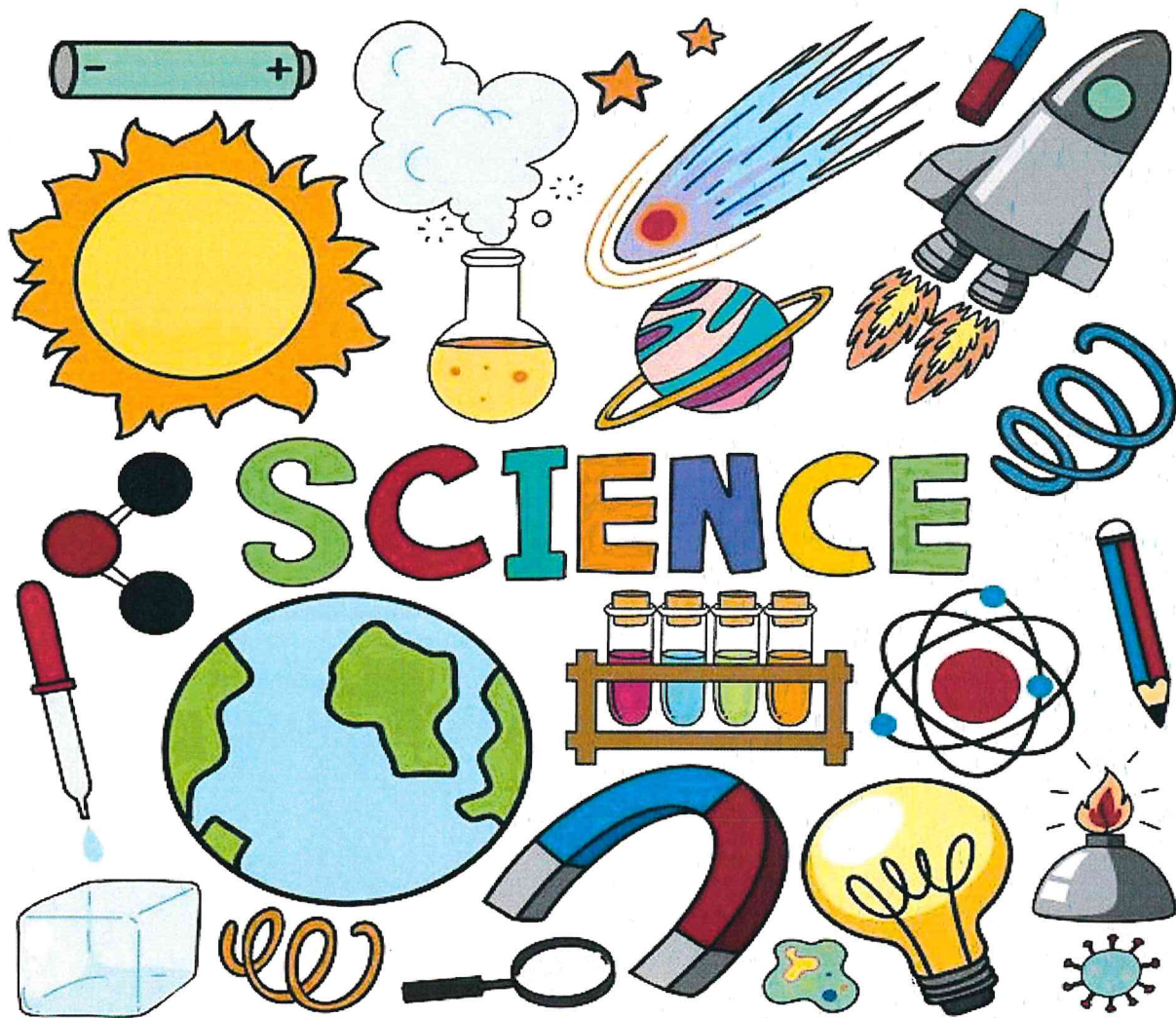


# Ashley All-Star

## Science Fair Planning Guide



This is going to be awesome!

