 Btu/hr/ft². In order to solve this problem, we need to use the information provided in all three figures.

- First, we must look at Figure 1 and see which cities receive around 51% of possible sunshine. It looks like Columbia, Concord, Louisville, and Minneapolis all receive around 51%.
- Now, we use the information provided in Figure 2 and determine among the cities we found to receive around 51% of sunshine which one has an average temperature closest to the average temperature of Indianapolis (40.3°F). It looks like Louisville has an average outdoor temperature closest to 40.3°F compared to the average outdoor temperatures of Columbia, Concord, and Minneapolis.

Source: www.act.org/plan/pdf/sample.pdf

- Since the question asked for the approximate net heat gained, we must use the data in Figure 3 to solve our problem. From our previous work in this problem, we concluded that Louisville and Indianapolis have a similar percent of possible sunshine AND average outdoor temperature during heating season.
- Therefore, if we look at Louisville’s net heat gained we can infer that it will be similar to Indianapolis’s net heat gained. In Figure 3, Louisville gains roughly 15 Btu/hr/ft² net heat by a double-pane window.
- Based on the choices provided in question 11, the closest value of net heat gained to that of the net heat gained by Louisville is choice (C), 11 Btu/hr/ft².

12. Which of the following hypotheses about the relationship between the percent of possible sunshine and average outdoor temperature during the heating season is best supported by the data?

- (A) As the percent of possible sunshine increases, the average temperature decreases.
- (B) As the percent of possible sunshine increases, the average temperature increases.
- (C) The average temperature is not directly related to the percent of possible sunshine.
- (D) The percent of possible sunshine depends on the length of the heating season, rather than the average temperature.

• **EXPLANATION OF QUESTION 12:**

The correct response is (C), the average temperature is not directly related to the percent of possible sunshine.

- For this question, we are asked to find the relationship between percent of possible sunshine and average outdoor temperature during the heating season.
- This means we must look at the two figures that provide this information: Figure 1 and Figure 2.
- If we compare these two charts we see cities that receive high percentages of possible sunshine sometimes have low averages of outdoor temperature and sometimes have high averages of outdoor temperatures.
- The same can be said for cities that receive low percentages of possible sunshine.
- There is no pattern that exists between these two variables; therefore we can conclude that no relationship exists, or in other words, the average temperature is not directly related to the percent of possible sunshine.

Source: www.act.org/plan/pdf/sample.pdf

- **STRATEGIES:**

1. Carefully read the passages that accompany the scientific information.
2. Refer to information in these passages to answer questions.
3. Pay attention to titles, labels, and legends within the charts, graphs, and tables.
4. Read each question carefully. Just because a question uses terms that may be unfamiliar to you, it doesn’t mean you can’t answer the question. You can often use the data provided to solve the problem.
5. Be aware of conflicting points of view in some passages.

SAMPLE QUESTIONS: www.act.org/plan/pdf/sample.pdf

SOME STRATEGIES ADAPTED FROM: www.actstudent.org/testprep/tips/subtests.html, www.number2.com

TEST STRATEGIES

I. ENGLISH TEST

STRATEGIES:

- 1) Read through the passage to see if it “sounds right” — the punctuation is good, the subject and verb agree, the right tense is used, etc.
- 2) If the sentence is okay, select “NO CHANGE.”
- 3) If the sentence is not okay, substitute the words from each answer. Find the answer that corrects the error.
- 4) Some questions will not have underlined portions. Instead, you’ll be asked to think about the author’s tone, organization, arguments, and evidence, and make suggestions for improvement.

II. READING TEST

STRATEGIES:

- 1) There are four passages, with the easiest passage first. Passages get more difficult as you go along. Within each passage, the easiest questions are first, and the most difficult are last. Use this information to budget your time.
- 2) You may find it helpful to glance at the questions first to get an idea of what to look for. Or, you may prefer to read the passage and try to answer the questions.
- 3) You may find it helpful to mark the passages as you are reading, but don’t spend too much time making notes.
- 4) Pay special attention to the first and last sentences of each paragraph, which often give clues to the main idea.
- 5) Use context (words and sentences around a word) to figure out the meaning of an unfamiliar word.
- 6) Select the choice that best answers the question asked. Don’t be fooled by a choice just because it is a true statement.

SOME STRATEGIES ADAPTED FROM: www.actstudent.org/testprep/tips/subtests.html, www.number2.com

III. MATH TEST

STRATEGIES:

1. Read each question carefully to make sure you understand the type of answer required.
2. Take notes or draw pictures if it helps you keep track of information.
3. Use a calculator you're comfortable with.
4. Don't be fooled by answers that aren't reasonable (for example, are 10 times the correct answer), or answer a different question than the one that was asked.
5. If you don't see your answer among the choices, see if your answer can be written in another form.
6. Check your work.

