

ACT SCIENCE

The ACT science section is 35 minutes long, and contains 40 questions. That means that you have about 53 seconds to spend on each question.

5 Must Know ACT Science Tips (Source: <http://grockit.com/>)

ACT Science Tip #1: Follow the recommended ACT science method

1. Read the passage, identifying and marking the **purpose** of the experiment, the **method** used, and the **results**.
2. Scan figures, identifying variables and patterns.
3. Find support for the answer in the passage.

ACT Science Tip #2: Know the ACT science passage types

- **Data Representation** (3 of this type): presents information about a topic
- **Research Summary** (3 of this type): presents a series of experiments
- **Conflicting Viewpoints** (1 of this type): discusses different theories about a single topic

ACT Science Tip #3: Know the ACT science question types

1. **Figure Interpretation** – examine tables & graphs
2.

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 ship between the variables, plot data from a curve
3. **Scientific Reasoning** – understand the reasons behind an experimental setup

ACT Science Tip #4: Know the commonly used terms

- **Independent variable**: the variable that scientists intentionally change
- **Dependent variable**: the variable that the scientists are measuring
- **Constants**: parts of the experiment that the scientists keep the same
- **Direct relationship**: As the independent variable increases or decreases, the dependent variable does the same
- **Indirect relationship**: As the independent variable increases or decreases, the dependent variable does the opposite

ACT Science Tip #5: Know your overall ACT science strategy

1. When tackling the ACT science section, ask yourself:
 - What did the scientists study?
 - How did they study it?
 - What did they find?
 - Why is the experiment set up this way?

- What is measured? What is controlled by the scientists?
 - Is there a pattern?
 - What are the similarities? What are the differences?
2. **Know that the halfway mark is at about 17 minutes – you should be done with 20 questions at that point**
 3. Circle detail words in the question stem like “NOT,” “Experiment 1,” “Table 1.”
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1. Know What to Expect

For passage topics, ACT pulls content from **biology, chemistry, physics, and the Earth/space sciences such as astronomy, geology, and meteorology.**

Most of the questions can be answered from the information presented in the passages or figures, but be prepared for 3 to 4 questions that require **outside knowledge.** You need to be able to

- look up data and trends
- make predictions
- synthesize information
- All of the passages fall within 3 categories.

Types of ACT Science Passages

Charts and Graphs	5 questions each	<ul style="list-style-type: none"> • Always come with figures • Contain 1 or more charts, tables, graphs, or illustrations
Experiments	6 questions each	<ul style="list-style-type: none"> • Usually come with figures • Describe several experiments • Include more text than the Charts and Graphs passages do
Opposing Viewpoints	1 passage, 7 questions	<ul style="list-style-type: none"> • Sometimes come with figures • Feel more like the passages on ACT Reading Test • Ask you to compare, contrast, and synthesize different viewpoints

2. Order the Passages

ACT doesn't present the passages in order of difficulty. But on every exam, some are easier than others, while some are truly tough. Scan the passages and tackle the one that looks easiest, first. You don't want to spend too much time on the most difficult passages only to run out of time on questions you can answer more easily.

3. Decide if you will do questions Now, Later, or Never

Your goal with all the science passages is to find the main point. You will spot the main point faster when those conclusions are presented in figures rather than in text. So, the easier the figures are to “read,” the faster you’ll crack the main point. The best passages to do Now have the most obvious patterns as well as a few other common characteristics. Look for small graphs, easy-to-spot trends, and short answers (especially answers with numbers and relationship words like “increase” or “decrease”).

4. Be Flexible

Always be prepared to adapt your order based on what you see, both in practice and on a real test. If you choose a passage that looked good and then find yourself struggling, leave it and find another.

5. Stumped? Guess and move on.

When you’re stumped, your first instinct may be to go back and read the passage or stare at the figure again, waiting for a flash of inspirational genius to suddenly make everything clear. Instead, use process of elimination to get rid of answers that can’t be right. Even if you can cross off only one answer, guess from what’s left and move on.

(Source: <http://www.princetonreview.com/>)

Time Management

This seems to be one of the most critical factors in mastering the science portion of the ACT. Every minute saved on this section is additional time for you to not only complete the section, but also to check your answers. Review the following tips for saving time and your score.

Time-Saving Tip #1: Do Not Read the Instructions

Here are the instructions, read them now and then never again:

“DIRECTIONS: There are several passages in this test. Each passage is followed by several questions. After reading a passage, choose the best answer to each question and fill in the corresponding oval on your answer document. You may refer to the passages as often as necessary. You are NOT permitted to use a calculator on this test.”

Time-Saving Tip #2: What Passage Do You Answer First?

Every correct answer is worth the same, so spend your time on the least time costly questions first as this will maximize the number of points you get. To maximize your time and score:

Start with the 3 Data Representation and 3 Research Summaries Passages.