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# Ashley Science Fair

2026

Dear Ashley All-Star Parents,

The Science Fair is an event where science comes alive, thanks to the ideas and research of our students. Doing science is key to understanding science. Participation in the Ashley All-Star Science Fair is completely voluntary.

Our school will be holding a science fair on **Tuesday, February 24, 2026**. The science fair is open to all Ashley All-Star students grades Young 5's - Fourth grade. Hands-on scientific investigation and invention are the focus of our science fair.

Please note that all work will be done at home **by the student**. Project guidelines are available on the Ashley website. Students must share their ideas with their teacher and obtain their teacher's approval before beginning the process.

Each student will be assigned a science fair participant number and given a display board when a **completed** permission slip is received. Completed permission slips can be returned and boards picked up beginning **Thursday, December 4, 2025**, during our Cookies with Santa and Book Fair event. Completed permission slips can be dropped off in the office and display boards picked up starting **Friday, December 5, 2025**. The last day permission slips will be accepted is **Friday, January 30, 2026**.

Project guidelines are available on the Ashley website. Completed projects will be due Tuesday, February 24, 2026, between 7AM –9AM. No projects will be accepted before or after this date and time. Items will be limited to the display board only! No other items will be displayed at the Science Fair. Take lots of pictures to tell the story of your science project.

Projects will be judged and awarded 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> place for each grade level. Please do not include your name on your display board. Judges will not be from Ashley Elementary. Please read guidelines closely.

If you have any questions, please contact Mrs. Cmarik, [kcmarik@abs.misd.net](mailto:kcmarik@abs.misd.net).

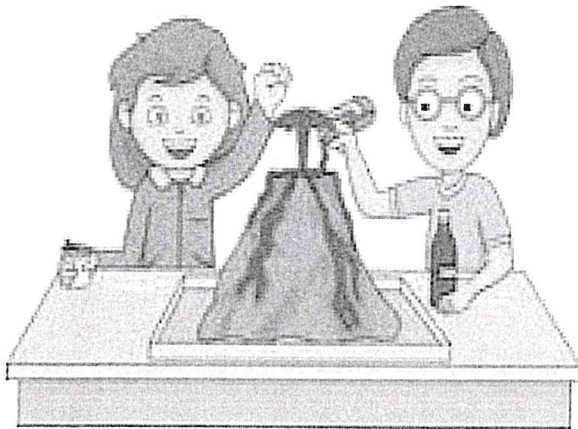
We look forward to seeing all our Ashley All-Stars shine at this amazing event.

Experiment and Enjoy,

Mrs. Cmarik

# Types of Science Projects:

There are two types of science projects: Models and Experiments. Here is the difference between the two:



COOL!!! DO THIS

## An Experiment:

Lots of information is given, but is also has a project that shows testing being done and the gathering of data.

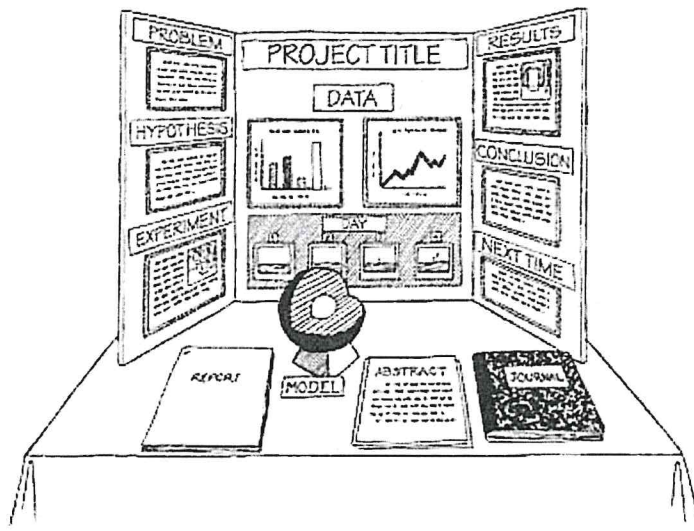
Examples of experiments can be: "the effects Detergent on the Growth of Plants", "Which Paper Towel is more Absorbent" or "What Structure can Withstand the Most Amount of Weight"

You can tell you have an experiment if you are testing something several times and changing a variable to see what will happen. We'll talk about variables later...

