

# Chicago Detective Explorers: ACT Science Cheat Sheet

---

Your Ultimate Guide to Mastering the  
ACT Science Section





# What Is the ACT Science Section All About?

The ACT Science section isn't about memorizing facts—it's about thinking critically, analyzing data, and interpreting experiments. With 40 questions spread across 6–7 passages and only 35 minutes to complete, it challenges your ability to work efficiently under time pressure.

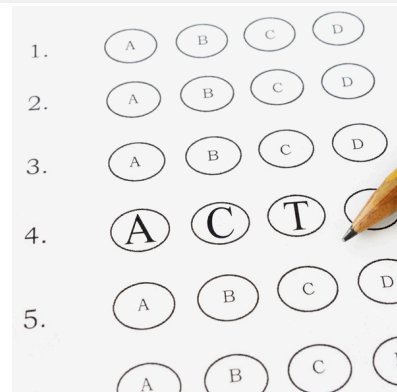
## Here's what you'll tackle:

### 01 Passage Types:

- Data Representation: Focused on graphs, tables, and charts.
- Research Summaries: Analyze experiments, methods, and results.
- Conflicting Viewpoints: Evaluate contrasting scientific opinions.

### 02 Skills Tested:

- Interpreting graphs and tables.
- Understanding experimental design.
- Identifying trends, variables, and relationships.



---

# Core Scientific Skills



## 1. Data Interpretation:

- Learn to extract trends and identify relationships from visuals.
- Focus on outliers, variables, and key points in graphs and tables.



## 2. Graph and Chart Analysis:

- Line Graphs: Recognize increasing, decreasing, and plateauing trends.
- Bar Graphs: Compare values between categories.
- Scatterplots: Spot correlations (positive, negative, or none).
- Pie Charts: Understand proportions and percentages.



## 3. Scientific Method Basics:

- Hypothesis: A prediction tested by the experiment.
- Independent Variable: What you change.
- Dependent Variable: What you measure.
- Controls: Factors kept constant for accuracy.



## 4. Reading Experimental Results:

- Pinpoint results in graphs, charts, and tables.
- Understand cause-and-effect relationships in experiments.





# Passage-Specific Strategies

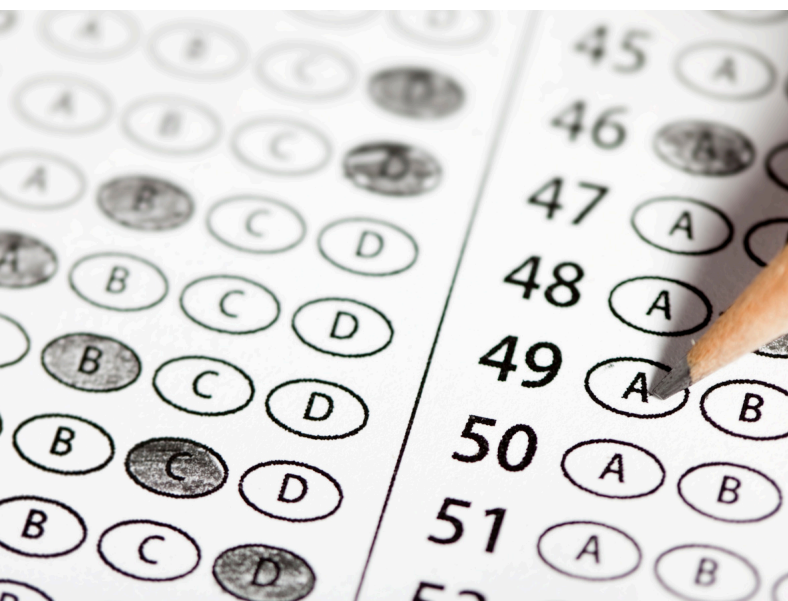


## DATA REPRESENTATION

- Skim for titles, axis labels, and units in graphs and tables.
- Highlight key trends: Does the data rise, fall, or fluctuate?
- Pay attention to legends and annotations for clarifications.

