



TECHNOLOGY

POST-LESSON PLAN

Lesson Title

- Testing Tech: How Data Shapes the Fan Experience.

Basic Information

- Grade Level: 4–8.
- Duration: 60 minutes.
- Subject Areas: Technology, Math, Science, Career Exploration, English Language Arts.

Lesson Objectives

- Apply the concept of A/B testing as a scientific experiment.
- Show students how objectives, hypotheses, and data collection shape fan experiences.
- Allow students to practice designing, running, and analyzing an experiment.
- Connect classroom activity to real-world roles in technology and data analytics.

Learning Objectives

- Students will:
 - Define an objective and metric for an experiment.
 - Write a hypothesis and design a simple test.
 - Collect and record results, including both votes and sample size.
 - Use technology tools to interpret results (intro to statistical significance).
 - Reflect on how professionals use testing to improve experiences for fans.

Vocabulary

- **A/B Testing** – Running two versions of something to see which performs better.
- **Hypothesis** – A prediction you test, based on your objective.
- **Sample Size** – The number of people included in a test. Larger samples give more reliable results.
- **Statistical Significance** – A measure of whether results are meaningful or might have happened by chance.
- **Consumer Insights** – Information about what fans like that helps guide decisions.

Standards Alignment

Next Generation Science Standards (NGSS)

- MS-ETS1-2: Evaluate competing design solutions based on how well they meet the criteria and constraints of a problem.
- MS-ETS1-4: Develop a model to generate data for iterative testing and modification of a proposed solution.
- MS-PS2-4: Construct and present arguments using evidence to support the claim that data is necessary to identify patterns.

Common Core Math Standards

- 6.SP.B.5: Summarize numerical data sets in relation to their context (sample size, measures of center, variability).
- 7.SP.C.7: Develop a probability model and use it to find probabilities of events.

Common Core ELA Standards

- RI.4–8.1: Refer to details and examples to explain and infer.
- RI.4–8.7: Interpret information presented visually, orally, or quantitatively.
- W.4–8.7: Conduct short research projects using multiple sources.
- SL.4–8.1: Engage effectively in collaborative discussions.
- SL.4–8.4: Present claims and findings clearly.

Career Technical Education (CTE) Standards

- CRP 2: Apply academic and technical skills.
- CRP 4: Communicate clearly and effectively.
- CRP 7: Employ valid and reliable research strategies.
- CRP 8: Utilize critical thinking to make sense of problems and persevere in solving them.

Lesson Components & Educator Guidance

1. Warm-Up: What's the Question? (10–15 minutes)

Begin with a student brainstorm, using these questions:

- What's a great question/hypothesis we could test at a Rams game about the kinds of things fans prefer?

As you chart student responses, use the following examples to get the ball rolling (if necessary):

- What do you think excites fans the most at a Rams game?
- What could make their gameday memorable?
- What's something entertaining the team could do at halftime?
- What if we try and find out which kinds of food fans most want to buy?

Connect all of the ideas students generate back to a central idea in the video they just watched, reinforcing that nearly everything fans see, interact with or purchase is tested using data and technology to make smart decisions about what people want.

Teacher Tip: Emphasize that this is Step 1 of the scientific method: defining the objective and the metric.

2. Hypothesis & Experiment Design (15 min)

To begin the next step in this lesson, break students into groups and introduce the [A/B Testing Challenge Worksheet](#). Explain that it will guide them through the scientific method in this exercise, just like researchers use.

Next, ask each group to turn their question into a testable hypothesis. Remind them that a hypothesis should always include both their prediction and the measurement they'll use to test it. For example:

- We think fans will prefer pizza to burgers, and we'll measure this by votes.

Upon completing hypotheses, instruct groups to design **Version A** and **B** of their idea (foods, songs, giveaways). Encourage creativity, but remind them to keep ideas simple and measurable.

Teacher Tip: Reinforce that these last few activities mirror **Step 2 of the scientific method:** making a hypothesis and designing an experiment. Emphasize that this is exactly what the Rams' data team does before testing with real fans.

3. Run the Experiment: Collecting Data (15–20 minutes)

As a next step, tell students:

- Now that you’ve set up your hypothesis and designed Versions A and B of your idea, it’s time to run the experiment. This step mirrors Step 3 of the scientific method: conducting the test and collecting data.

