



General Science Investigation

North Dakota 4-H Project Sheet

This project is designed to help you understand how the world around you works.



- Design and conduct your own science experiments.
- Explore the states of matter, the forces that act on objects and chemical reactions.
- Understand how science relates to our everyday life.
- Gain experience in problem solving and decision-making using science process skills.

Pass it on!

Now that you know how, share it with others. Here are ideas to get you started.

Communication

- Give a presentation about one of your experiments.
- Teach a science lesson at your local project day.
- Create a video explaining a science principle.

Citizenship

- Organize a science exploration event for your club or county.
- Work as a team with other youth to create a solution to an issue that concerns your community.

Here's what you can do all year!

Exploration Activities	Challenge Activities	Investigation Activities
<ul style="list-style-type: none"> • Research lab equipment. • Create your own lab procedures. • Start a science journal to record your results and research. • Discover the states of matter. • Explore the forces that act on objects. • Test objects to see if they sink or float. • Layer different liquids in a container. • Create your own lava lamp. • Use a prism to separate light. • - Discover why apples fall from trees. 	<ul style="list-style-type: none"> • Design an experiment where a chemical reaction occurs. • Test the solubility of different substances in water. • Create an experiment to separate marker colors. • Find iron in your breakfast cereal. • Make a golf ball float. • Create ooze, flubber or gaak. • Experiment with bubbles. • Discover who or what is "ROY-G-BIV". • Learn about the surface tension of water. • - Make models of atoms 	<ul style="list-style-type: none"> • Investigate the differences between the states of matter. • Read about Albert Einstein. • Research the different states and forms of energy. • Investigate how to control the speed of a chemical reaction. • Read about Sir Isaac Newton. • Research acids, bases and the pH scale. • Investigate friction and how it affects movement. • Research the effects of gravity on different planets.

Leadership

- Plan a field trip to a local lab, business or industry to learn how they work with science.
- Prepare and teach a lesson to Cloverbuds in your county.
- Help with the yearly National Youth Science Day Experiment.

NDSU EXTENSION SERVICE
NDSU is an equal opportunity institution

Learn more at www.ndsu.edu/4h/ or contact your county NDSU Extension Office



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Here are other opportunities to explore in General Science Investigation:

- Interview a local scientist.
- Design an experiment and share the results at your school science fair.
- Attend a Marketplace for Kids event.
- Attend a science themed summer camp.
- Contact your county NDSU Extension office for local workshops, activities and events.
- Interested in a college education in the area of Chemistry or Physics? Schedule a visit with North Dakota State University to explore these majors: [College of Science and Mathematics \(NDSU\)](#)

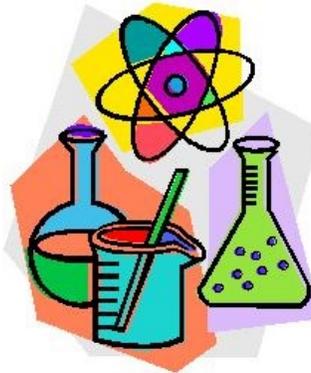


Exhibit Ideas

- Create a display on an experiment you conducted.
- Design a poster that explains chemical reactions.
- Make a poster explaining the characteristics of the different states of matter.
- Create a working display based on a scientific principal.
- Make an exhibit that explains friction.
- Build a model of your favorite molecule.
- Make a poster illustrating the different parts of lab equipment.
- Create a piece of art using science.
- Design a poster explaining the pH Scale.
- Build a model to explain density.
- Make an exhibit that shows the solubility of different substances

4-H Resources

- [Utah Discover 4-H Club Curricula](#)
- [National 4-H Council](#)
- [Science Fun with Physics](#)
- [Science Fun with Kitchen Chemistry](#)
- [What's On Your Plate? Exploring Food Science](#)
- [Colorado State University Extension: Chemistry in the Kitchen](#)

Other Resources

- [Steve Spangler Science Experiments](#)
- [Science Kids- Science and Technology for Kids!](#)
- [OMSI No Hassle Messy Science with a WOW](#)
- [American Chemical Society- Adventures in Chemistry](#)

Record Keeping

- [4-H Project Plan](#)
- [Planning for My Project Adventure \(Ages 8-10\)](#)
- [4-H Plan of Action \(Ages 11-18\)](#)
- [ND 4-H Participation Summary for 11 to 19 year olds](#)

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