

Westover Elementary Science Fair
INFORMATION PACKET
Theme-Based Format for Kindergarten and 1st Grade

This packet belongs to: _____

Important dates:

Early February 2023: Research your project idea. Make hypotheses, plan experiments, and begin collecting data! Pro tips: take lots of photos, and be sure to record references to all of your source material.

February 16, 2023 (evening): Attend the Brainstorming Workshop to generate project ideas and get answers to your questions about best practices for designing, executing, and presenting your project.

Mid-March 2023: Plot data, make graphs, take photos, start planning your tri-fold display poster, and write down your conclusions.

February 28, 2023: Tri-fold display boards can be picked up in the front office (provided at no charge to all participants.)

March 14, 2023: Present your project at the Science Fair!

(Make a picture of yourself as a scientist in the space above!)

An observational study is different from a typical experimental study in that measurements are made without manipulating the conditions of the observation (i.e., no independent variable).

Steps to Conduct a Science Fair Theme-based Observational Study

1. Select an interesting science question: Choose something that is interesting to you. Use your local library, science teacher, and/or the internet to find ideas. Be sure to record where you obtained your references and source material. (e.g., what do chameleons eat?)
2. Design a specific **measurement** study to dig into your question. As you learn more, you may find that more questions arise! – Feel free to explore! (e.g., how many ants will a chameleon eat in one day?) Record the conditions of the study, especially those that you think might affect the measurement (e.g., type of ants, temperature, night/day, sounds, etc.)
3. Make an exhibit or display of your measurements. Tri-fold boards will be distributed in early March to create your poster for the Fair. (e.g., did you test more than one type of bug? Did you find things the chameleon did not eat?)
4. Practice explaining your presentation: Tell the story of your question and the measurements you took to answer it. You will definitely want to add photos or drawings. Practice presenting your findings to your family and friends.
5. Come to the Fair and have fun sharing what you learned with everyone!

Measurements

When making measurements, be sure to record and include all measurements, especially those that are unexpected. Whenever possible, scientists usually make multiple measurements to see how variable the measurement is. This is often when new discoveries are made! Show all your measurements and be sure to think about where this variability might be coming from.

What Rules Must Be Followed When Doing a Science Fair Project?

- Do not use dangerous or potentially hazardous chemicals in your experiment.
- Have an adult present to be sure that your experiment is conducted safely.
- Do not bring live animals to school for your presentation.

Pre-Study Organizer

Use this organizer to help you plan your investigation and set up your tri-fold board.

Title of investigation:

Testable Question(s): (What can you measure that will help answer your question?)

Hypothesis: (What do you think the answer will be **before** you do your experiment?)

Describe the materials, tools, and procedure you will use to make measurements. This might include photos or drawings of you making measurements.

(Make a copy of this sheet for each measurement you will be taking.)

Data Collection: (Sketch or use a computer to construct a table, chart, or graph to display your data.)

Results: (What does your data tell you about the experiment?)

Write a paragraph or make a bulleted list of your conclusions based on evidence from your measurements. Explain the results. Also include any questions you may have now that you have finished your investigation.

How to Prepare Your Science Project for Display

A typical layout for the tri-fold display board:

Title Name and Grade		
Introduction and Question	Description of Measurements	Results and Interpretations
Breaking down the question into something that can be measured.		
Hypotheses	Data and Observations	Conclusions
Materials Used		Acknowledgments

- Text about your study can be either handwritten (use pen or marker) or typed. Attach information sheets onto your display board. The printing should be large enough to be easily read by your audience at least 4 feet away. Be sure to include your name and grade on the front of the board!
- You may want to include photographs of yourself during the measurements to help illustrate how the data was taken.
- On the day of the Science Fair, you may want to bring a few of the smaller materials you used in your study to display with your poster.
- **IMPORTANT!** Please put your name and grade on the back of your presentation.
- In the Acknowledgments, be sure to write down where you got your information, equipment, or guidance! This includes photos or graphics from the internet or wording from someone's web page.

Questions You May Be Asked About Your Project at the Fair

Purpose:

- Why did you select this project?
- How did you start researching this topic?

Procedure:

- Explain what you did in the investigation.
- What was your procedure for carrying out the measurements?

Scientific Procedure/Hypothesis/Variables/Data:

- What do you know now that you didn't know when you started this project?
- If you had to do this again, would you do different measurements?

Conclusions:

- How does your experiment relate to our everyday experiences (bridges, machines, cars, home appliances, etc.)?
- How could you continue testing or experimenting to learn more about your topic?
Can you think of any new questions that make you curious about this problem or any other problem relating to your project?

Acknowledgment:

- Who assisted you in your project and how?