

The **ACT science** test is a 40-question, 35-minute test that measures the interpretation, analysis, evaluation, reasoning, and problem-solving skills required in the natural sciences. The test presents several authentic scientific scenarios, each followed by a number of multiple-choice test questions.

The content of the test includes biology, chemistry, Earth/ space sciences (e.g., geology, astronomy, and meteorology), and physics. Advanced knowledge in these areas is not required, but background knowledge acquired in general, introductory science courses may be needed to correctly answer some of the questions.

The science test focuses on multidimensional assessment, with questions that assess science content in concert with science skills and practices.

The questions require you to recognize and understand the basic features of, and concepts related to, the provided information; to examine critically the relationship between the information provided and the conclusions drawn or hypotheses developed; and to generalize from given information to gain new information, draw conclusions, or make predictions.

Note: You are not permitted to use a calculator on the science test.

The scientific information appears in one of three formats:

- **Data Representation (30–40%):**
This format presents graphic and tabular material similar to that found in science journals and texts. The questions associated with this format measure skills such as recognizing relationships among data in tables and graphs; interpolation and extrapolation; and translating tabular data into graphs.

- **Research Summaries (45–55%):**
This format provides descriptions of one or more related experiments. The questions focus on the design of the experiments and the interpretation of experimental results.
- **Conflicting Viewpoints (15–20%):**
This format presents two or more explanations for the same scientific phenomena that, because they are based on differing premises or incomplete data, are inconsistent with one another. The questions focus on the understanding, analysis, and comparison of alternative viewpoints or hypotheses.

Four scores are reported for the science test: a total test score based on all 40 questions and three reporting category scores based on scientific knowledge, skills, and practices. The approximate percentage of the test devoted to each reporting category is:

1. Interpretation of Data (45–55%)

This category asks you to manipulate and analyze scientific data presented in scientific tables, graphs, and diagrams (e.g., recognize trends in data, translate tabular data into graphs, interpolate and extrapolate, and reason mathematically).

2. Scientific Investigation (20–30%)

This category requires you to understand experimental tools, procedures, and design (e.g., identify controls and variables) and compare, extend, and modify experiments (e.g., predict the results of additional trials).



3. Evaluation of Models, Inferences, and Experimental Results (25–35%)

These questions ask you to judge the validity of scientific information and formulate conclusions and predictions based on that information (e.g., determine which explanation for a scientific phenomenon is supported by new findings).

Tips for Taking the Science Test

✓ Read the passage carefully.

Before you begin answering a question, read the scientific material provided. It is important that you read the entire text and examine any tables, graphs, or figures. You may want to make notes about important ideas in your test booklet. Some of the information sets will describe experiments. You should consider the experimental design, including the controls and variables, because questions are likely to address this component of scientific research.

✓ Note the different viewpoints in passages.

Some material will present conflicting viewpoints, and the questions will ask you to distinguish among them. It may be helpful for you to make notes summarizing each viewpoint next to that section in the test booklet.

This excerpt is from “2019-2020 Preparing for the ACT® Test”:

<https://www.act.org/content/dam/act/unsecured/documents/Preparing-for-the-ACT.pdf>