## A Model, Display or Collection:

Shows how something works in the real world, but doesn't really test anything.

Examples of display or collection projects can be: "The Solar System", "Types of Dinosaurs", "Types of Rocks", "My Gum Collection..." Examples of models might be: "The Solar System" or "How an Electric Motor Works", "Tornado in a Bottle".

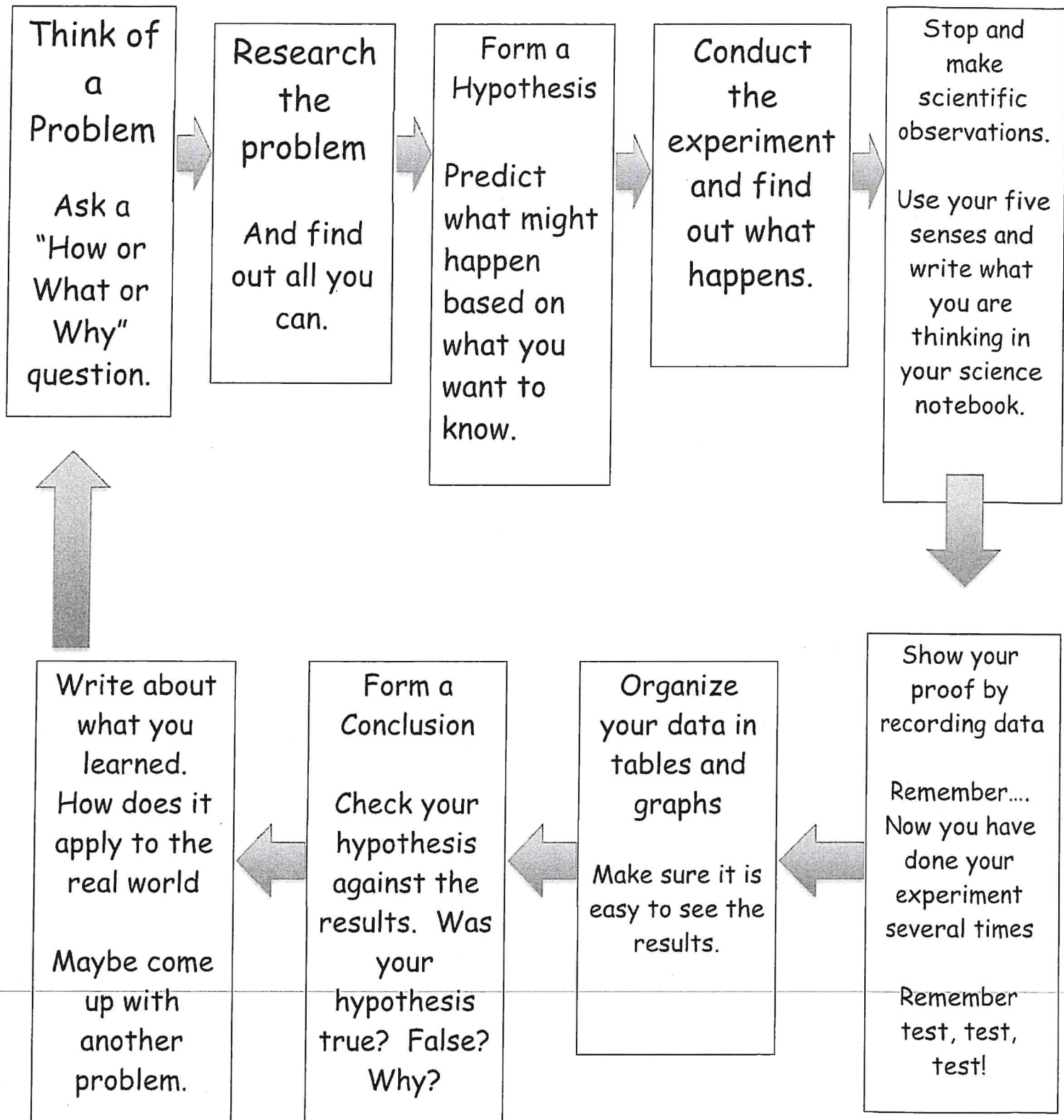


So What Types of Project Should I Do?

Even though you can learn a lot from building a model or display, we recommend that you do an Experiment or Investigation!!! Why? Well, they are fun, they are more interesting and most of all, they take you through the SCIENTIFIC METHOD, which is the way real scientists investigate in real science labs. Besides that, the SCIENTIFIC METHOD is what the judges are looking for.



# What is the Scientific Method???



# Choosing a category that interests you...

All great Projects start with great questions but before you get started on a great question you need to pick a subject or topic that you like. There are four different categories of the Science fair to choose from. They are:

**Life Science:** This category with all animal, plant and human body questions that you might have and want to do an experiment about. Remember that it is against Science Fair Rules to intentionally harm plants, as long as they don't belong to someone else, like don't do an experiment on your mom's rose bushes unless you ask her first...

**Physical Science:** If you like trying to figure out how things work, then this is the category for you! It includes topics about matter and structure, as well as electricity, magnetism, sound, light or anything else that you might question, "How does it work and what if I do this to it, will it still work?" But remember, you always need to ask an adult first (and always make sure there is one of those adult guys with you when you try it.)

Physical Science also includes the composition of matter and how it reacts to each other. These are the science experiments that may have bubbling an oozing going on, like figuring out what is an acid and what is a base. It is a perfect category to try to mix things together to see what will happen. Again, if you are experimenting with possibly dangerous things, you need to recruit and adult to help you out.

