

24: The Guide to ACT Science Reasoning

ACT Science Exam
<ul style="list-style-type: none"> • Multiple Choice • 35 minutes • 40 questions • Seven Passages <ul style="list-style-type: none"> ○ Data representation (2-3 passages) ○ Research summaries (3-4 passages) ○ Conflicting viewpoints (1 passage) • No Calculators

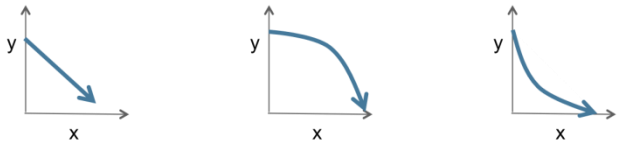
Data Representation Passages

<ul style="list-style-type: none"> • Each passage will have: <ul style="list-style-type: none"> ○ One or more chart, table, diagram or figure(s). ○ 5-7 multiple choice questions. • Strategies: <ul style="list-style-type: none"> ○ Read the graphs and tables. ○ Identify the variables and units. ○ Understand the meanings and trends of the data. ○ Familiarize yourself with the common graph types. • Reading graphs, tables and figures: <ul style="list-style-type: none"> ○ Read the intro paragraph or description. ○ Read the title. ○ Read the legend. ○ Read the axis or column/row headings (including units). ○ Get a general feel for the data. ○ Be sure you're looking at the right line or section of the graph for complex graphs. ○ Be sure you're using the correct axis for graphs with more than one x or more than one y axis. ○ Interpolation – always read from the trendline, even if there is a data point corresponding to your question.
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Direct relationships: When "x" increases, so does "y"



Inverse relationships: When "x" increases, "y" decreases



Research Summaries
<ul style="list-style-type: none"> • Each passage will have: <ul style="list-style-type: none"> ○ Describe one or more related experiments or studies. ○ 5-7 multiple choice questions. • Strategies: <ul style="list-style-type: none"> ○ Understand the design of the experiment. ○ Know the variables of the experiment. ○ Be familiar with definitions of scientific processes terms such as observation, hypothesis, experiment, etc. (See Tutorial 23). ○ Be able to recognize assumptions, controls and variables, similarities and differences, strengths and weaknesses.

Conflicting Viewpoints

<ul style="list-style-type: none"> • Each passage will have: <ul style="list-style-type: none"> ○ Describe alternate (opposing) theories, hypothesis or viewpoints. ○ 5-7 multiple choice questions. • Strategies: <ul style="list-style-type: none"> ○ Skim the passage and understand the main idea of the passage. ○ Identify and highlight the key points of disagreement. ○ Identify points of agreement. ○ Mark down the supporting data in the passages. ○ Answer the questions – All of them.
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ACT Science Exam Tips

<ul style="list-style-type: none"> • Write down the starting time for that passage at the top of the page. • Read the intro paragraph to get an idea of what the topic is. • Look quickly at each data table/graph (read title, axis, legends and labels) or briefly skim to see the differences between different studies or viewpoints. • Read question 1 – the WHOLE question. • Go to the graph, figure, data table or study that it discusses. Read and study it in more depth, looking for information for the question. • Read EACH of the answer choices. • Choose the best choice. • After 5 minutes on that passage – move on to the next one. • There are easier questions on each passage, so don't get stuck on one. • Make educated guesses. • Estimate, don't calculate. • Use the passage. • Familiarize yourself with common scientific terms (see Tutorial 23).
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How to Use This Cheat Sheet: These are the keys related this topic. Try to read through it carefully twice then rewrite it out on a blank sheet of paper. Review it again before the exams.