## RESEARCH SUMMARIES

- Identify the purpose of each experiment.
- Note the independent and dependent variables.
- Look for patterns in results and how they support the hypothesis.



## CONFLICTING VIEWPOINTS

- Skim for the main arguments of each perspective.
- Create a quick comparison table to track key differences.
- Highlight evidence supporting or contradicting each viewpoint.

# Mastering Question Types



## 1. Data Interpretation:

- Focus on trends, patterns, and values in visuals.
- Predict outcomes using interpolation (within data) and extrapolation (beyond data).



## 2. Scientific Investigation:

- Understand experimental setups, variables, and controls.
- Predict the impact of hypothetical changes in experiments.



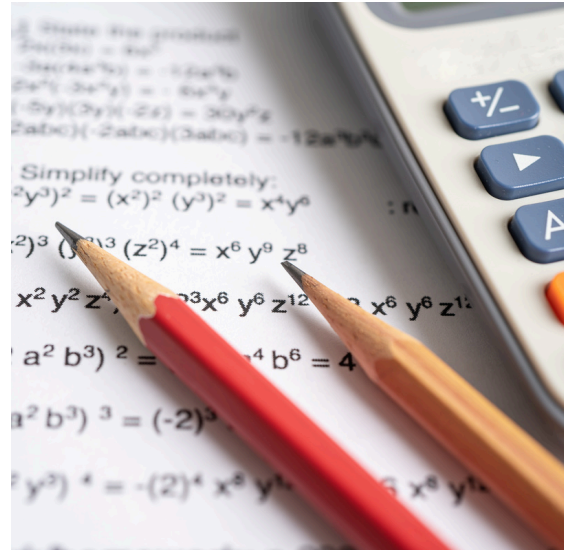
## 3. Evaluating Models and Inferences:

- Match hypotheses with supporting evidence.
- Identify flaws or gaps in models or experiments.



## 4. Comparison Questions:

- Compare trends or variables across graphs, tables, or experiments.



---

# Time Management Strategies

1. **Skim First, Analyze Later:** Spend 30 seconds skimming each passage to grasp its structure.
2. **The 3-Pass Method:**
  - First Pass: Answer easy, straightforward questions.
  - Second Pass: Tackle moderately difficult questions.
  - Third Pass: Attempt the hardest or most time-consuming questions.
3. **Set Time Benchmarks:**
  - After 10 minutes: Complete 2 passages.
  - After 20 minutes: Complete 4 passages.
  - Save the last 5 minutes for reviewing skipped questions.
4. **Answer Every Question:** There's no penalty for guessing!

## ESSENTIAL SCIENCE CONCEPTS

1. **Biology:** Cells, genetics, ecosystems, and photosynthesis.
2. **Chemistry:** Atomic structure, chemical reactions, and periodic table basics.
3. **Physics:** Newton's laws, energy, motion, and waves.
4. **Earth Science:** Weather patterns, rock cycle, and the water cycle.



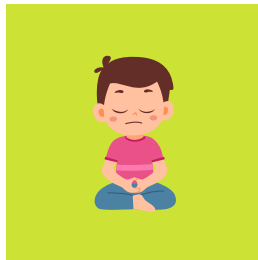
## Common Pitfalls and Solutions

1. **Data Misinterpretation:**
  - Always double-check axes, units, and legends before answering.
2. **Information Overload:**
  - Break down complex passages into smaller parts. Focus on one graph, table, or paragraph at a time.
3. **Unfamiliar Topics:**
  - Trust the data provided; no outside knowledge is required.
4. **Overthinking:**
  - Stick to the information in the passage. Don't assume anything beyond what's stated.