**Earth and Space Science:** This category is really awesome because it covers all sorts of topics that deal with the Earth or objects in space. This includes studying weather, geology (which is the study of everything that makes up the Earth, like rocks, fossils, volcanoes, etc.), and the study of all that is in space, including the stars, our sun and our planets. Unfortunately this topic is also where most kids mess up and do a collection or model project instead of an "Experiment," so be careful!!!

**Engineering or Technology:** This category is so amazing because it is science applied to everyday life. Technology begins with a task or a system that hasn't been done or is already being done and it allows new equipment or gadgets to work better or more efficiently! Engineering is figuring out a better way to make an idea work. Think of how it could work better or faster if you changed something. In technology, think of something you do every day and divide that into the separate steps that make it happen. This is the foundation for technology. Now what are the steps to make it happen? For example, when cell phones were invented. People already talked on the phone, but with cell phones they could carry a phone with them to make a call right away. This made communication faster and easier, right? Making cell phones smaller or less expensive is an example of engineering. Then smart phones took advantage of technology in a new way.

## **Now It's Your Turn:**

Write down your favorite Science Fair Category and what it is you want to learn more about:

---

My favorite Category is is \_\_\_\_\_  
(Life Science, Physical Science, Earth and Space Science, or Engineering Technology)

I want to do an experiment involving \_\_\_\_\_

---

# Step #1: Coming up with a good question...

Now that you have picked out a topic that you like and that you are interested in, it's time to write a question or identify the problem of your topic. To give you an idea of what we mean you can start off by filling in the question blanks:

## *The effect Question:*

What is the effect of \_\_\_\_\_ on \_\_\_\_\_?

\*Examples:

sunlight  
eye color  
brands of soda  
temperature  
oil

the growth of plant  
pupil dilation  
a piece of meat  
the size of a balloon  
a ramp



## *The how does affect question:*

How does the \_\_\_\_\_ affect \_\_\_\_\_?

