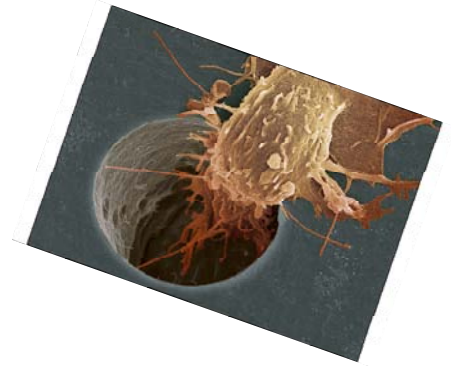


# Central School Science Fair Instructions



Get ready to have some fun young scientists! Follow the simple steps below and you will have completed an experiment using the Scientific Method.

Use the Scientific Method Worksheet at the end of this document to record your progress through each step OR use your own paper that can be pasted to poster board for your display. Your final display should have 5 sections corresponding to the sections below.

## THE SCIENTIFIC METHOD

### QUESTION

#### Step 1. Ask a question

What interests you? Do you have a question about something? What can you test? The question can be a simple one such as, “What kind of paper makes the best paper airplane?” or “Does my sister or my brother have a better memory?” Once you’ve decided what your question will be, record it on the Scientific Method Worksheet (included) or on a piece of paper of your own.

If you need some extra help coming up with an idea, have an adult help you check out the online resources below, ask the librarian at the local library, or email your Science Fair Committee at [sciencefair@centralptonews.org](mailto:sciencefair@centralptonews.org).

*Recommended Online resources\*:*

[www.sciencebuddies.org](http://www.sciencebuddies.org)

<http://school.discoveryeducation.com/sciencefaircentral>

<http://www.education.com/science-fair>

**\*Note to parents from your Science Fair committee: These online resources are provided as a guide, but we encourage you to have your child use his/her own curiosity and interests as the motivation for the question. Do not worry that the question or resulting experiment does not seem sophisticated enough. The best type of question for an elementary school Science Fair, even if it seems simple, is one for which your child is yearning to have the answer!**

### HYPOTHESIS

#### Step 2. Develop your hypothesis

Just record what you think the answer to your question will be. There is no right or wrong answer here—you will have to wait and see what happens during your experiment! Record your hypothesis on the Scientific Method Worksheet.

## **EXPERIMENT**

### **Step 3. Design your experiment**

How would you answer your question above? If you need help with this step, your Science Fair committee will be available to meet with you during two after school mentoring sessions on October 5 and 6. Record the methods you use on the Scientific Method Worksheet.

#### **Rules you need to follow for Step 3 and the Science Fair Display.**

- **No animals can be on display—only photographs are allowed.**
- **No chemicals or liquids in open containers, unless approved by Science Fair Committee (eg, water or soapy water is okay, but liquid nitrogen would not be).**
- **No foul-smelling or allergy-provoking substances (eg, mold) in open containers.**
- **There will not be access to running water or electricity during your presentation.**

## **RESULTS**

### **Step 4. Collect data**

This might be the most fun step! Gather your materials and perform your experiment as you have planned it. Be sure to record all of your observations along the way on the Scientific Method Worksheet or your own paper and take photographs, if necessary.

### **Step 5. Draw a conclusion**

What did the data tell you? Was your hypothesis correct? What other questions did your observations raise? How else could you test those? Record your conclusion on the Scientific Method Worksheet or on your own paper.

## **SCIENCE FAIR DISPLAY**

### **Guidelines for preparing your display:**

- Follow the specific rules outlined in Step 3.
- Use poster board to create a standing display not more than 4 feet wide. You can simply attach your Scientific Method worksheet to the poster board along with any additional items needed for the presentation (e.g., extra sheets where you've recorded your observations, photographs, or a list of references you used for background research). Some students prefer to separate out the 5 steps of the Scientific Method throughout their display (instead of just using the worksheet) and that's okay too. This does not need to be fancy—kids, you should do the work yourselves and display the results with pride! Don't forget to include your title across the top of the display.
- You will be given an assigned time for your summary presentation. This simply means that you (or your student team) will present a brief summary of your findings to a member of the Science Fair Committee. This presentation should not exceed 5 minutes. Don't be nervous—remember there are no wrong answers, you just need to communicate your findings.
- The fair will be held from 6-8pm on November 9<sup>th</sup> at Central School. Set-up will begin at 5pm.

- You are responsible for taking down your display at 8pm and disposing of it properly.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

# The Scientific Method

Complete the five steps. Record your information in the spaces provided.