---

# Test-Day Success Tips

**Strategize:** Use your pacing and question-prioritization strategies effectively.



**Stay Calm:**  
Practice deep breathing to reduce anxiety during the test.



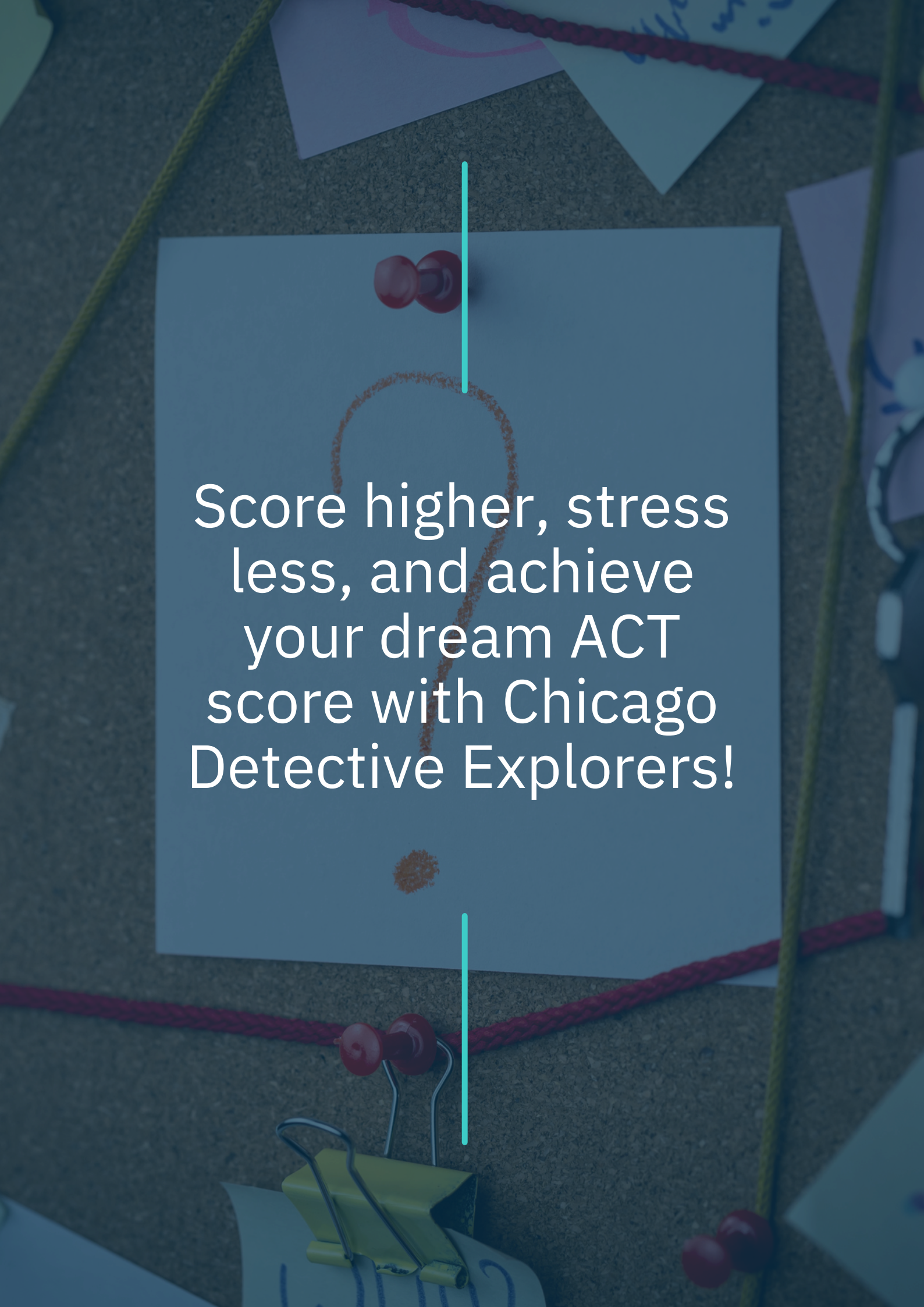
**Be Prepared:**  
Bring a watch, pencils, and an eraser to stay organized.

## Why Choose Chicago Detective Explorers?

- Our program is designed to simplify the ACT Science section with step-by-step strategies, practice materials, and engaging lessons. Build confidence, improve speed, and unlock your potential with a proven system for success.







Score higher, stress  
less, and achieve  
your dream ACT  
score with Chicago  
Detective Explorers!