\*Examples:

color of light  
humidity  
color of a material

the growth of plants  
the growth of fungi  
its absorption of heat

## *The which/what and verb question:*

Which/what \_\_\_\_\_ (verb) \_\_\_\_\_?

\*Examples

paper towel  
foods  
detergent  
paper towels  
peanut butter

is  
do  
makes  
is  
tastes  
strongest  
the best

most absorbent  
meal worms prefer  
the most bubbles



## *Engineering or Technology Question:*

What interests me \_\_\_\_\_ (noun) \_\_\_\_\_?

\* Example: How can I make it work (faster or better, at a lower cost or in a new way)

Create your Science fair question using one of the four options above!



## *Step #2: Doing the Research and forming a Hypothesis...*

You have picked your category and you have chosen a topic. You also wrote a question and now its time to do some **RESEARCH!!!** You will do so much that you will become an expert at your topic just like real scientist do in real labs.

*How do you become an expert??*

**You READ!!!!**

It is important that you read about your topic. You can read encyclopedias, magazines articles and books from the library. Also, read articles from the Internet. Don't forget to take notes of any new things you learn including words so you can use them. It will make you sound like a real scientist!! Keep track of all the books and articles you read, you will need them later.



**You DISCUSS!!**



It is important to talk about your topic with your parents, teachers, and experts in the field like veterans, doctors, weathermen or others who work in the things you are studying. Sometimes websites will give you an email addresses to experts who can answer questions... **But don't forget to ask an adult to supervise** before you write to anyone on the Internet. Also, take pictures of any interviews you do with people.

*Finally...*

Then when you think that you can't possibly learn anymore and the information just keep repeating itself... You are ready to....

*Form a HYPOTHESIS...*

Now it is time to predict what you think will happen if you test your problem... This type of "Educated Guess" or **PREDICTION** is what real scientist calls a **HYPOTHESIS**. This will have you thinking like scientist.

How do you begin? Well, just answer the following question...

*What do you think will happen? (Before you start your experiment)*

**Example of problem:** Which paper towel is more absorbent?

---

**Example of Hypothesis:** I think Brand X will be more absorbent because it's a more popular brand. It is thicker and the people I interviewed said that the more expensive brands would work better. (This hypothesis not only predicts what will happen in the experiment, but also shows that the "Scientist" used research to back up their predictions.)



Now it's your turn:

Write down the problem and form your Hypothesis based on your research.

**Problem:** \_\_\_\_\_

**Research:** My problem is about this subject: \_\_\_\_\_  
(Sample topics could be magnetism, electricity, buoyancy, absorbency, taste, plant growth, simple machines, building and testing a contraption, creating a set of instructions for a computer or robot that can be tested, or other scientific topics that relate to your problem. If you are having problems finding out what the topic is, ask your teacher or an adult to help you on this one ...)

**Books I found in the library on my topic are:**

Title:

Author:

**Internet sites that I found on my topic are:**

**People I talked to about my topic are:**

**Some important points that I learned about my topic are:**

\* \_\_\_\_\_

\* \_\_\_\_\_

\* \_\_\_\_\_

\* \_\_\_\_\_

---

**Hypothesis:** I think that \_\_\_\_\_  
(will happen) because ( my research shows ... )

### *Step 3: Testing your Hypothesis by doing an experiment*

Now we've come to the good part. The part that all scientists can't wait to get their grubby little hands on. . .you guessed it. . . The EXPERIMENT!

Designing an experiment is great because you get to use your imagination to come up with a test for your problem, and most of all, you get to prove (or disprove) your Hypothesis. **Now Science Fair Rules state that you cannot perform your experiment live, so you'll have to take plenty of pictures as you go through these seven very simple steps.**

**First: Gather up your materials:** What will you need to perform your experiment? The safest way to do this is get that adult you recruited to help you get the stuff you need. Oh did we mention to take pictures or draw pictures of your materials. This will come in handy when you are making your board display.