IV. SCIENCE TEST

STRATEGIES:

1. Read the passages carefully, including labels on charts and graphs.
2. Refer to the scientific information in the passages to answer questions.
3. Read and consider all choices before choosing the best one.
4. Be aware of conflicting points of view in some passages.

V. GENERAL

STRATEGIES:

- 1) Budget your time.
- 2) It's OK to guess.
- 3) Mark hard questions and return to them later.

SOME STRATEGIES ADAPTED FROM: www.actstudent.org/testprep/tips/subtests.html, www.number2.com



Bull's-Eye: The ACT PLAN Game Show

English Test

DIRECTIONS: In the following passage, there are certain words that are underlined and numbered. In the right-hand column, you will find alternatives for the underlined part. In most cases you are to choose the one that best expresses the idea, makes the statement appropriate for standard written English, or is worded most consistently with the style and tone of passage as a whole. If you think the original version is best, choose "NO CHANGE."

[1]

In the late 1890s, thousands of people crowded into penny arcades across the country to see a remarkable new invention: the movie. Seldom longer than one minute, the first movies were simply recordings of everyday events. A distantly speeding train¹ toward the camera or a man watering his garden—these were typical subjects.

1.

A NO CHANGE
B train speeding distantly
C distant train speeding
D train, distantly speeding

2.

- A** NO CHANGE
B supposedly
C suppose
D I suppose

3.

- A** NO CHANGE
B turn the camera and record the entire scene, placing it far from
C record, place the camera far away, and turn to
D turn, start, and recording

[2]

Within ten years, the movies were telling ten-minute stories. But they were still primitive, because moviemakers were still recording the story from only one viewpoint, just as their predecessors recorded the speeding train. For example, supposing² the story called for a young man to propose marriage. The moviemaker would place the camera far from the stage, recording³ the entire scene from this single position.

Source: www.act.org/plan/pdf/sample.pdf

TIPS FOR ANSWERING ENGLISH TEST QUESTIONS:

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Reading Test

DIRECTIONS: Read the passage below. Then answer the questions below it.

5 "Now, this is not your ordinary airplane," Macon told Muriel. "I wouldn't want you to get the wrong idea. This is what they call a commuter plane. It's something a businessman would take, say, to hop to the nearest city for a day and make a few sales and hop back again.

10 The plane he was referring to—a little fifteen-seater that resembled a mosquito or a gnat—stood just outside the door of the computers' waiting room. A girl in a parka was loading it with baggage. A boy was checking something on the wings. This appeared to be an airline run by teenagers...

15 ...Other passengers struggled through, puffing and bumping into things. Last came the copilot, who had round, soft, baby cheeks and carried a can of Diet Pepsi. He slammed the door shut behind and went up front to the controls. Not so much as a curtain hid the cockpit. Macon could lean out into the aisle and see the banks of knobs and gauges, the pilot positioning his headset, the copilot taking a final swig and setting his empty can on the floor.

20 "Now, on a bigger plane, " Macon called to Muriel as the engines roared up, "you'd hardly feel the takeoff. But here you'd better brace yourself."

QUESTIONS 4 & 5:

4. When Macon compares the plane he and Muriel are on with a bigger plane (lines 14–21), he is preparing for a:
- (A) smooth takeoff
 - (B) smooth flight
 - (C) short flight
 - (D) bumpy takeoff
5. Since "not so much as a curtain hid the cockpit," Macon's view of the instrument panel and the crew was:
- (A) hidden
 - (B) unobstructed
 - (C) frightening
 - (D) scenic

Source: www.act.org/plan/pdf/sample.pdf

TIPS FOR ANSWERING READING QUESTIONS:

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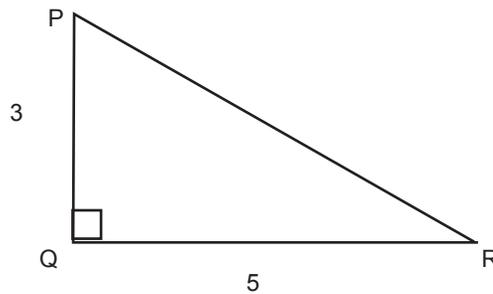
- _____

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Math Test

DIRECTIONS: Solve each problem. Then decide which is the best of the choices given.

6. In $\triangle PQR$ below, $\angle PQR$ is a right angle; \overline{PQ} is 3 units long; and \overline{QR} is 5 units long. How many units long is \overline{PR} ?



- (A) 2
- (B) $2\sqrt{2}$
- (C) 4
- (D) $\sqrt{34}$
- (E) 8

Source: www.act.org/plan/pdf/sample.pdf

7. In the figure below, A, B, C, and D are collinear; \overline{AD} is 35 units long; \overline{AC} is 22 units long; and \overline{BD} is 29 units long. How many units long is \overline{BC} ?