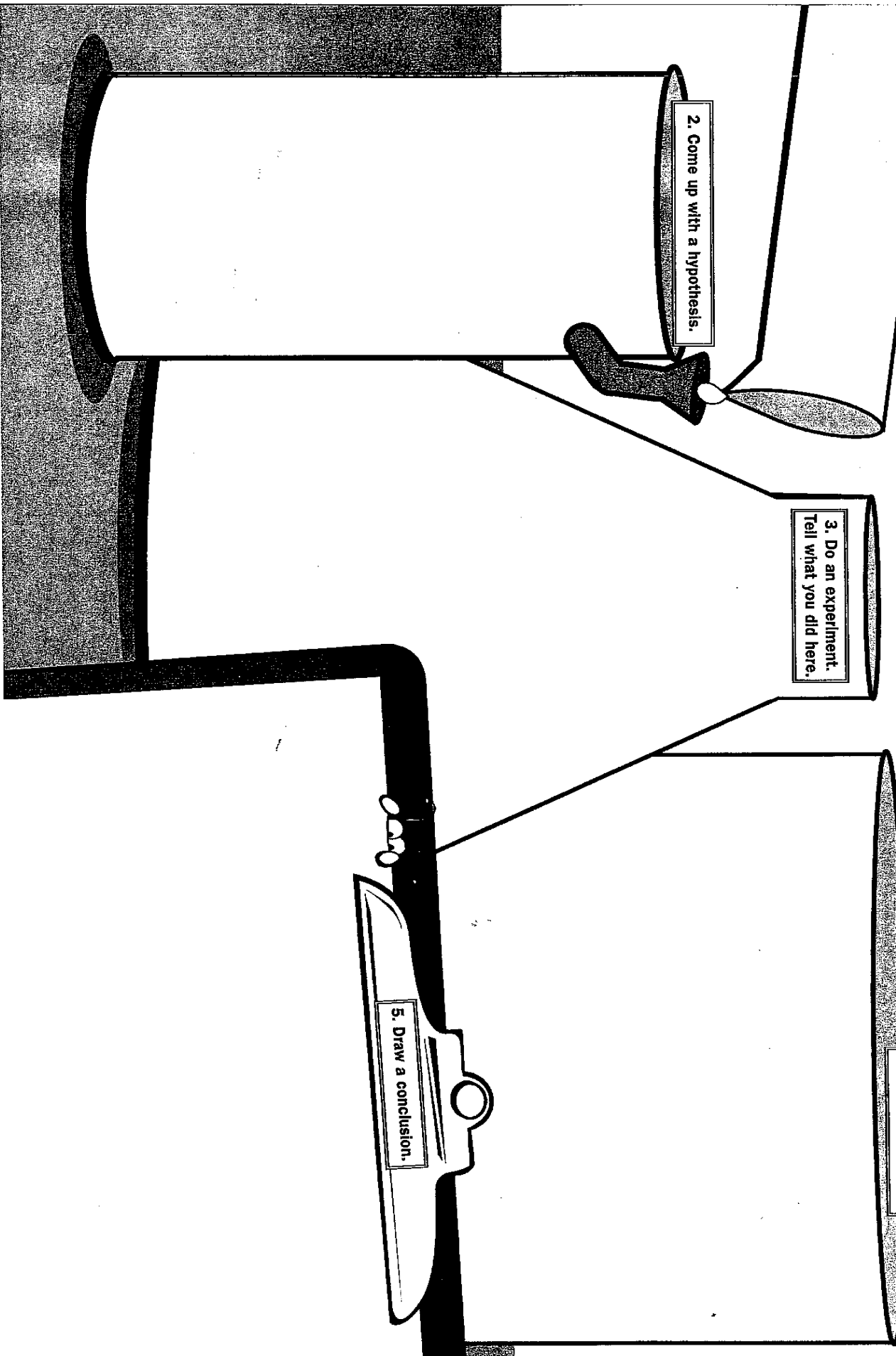
1. Ask a question.

2. Come up with a hypothesis.

3. Do an experiment.  
Tell what you did here.

4. Record your data.

5. Draw a conclusion.



# THE SCIENTIFIC METHOD

## Skills

Students will:

- + identify steps of the scientific method
- + record from experimentation
- + draw conclusions based on evidence

## Purpose

The graphic organizer guides students through the five steps of the scientific method. It gives them a structure for exploring scientific questions and helps them to present the results of experiments, in addition to their reasons for drawing particular conclusions, to others.

## How to Use the Organizer

Explain to students that the scientific method is a set of general rules that scientists have used for hundreds of years. By presenting information in a systematic way, scientists can follow and replicate another scientist's process. Introduce this organizer to the class by raising a question about the topic you are studying. Have students record the question in the first beaker. Ask students to predict the answer to the question and write their prediction in the second beaker. Explain that the prediction is called a *hypothesis*. Next, guide students to record the steps of an experiment. You might want to suggest that they number the steps. Then encourage students to conduct the experiment and record the data in the fourth beaker. Finally, ask them to draw conclusions by interpreting the data they collected. Are they surprised by the conclusion?

## Examples

### Primary Grades

A second-grade teacher completed the first and third beaker before photocopying this graphic organizer for her students. She placed the organizer in the science learning center, where students recorded their hypotheses, data, and conclusions while conducting the experiment on the weight of liquids.

### Intermediate Grades

A sixth-grade student chose to conduct an experiment on mold and completed this organizer at home for extra credit in science. Her teacher keeps this option open to students throughout the school year.

Name: Megan Date: 2-2

### The Scientific Method

Complete the five steps. Record your information in the spaces provided.

1. Ask a question: Which is heavier: water, corn syrup, or oil?

2. Come up with a hypothesis: Oil is the heaviest because it's the driest.

3. Do an experiment: Put water in a glass. Add oil. Add corn syrup. Observe what happens.

4. Record your data: The corn syrup sank to the bottom, the water was in the middle, the oil floated to the top.

5. Draw a conclusion: The corn syrup is heaviest, the oil is lightest, the water weighs something in between.

Name: Samantha Date: 4/01

### The Scientific Method

Complete the five steps. Record your information in the spaces provided.

1. Ask a question: Can mold grow without light?

2. Come up with a hypothesis: Yes because mold has no chlorophyll.

3. Do an experiment: I sprinkled water on a slice of bread. Then I placed the bread in a plastic bag and put it in a dark cupboard for six days.

4. Record your data: On the second day, little threads began to appear (like fuzzy cotton). By the sixth day the bread was covered in mold.

5. Draw a conclusion: Although it's a plant, mold does not need light to grow.