**Second: Write a PROCEDURE:** A procedure is a list of steps that you did to perform an experiment. Why do you need to write it down? Well it's like giving someone a recipe to your favorite dish. If they want to try it, they can follow your steps to test if it's true. Scientists do this so that people will believe that they did the experiment and also to let other people test what they found out. Did we mention to take pictures of yourself.

**Third: Identify your variables:** The variables are any factors that can change in an experiment. Remember that when you are testing your experiment you should only **test one variable at a time** in order to get accurate results. In other words, if you want to test the affect that water has on plant growth, then all the plants you test should be in the same conditions, these are called **controlled variables**: same type of dirt, same type of plant, same type of location, same amount of sunlight, etc. The only variable you would change from plant to plant would be the amount of water it received. This is called the **independent or manipulated variable**. The independent variable is the factor you are testing. The results of the test that you do are called the **dependent or responding variables**. The responding variable is what happens as a result of your test. Knowing what your variables are is very important because if you don't know them you won't be able to collect your data or read it.

**Fourth: TEST, TEST, TEST:** Remember that the judges expect your results to be consistent in order to be a good experiment. In other words, when you cook from a recipe you expect the outcomes to be the same if you followed the directions (or procedure) step by step. So that means you need to do the experiment more than once in order to test it properly. We recommend five times or more. More is better! Don't forget to take pictures of the science project being done and the results.

Observation is a **very important part of this step!** Remember to use your five senses to gather information as you conduct your investigation. Then record the information in careful detail. Don't forget to record everything! See Science Journal below.

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**Fifth: Collect your DATA:** This means write down or record the results of the experiment every time you test it. Be sure to organize it in a way that it is easy to read the results. Most scientists use tables, graphs, and other organizers to show their results. Organizing makes the results easy to read, and much easier to recognize patterns that might be occurring in your results. (And, don't forget, it impresses the judges when you use them.) But don't make a graph or table because we asked you to, use it to benefit your project and to help you make sense of the results. There is nothing worse than having graphs and tables that have nothing to do with answering the question of a science project.

## Hold On. How Do You Collect Data?

### Science Journal:

Is a type of science diary that you can keep, especially if your experiment is taking place over a long period of time (should be a week or more).

- Observations
- Collect research
- Draw/diagram pictures
- Questions

### Tools:

Make sure you have the things you need to take accurate measurements. Metric is the recommended standard of measurement in science. (meters, liters, Celsius, grams, etc.)

- Rulers
- Meter tapes
- Thermometers,
- Graduated cylinders
- Measuring cup

### Tables, Charts and Diagrams:

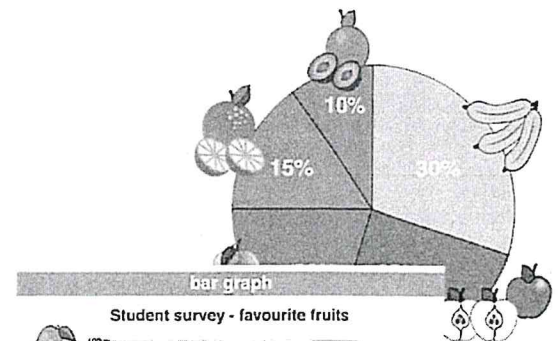
The way a scientist keeps track of experiment trials.