- Attack both passages in the same way. **Start by trying to answer the questions with visuals alone.** Skip the ones you can't answer with the visuals and come back to them after answering all of the other questions in that passage.
- **Save the 1 Conflicting Viewpoints Passage for the End.**
This passage takes the longest because there are usually no visuals. You have to read the entire passage to answer the questions.
- Try to make sure **you have at least 5 minutes** to attempt it. If you only have 3 minutes or less when you get to this passage, skip reading, jump to the questions and try to go back and skim to answer as best you can. ***It's better to read the whole passage first but with 3 minutes or less, you will not have time.***

Time-Saving Tip #3: How to Know When to Skip

Keep track of your timing.

- **You should not spend more than 1.5 minutes on any question.** Ideally, you should be spending exactly 52.5 seconds on each question. However, some questions you'll be able to answer faster, so it'll allow you to spend a little more time on harder problems.
- **Use process of elimination.** Try to get rid of all the answer choices you know are wrong. Then, pick your favorite answer choice among what is left over. Even if you're not 100% sure, bubble it in, and put a small star next to it so you can go back to it if you have time.
- **Don't spend more than 1.5 minutes lingering on a question.** Going off of this point, **you should not spend more than 7-8 minutes on any one passage** (unless you have leftover time at the very end of the section to spend it on the Conflicting Viewpoints Passage). It'll kill your pace. ***If you can't do any process of elimination (more than likely you will be able to do some), leave it blank, put a mark by it, and come back to it if you have time. Try to avoid getting stuck.***

Time-Saving Tip #4: Figure Out Where You Are Getting Stuck

- **For the Math thinker,** you sometimes get stuck in the numbers and lose sight of the main point. Don't recalculate all of the data or get lost in numerical details. Focus on the main ideas of the passage. If you get frustrated obsessing over numbers and then realizing you didn't need them to answer the question, you are getting stuck. **Try to refocus**

your attention by looking at the questions first, figuring out exactly what you need to answer the question, and then going back and looking for only that information.

- **For the English thinker**, you might get stuck and overwhelmed by the visuals, numbers, or big science terms. Don't panic over the numbers. Write your own notes in the margins to help you stay focused.
- **For the Science thinker**, don't get stuck in dissecting the experiment or research or the science terms. Do not overthink the passage content. If you find yourself trying to fully understand the experiment and then realizing you didn't need to (which you shouldn't), you are getting stuck. **Focus on the questions asked, read the questions first, and don't read the whole passage unless absolutely necessary to answer the questions** (which it shouldn't be for the Data Representation and Research Summaries Passages).
- **For the overachiever/perfectionist**, you might get stuck wanting to be 100% sure you have the right answer. You do not have that luxury on this time-crunched test. Don't linger. Move on.

Time-Saving Tip #5: Bubble in the Blanks at the End

Leave yourself 1 minute to 30 seconds at the end of the section to bubble in a letter for the ones you could not get to or skipped.

DO NOT leave any blanks!

There is no penalty for guessing on the ACT, so if you leave blanks, you are giving up free points. Every 1-2 questions answered raises your score 1 point especially in the 30-36 range. There is no best letter to guess (even if you have heard C is the most used). All letters are used randomly and equally.

Time-Saving Tip #6: Keep Your Energy Up

The ACT Science section is always the last section of the test. You'll be tired. Slash that, exhausted. You'll have already been sitting for over an hour and a half. Your wrist will hurt from writing, and your butt will hurt from sitting. You'll be wondering if you answered that Math problem correctly. You must let go of what happened on the last three sections of the test and power through. You need to stay focused on this time-crunched ACT Science section.

Have energy-packed snacks to eat at the break for an energy boost. Practice sitting for at least 3 [full-length practice tests](#) before you take the

actual test. Don't just sit for the 35-minute science section. As I said before, **take 3 full-length practice ACTs, all five sections (including the Essay) in one sitting.**

The Big Secret of ACT Science: It's more Reading than Science!

Reading Skill Type #1: Reading Visuals for Scientific Data

- **Most of the questions on the ACT Science section can be answered by just reading the visuals.** Although the graph gives many different pieces of information, **ignore all of the extra information and just focus on what the question is asking.**
- **Labels are very important.**

Reading Skill Type #2: Skimming

- **The ACT Science section tries to make the passage more difficult by throwing in large scientific terms.** Don't be afraid of them. The ACT typically either explains what the words mean, *or* it is not necessary to know what the words mean to answer the question.
- **Be sure to look at the right data.**
- **With only 35 minutes to answer 40 questions (52.5 seconds per question), you cannot afford to waste time reading the entire passage.** I recommend going directly to the questions. Try to answer the questions first by reading visuals. Then, if you're really stuck, try to skim the passage to answer the question.
- **Exception to Skimming Rule:** The only exception to the skimming rule is on the Conflicting Viewpoints Passage. **You need to read the entire passage. You need to figure out how the two scientists, students, or theories differ in opinion.**
 - **Side note:** the introductions in ACT Science passages often hold nuggets of gold because the ACT Science test makers realize most students are likely to skip it.

Practice by reading scientific journals (or your textbook), by taking full length ACT practice tests, and by paying attention in your science class...real attention in which you really try to understand the material!

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