Power Up: Science ACT Prep, Week 9

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Time Frame 35 minutes

Essential Question(s)

How can I increase my ACT score?

Summary

In this ninth science ACT prep activity, students consider when scientists might have differing opinions and how to use those opinions to make inferences and evaluate hypotheses. First, students engage in Magnetic Statements to share their own opinions on scientific views on bluebird migration. Next, they apply their understanding of those viewpoints to answer ACT-style questions as a group. Students then independently apply the skills they have been learning across the series of activities to three ACT-style passages and question sets as they build testing stamina and an understanding of pacing. This is the ninth activity in a 10-week "Power Up" series for ACT Prep.

Learning Goals

- Identify when two scientists would have differences of opinion.
- Determine what differences of opinion and methods can have on results.

Attachments

- Activity Slides—Power Up Science ACT Prep, Week 9.pdf
- Activity Slides—Power Up Science ACT Prep, Week 9.pptx
- Magnetic Statements—Science ACT Prep, Week 9 - Spanish.docx
- Magnetic Statements—Science ACT Prep, Week 9 - Spanish.pdf
- Magnetic Statements—Science ACT Prep, Week 9.docx
- Magnetic Statements—Science ACT Prep, Week 9.pdf
- Practice Passages (Teacher Guide)—Science ACT Prep, Week 9.docx
- Practice Passages (Teacher Guide)—Science ACT Prep, Week 9.pdf
- Practice Passages—Science ACT Prep, Week 9.docx
- Practice Passages—Science ACT Prep, Week 9.pdf

Materials

- Pens/pencils
- Activity slides (attached)
- Magnetic Statements (attached; 1 copy)
- Science ACT Week 9 Practice Passages (attached; 1 per student)
- Teacher Guide Science ACT Week 9 Practice Passages (attached)

10 minutes

Introduction

Teacher's Note: ACT Enhancements

The following resource has been updated to better align with the test changes that began in April 2025 for the online test and in September 2025 for the paper-pencil test. Some outside resources linked are based on the previous version of the ACT. Learn more about enhancements to the ACT in 2025.

Teacher's Note: Preparation

Post the two magnetic statements on opposite sides of the room prior to class.

Use the attached **Activity Slides** to introduce the activity. **Slides 1-4** include the title for the activity and can be used to share the essential question and learning objectives. Show **slide 5**. This example includes the opinion of two scientists on bird migration. Using the Magnetic Statements strategy, have students move to the side of the room that matches the scientist they agree with. Give a few minutes for them to discuss why within their groups. Come back together as a class and explain that on the ACT some of the passages will include differences of opinion like these arguments. It does not mean that they have to decide who is right and who is wrong, though. In many cases, scientists are unsure of the true cause of an issue and have an unproven hypothesis they continue to test. Both arguments might be valid.

5 minutes

Activity

Students should expect ACT questions that will ask about what they think might happen based on a scientist's beliefs. Move to **slide 6**. This slide includes an ACT style question on differing opinions. This is a continuation of what they read about bird migration in slide 5. It asks which scientist would expect increased migration if a factory was built near nesting grounds. Ask students to vote on an answer. Show **slide 7** to reveal the answer. Note that each scientist is mentioned twice, but the reasoning for their opinion is different. Point out that they need to read the entire answer choice before making a selection. **Slides 8-9** include another example that can be used as time allows or if students seem to need more practice.

20 minutes

Wrap Up

Let students know that for the last 20 minutes of class, they will be working independently to practice the skills they have been learning for the Science section of the ACT. Explain that they will have 20 minutes to read and answer questions about two different passages. Let students know that they are working on building testing stamina in order to keep a pace similar to what they will have on the test and have more passages to read this week than last week. Share that you will give a three-minute warning. At that time, they should first fill in a guess on any unanswered questions, and then return to those questions and try to find the answers if they have time. Explain this is a good ACT strategy for when they hear the five-minute warning because the ACT does not lower your score for incorrect answers. That means it is always better to guess than leave a question blank. Provide each student with the **Science ACT Week 9 Practice Passages** handout. Show **slide 10** and start the 20-minute timer. Watch the timer and give a verbal three-minute warning. At the end of the time, collect the papers as a formative assessment. Use the attached **Science ACT Week 9 Practice Passages (Teacher Guide)** document, as needed. Display **slide 11** to celebrate unlocking another achievement.

Research Rationale

Standardized testing in high schools has long stood as a metric for assessing college readiness and school accountability (McMann, 1994). While there has been debate surrounding the accuracy of such metrics, as well as concerns regarding fairness, many institutions of higher education continue to make these scores part of the admissions process (Allensworth & Clark, 2020; Black et al., 2016; Buckley et al., 2020). Aside from admissions, it is also important to keep in mind that standardized test scores can also provide students with scholarship opportunities they wouldn't otherwise have (Klasik, 2013). Though the topic of standardized testing continues to be debated, effective test prep can ensure that our students are set up for success.

With several benefits to doing well on college admissions tests, it is important to consider how best to prepare students for this type of high-stakes test. Those students from groups that may historically struggle to find success, such as those in poverty or first-generation college students, especially stand to benefit from effective test preparation (Moore & San Pedro, 2021). The American College Test (ACT) is one option students have for college admissions testing that is provided both at national centers and school sites. Taking time to understand this test including the timing, question types, rigor, and strategies for approaching specific questions can help to prepare students to do their best work on test day and ensure their score is a more accurate representation of what they know (Bishop & Davis-Becker, 2016).

Resources

- Allensworth, E. M., & Clark, K. (2020). High school GPAs and ACT scores as predictors of college completion: Examining assumptions about consistency across high schools. *Educational Researcher*, 49(3), 198-211.
- Bishop, N.S. & Davis-Becker, S. (2016). Preparing examinees for test taking: Guidelines for test developers and test users. 2nd edition. Crocker, L. (Ed). In *Handbook of Test Development* (pp. 129-142). Routledge.
- Black, S. E., Cortes, K. E., & Lincove, J. A. (2016). Efficacy versus equity: What happens when states tinker with college admissions in a race-blind era? *Educational Evaluation and Policy Analysis*, 38(2), 336–363. http://www.jstor.org/stable/44984542
- Buckley, J., Baker, D., & Rosinger, K. (2020). Should state universities downplay the SAT? *Education Next*, 20(3).
- K20 Center. (n.d.). Magnetic statements. Strategies. https://learn.k20center.ou.edu/strategy/166
- Klasik, D. (2013). The ACT of enrollment: The college enrollment effects of state-required college entrance exam testing. *Educational Researcher*, 42(3), 151–160. http://www.jstor.org/stable/23462378
- McMann, P. K. (1994). The effects of teaching practice review items and test-taking strategies on the ACT mathematics scores of second-year algebra students. Wayne State University. https://www.monroeccc.edu/sites/default/files/upward-bound/McMannP.-the-effects-of-teaching-practice-review-items-ACT-mathematics-second-year-algebra.pdf
- Moore, R., & San Pedro, S. Z. (2021). Understanding the test preparation practices of underserved learners. *ACT Research & Policy*. Issue Brief. ACT, Inc. https://files.eric.ed.gov/fulltext/ED616526.pdf