- (A) 5
- (B) 6
- (C) 7
- (D) 13
- (E) 16

Source: www.act.org/plan/pdf/sample.pdf

Math Test continued

DIRECTIONS: Solve each problem. Then decide which is the best of the choices given.

8. If $3x - 10 = 24$, then $x = ?$

- (A) 31
- (B) 18
- (C) $11 \frac{1}{3}$
- (D) $4 \frac{2}{3}$
- (E) -2

Source: www.act.org/plan/pdf/sample.pdf

9. A certain school's enrollment increased 5% this year over last year's enrollment. If the school now has 1,260 students enrolled, how many students were enrolled last year?

- (A) 1,020
- (B) 1,197
- (C) 1,200
- (D) 1,255
- (E) 1,323

Source: www.act.org/plan/pdf/sample.pdf

TIPS FOR ANSWERING MATH TEST QUESTIONS:

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Science Test

Directions: The passage below is followed by some questions. Choose the best answer to each question. Calculators are NOT allowed to be used on this section.

The following figures contain information about how solar energy can be collected through the window of a house. Figure 1 shows the percent of possible sunshine, Figure 2 the average outdoor temperature during the heating season, and Figure 3 the net heat gained (in British thermal units, Btu) per hour per square foot of window area.

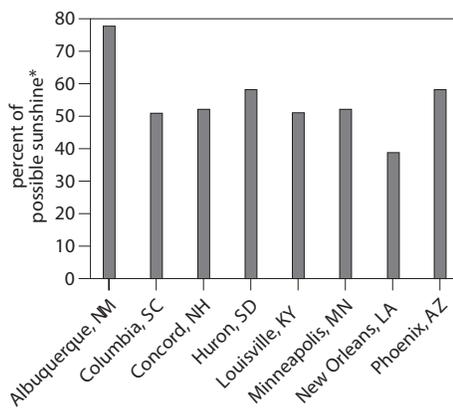


Figure 1

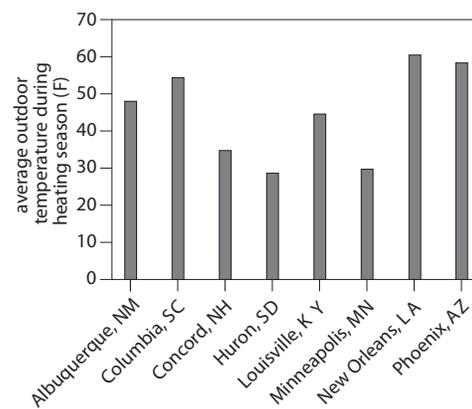


Figure 2

*percent of possible sunshine = $\frac{\text{actual hours of direct sunlight}}{\text{possible hours of sunlight}} \times 100$

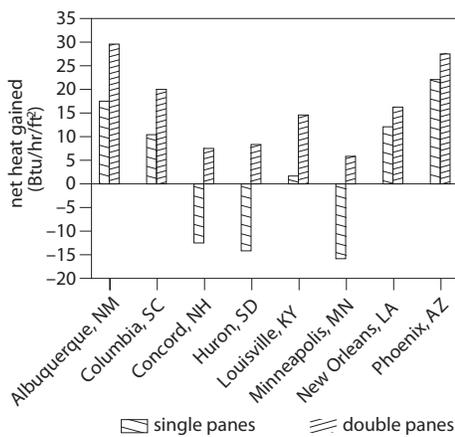


Figure 3

Source: www.act.org/plan/pdf/sample.pdf

Science Test continued

DIRECTIONS: Solve each problem and mark your answer in the grid below.

10. According to the information in Figure 3, the greatest heat gained through double-pane glass occurs in which of the following cities?

- (A) Albuquerque
- (B) Minneapolis
- (C) New Orleans
- (D) Phoenix

SSource: www.act.org/plan/pdf/sample.pdf

11. Indianapolis, Indiana, receives 51% possible sunshine and has an average temperature of 40.3°F during the heating season. On the basis of the data presented, the net heat gained by a double-pane window in Indianapolis would be approximately?

- (A) -15 Btu/hr/ft²
- (B) 7 Btu/hr/ft²
- (C) 11 Btu/hr/ft²
- (D) 27 Btu/hr/ft²

Source: www.act.org/plan/pdf/sample.pdf

12. Which of the following hypotheses about the relationship between the percent of possible sunshine and average outdoor temperature during the heating season is best supported by the data?

- (A) As the percent of possible sunshine increases, the average temperature decreases.
- (B) As the percent of possible sunshine increases, the average temperature increases.
- (C) The average temperature is not directly related to the percent of possible sunshine.
- (D) The percent of possible sunshine depends on the length of the heating season, rather than the average temperature.

Source: www.act.org/plan/pdf/sample.pdf

TIPS FOR ANSWERING SCIENCE TEST QUESTIONS:

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