Use the following instructions for student testing to ensure a simple and effective process:

1. Each groups shares Versions A & B of their idea
 - Each group presents their two options (foods, songs, scoreboard messages, giveaways) to the class.
 - Keep presentations short and clear so the “test subjects” (their classmates) understand the choices.
2. Collect Votes as Data
 - Have classmates vote for their preferred version (with slips of paper or raised hands).
 - Make sure groups presenting record not only which version won but also the sample size (how many total classmates voted).
 - Reinforce that this is key: scientists can’t draw strong conclusions if the sample is too small.
3. Emphasize Technology Tools
 - Remind students that in real A/B tests, analysts don’t just count votes, they use technology tools (like statistical calculators or software) to test whether results are meaningful or just happened by chance.
 - You can model this idea by showing a free online calculator or simply discussing why a big enough sample matters.

Teacher Tip: Use this step to highlight that collecting reliable data is just as important as making a good prediction. Encourage groups to reflect as they gather votes, using the following prompt, which pushes students to think critically about sample size and data quality:

- Would this test give us enough information if we only had 10 voters? What would happen if we had 1,000?

4. Analyze & Conclude (10–15 minutes) To bring things to a close, tell students:

- “Now that you’ve collected your data, it’s time for the last step of our experiment, which is to analyze our results and draw our conclusions.

Then, guide students to:

1. Analyze their Results
 - Tally votes for Version A and Version B.
 - Note which version won and the margin of victory (by how many votes).

Teacher Tip: take a moment here to again reinforce the notion of statistical significance and its role in the testing process and impact on their results.

2. Draw their Conclusions
 - On the worksheet, write a short conclusion that includes:
 - The original objective and hypothesis.
 - The results (A vs. B with vote counts).
 - Whether the hypothesis was supported or not.
 - One change they would make if they ran the test again (e.g., clearer choices, better images, different question).
3. Share their Findings
 - Each group gives a quick (30–60 sec) readout of their process and outcome. This could come in the following format, or another you prefer:
 - Our objective was ____
 - Our hypothesis was ____
 - Our result was ____
 - The consumer insight we learned is _____
 - What we’d do next is ____

Bring the entire class together for a final, reflective conversation. Use the following prompts to guide reflection, or others you prefer:

- Did your outcome match your prediction? Why or why not?
- What did you learn about testing before making a decision?
- How could this test guide a real game-day choice?

Teacher Tip: Reinforce that this final piece of the lesson mirrors Step 4 of the scientific method: analyzing data and drawing conclusions. Just like scientists, the Rams’ data team compares results to their hypotheses to guide future choices.

Materials Needed

- A/B Testing Challenge Worksheet (print or digital).
- Whiteboard or chart paper for class brainstorms.
- Slips of paper, tally sheets, or a simple digital polling tool for voting.
- **Optional Extension (Below):** Should you desire to dive deeper into statistical significance and would like an accompanying tool to go along with that exploration for your students, you may download the Excel file that appears alongside this lesson plan and use the accompanying guidance that appears below the assessment list.

Assessment

- Completed A/B Testing Challenge Worksheet (with objective, hypothesis, results, and conclusion).
- Group participation in designing and running their A/B test.
- Accuracy in recording data (votes and sample size).
- Quality of reflection in analyzing whether their hypothesis was supported.
- Contributions to whole-class discussion connecting results back to real-world testing.

A/B Testing Extension: Did We Really Find a Winner?

A Big Science Rule

Set up your exploration of this tool with the following idea:

- If fewer than 30 people vote on something, the results usually aren't strong enough to call a true winner. A tiny sample is like asking only a couple friends what their favorite food is ... it doesn't tell you what most people think.

Why Use This Tool?

In your classroom A/B tests, it may look like the “winner” is simply the choice with the most votes. But in real data science, that's not always enough. Sometimes small differences happen just by chance. This tool helps students explore whether their result is a true winner or just “lucky,” or in scientific terms, statistically insignificant.

How to Use the Tool

1. Count how many people voted for Option A.
2. Enter that number into the spreadsheet's % column (how many said yes for A).
3. Enter the total number of people who voted in the N column.
4. Do the same for Option B.

The tool will instantly show whether A, B, or neither is the “true” winner.

- If it shows **A or B**, that option really won.
- If neither shows up, the test wasn’t clear enough to call.

Teacher Tip: Reinforce that small vote differences (like 11 vs. 10) often aren’t meaningful, but bigger gaps (like 20 vs. 5) usually are. The tool makes that difference visible.

Why This Matters

This is exactly how teams like the Rams make decisions about game-day food, music, or promotions. And it’s the same process scientists use in medicine or companies use to test ads. It’s about making decisions based on evidence, not luck.