- At least 5 trials
- Organized in columns and rows
- Must use labels or headings
- Shows Independent variable (what was tested)
- Responding variable (result)

### Types of Graphs to Use to Display Your Data:

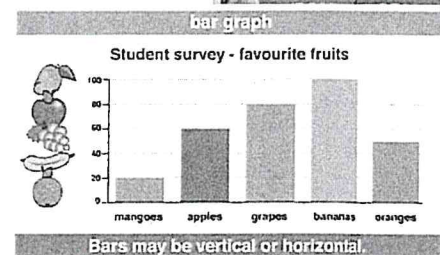
#### Pie Graph

- Percentages of groups
- Pieces add up to 100
- Great for surveys



#### Bar Graphs:

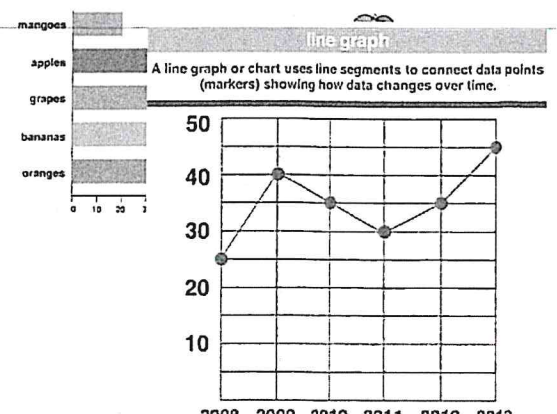
- Comparing amounts
- Results at a glance
- X axis (Horizontal)
- Y axis (Vertical)



Bars may be vertical or horizontal.

#### Line Graphs

- Shows change
- X axis (time increments)
- Y axis (measurements)





**...And now back to the Experiment Steps:**

**Sixth: Write a conclusion:** Tell us what happened. Was your hypothesis right, wrong, or neither? Would you change anything about the experiment or are you curious about something else now that you've completed your experiment? TELL WHAT YOU LEARNED FROM DOING THIS.

**Seventh: UNDERSTAND ITS APPLICATION.** Write about how this experiment can be used in real life. How will this help in the future? Why was it important to know about this?

**Now It's Your Turn!**

**Materials:**

List the materials that you will need for your science experiment here:  
(TAKE PICTURES!)

- |          |           |
|----------|-----------|
| 1. _____ | 6. _____  |
| 2. _____ | 7. _____  |
| 3. _____ | 8. _____  |
| 4. _____ | 9. _____  |
| 5. _____ | 10. _____ |

**Variables:**

List the variables that you will control, the variable that you will change and the variables that will be the results of your experiment:

My controlled variables are (the things that will always stay the same):

\_\_\_\_\_

My independent variable is (the things(s) that change(s) from one experiment to the next; or what you are testing):

\_\_\_\_\_

My responding variables might be (the results of the experiment):

\_\_\_\_\_

**Procedure:**

List the steps that you have to do in order to perform the experiments here  
(Don't forget to take pictures at each step):

1<sup>st</sup>: \_\_\_\_\_  
\_\_\_\_\_  
2<sup>nd</sup>: \_\_\_\_\_  
\_\_\_\_\_  
3<sup>rd</sup>: \_\_\_\_\_  
\_\_\_\_\_  
4<sup>th</sup>: \_\_\_\_\_  
\_\_\_\_\_  
5<sup>th</sup>: \_\_\_\_\_  
\_\_\_\_\_

**Design a table or chart here to collect your information**  
(Don't forget pictures!)

---

Use graph paper if you need to make a graph of your results from your table.

### Conclusion:

- What did you learn?
- Did it work? Why or why not?
- Did you confirm your hypothesis?
- What did the results tell you?
- What did you prove?

Sometimes not being able to prove a hypothesis is important because you still proved something.

### Application:

How does this apply to real life?

It is important to know about this experiment because...

