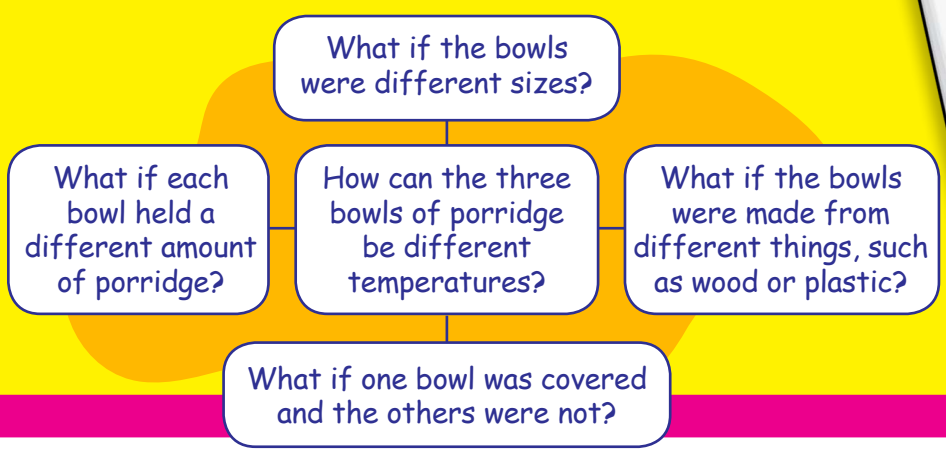
To get a copy of this activity, visit www.cherrylakepublishing.com/activities.

Try This

BRAINSTORM

Think of a topic that really interests you. If you are having trouble, go to the Science Buddies Web site (*www.sciencebuddies.org*).

Do you have a topic ready? Let's brainstorm a question that can be tested with a science project. Try making a mind map. Use Neil's mind map below as an example. Draw a circle and write your main question in the center. Then make bubbles for possible answers to your main question. Draw lines to connect them to your center circle. You can use these questions to decide what your project will be.



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Try This

Record Your Information

Go to the library or use the Internet to start gathering information about your topic. Use the following form to keep track of the sources you are using.

Type of source: _____
(book, Web site, magazine, etc.)

Author of source: _____
(last name, first name)

Title of source: _____

Web site address (if needed): _____

Record this information for each of the sources you use.

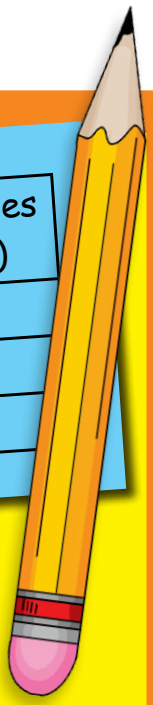
To get a copy of this activity, visit www.cherrylakepublishing.com/activities.

Try This

Let's make a fair test for finding out why three bowls of porridge might be different temperatures.

1. Gather your materials.
   - 3 packages of instant oatmeal
   - 3 thermometers
   - A thermos of hot water
   - Three bowls—one small, one medium, and one large—made of the same material (wood, plastic, or glass)
2. Make a data table. Put the variable that is being changed along the left side of the chart. Put the variable that is being measured across the top. The units of measurement are the times (starting time and after 10 minutes) and the related temperatures (in degrees Fahrenheit and Celsius).

Changed Variable	Starting Temp. °C (°F)	After 10 minutes Temp. °C (°F)
Big Bowl		
Medium Bowl		
Small Bowl		



3. Follow the steps of the fair test.
   a. Put one package of oatmeal in each different-size bowl. The size of the bowl is the variable you change.
   b. Add exactly one cup of hot water from the thermos to each bowl and stir.
   c. Take the temperature of the oatmeal in each bowl. This is the variable you are measuring. Record your data.
   d. Wait 10 minutes and take another temperature reading for each bowl. Record your data.

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Try This

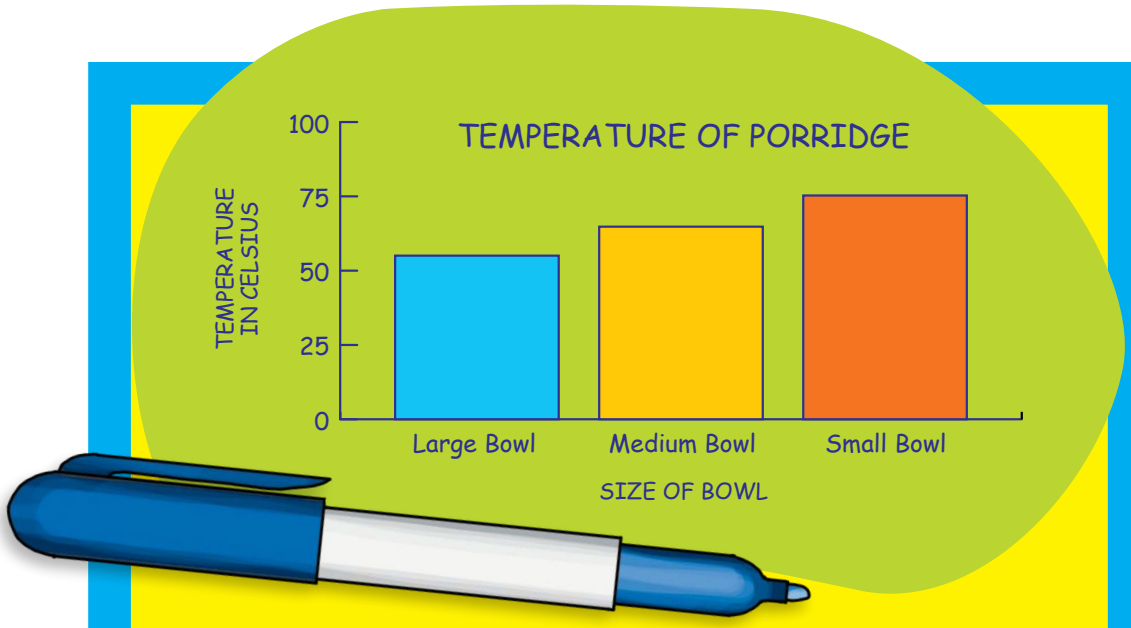
Here is an example of possible data Neil might get from the porridge experiment:

Changed Variable	Starting Temp. °C (°F)	After 10 minutes Temp. °C (°F)
Big Bowl	77°C (170°F)	55°C (131°F)
Medium Bowl	77°C (170°F)	65°C (149°F)
Small Bowl	77°C (170°F)	75°C (167°F)

Let's use this data to make a bar graph. Each bar represents one of the three bowls. The graph allows us to see the results clearly and form a **conclusion**. A conclusion answers the question, "What have I learned from my experiment?" You can divide your conclusion into three sections.

1. *Decide if an experiment's results match the hypothesis.* Neil's hypothesis was that the temperature would be highest in the biggest bowl.

Continued on page 18. ⟶



The results show that the biggest bowl had the lowest temperature. Neil's hypothesis was not true. That is OK. Even an incorrect hypothesis gives useful information.

2. *Answer the question asked at the beginning of the project.* Neil asked, "How can the bowls of porridge be different temperatures?" Neil's data shows that the bowls were different sizes.
3. *Mention things that went wrong.* Was something spilled after being measured? Did Neil write down a number wrong? These and other mistakes can affect the results of an experiment.
4. *Do the experiment again for a second trial.*