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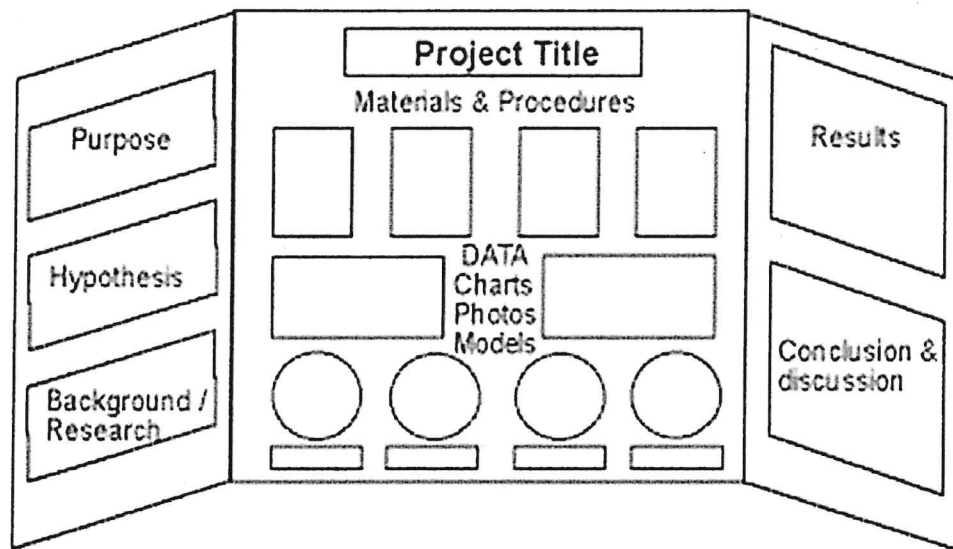
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**Science Board must be 48" by 36"**

## Display Board



**Arrange information so that it is easy to read and flows in a logical order.**

**Top to bottom and left to right.**

### Display Secrets:

- Type information or use best writing
- Use glue sticks or spray ad
- Use readable fonts (no more than two)
- Place information colored paper to make it stand out



## Science Fair Rubric

This project needs to represent **STUDENT** work.

### Project Title

Title is clearly displayed \_\_\_\_/5

### Question/Purpose

What did you want to find out?

What problem did you solve? \_\_\_\_/10

### Hypothesis

What do you think will happen? \_\_\_\_/10

### Materials

What did you need to complete the experiment? \_\_\_\_/5

### Procedure

Step by step procedure you followed to complete the experiment.

Include at least 5 clear steps.

Include at least 3 pictures of the main steps. \_\_\_\_/20

### Data

Show your data and pictures from your experiment.

What did you observe?

What data did you collect?

Include at least 3 charts, graphs or pictures to display results. \_\_\_\_/15

### Results

What did you learn?

Explain your data. \_\_\_\_/10

**Conclusion/Evaluation**

Was your hypothesis right or wrong?

How do you know?

What went well?

What would you change if you did the experiment again? \_\_\_\_/15

**Overall Presentation**

Is your display neat and well organized? \_\_\_\_/10

Total: \_\_\_\_/ 100

# Ashley All-Star Science Fair Important Dates

Welcome to the 2025-2026 Ashley All-Star Science Fair Planning Guide. The Science Fair will take place on **Tuesday, February 24<sup>th</sup>, 2026**. This year – we are looking for students to complete experiments that will be displayed through a series of pictures (not models, displays or collections).

Please see below a guided timeline for participation in the Science Fair:

- **November 7<sup>th</sup>** – Planning Guides and Permission Slips available online at the Ashley School Website.
- **December 4<sup>th</sup>** – Completed permission slips can be turned into Mrs. Cmarik during the 'Cookies with Santa' event to obtain a tri-fold poster board.
- **December 5<sup>th</sup> – January 30<sup>th</sup>**– Completed permission slips can be turned into the office for students to obtain their tri-fold poster board.
  
- **February 24<sup>th</sup>** –
  - Science Fair projects will be accepted between 7am-9am.
  - Science projects will be grouped by grade level.
  - Classrooms will visit the Science Fair during school hours.
  - Judges will complete their evaluations prior to 5:30pm.
  - Each grade level will have 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> place winners. Winners will be announced at school the following day.
  - The Science Fair will be open to the public that evening from 5:30pm-6:30pm.
  - Families may remove their student's science fair project as of 6:30pm, not before.