



What Will Rust?

Overview: *Students will experiment with various types of metals to discover those which rust.*

Materials

- assorted small metal items (include steel wool)
- clear plastic cups or baby food jars
- water
- parent letter (page 38)
- Will This Rust? Data Sheet (page 39)
- *optional:* video camera

Lesson Preparation

- Send home the parent letter requesting a variety of metals for this activity.
- Begin this activity on a Monday since the experiment needs at least a week to yield results.

Activity

1. Ask the students if they have ever seen something which has rusted. Tell them that they are going to experiment with a variety of objects to see what will rust and what will not rust.
2. Distribute the parent letter and discuss the types of items students may bring for this experiment.
3. When students have brought their items to school, distribute a data sheet to each of them.
4. Tell the students to put their objects into the cup (jar) and then add just enough water to cover the bottom of the container. If students did not bring steel wool, prepare a jar to test it and assign a student to keep a record of it.
5. Show them how to complete the information on their data sheets, including the day, date, and time for their first drawing. Be sure they are recording as many details as possible.
6. Have students add to their records daily. You may want to make a video record of the changes daily so students can discuss the changes that occurred after the experiment is over.

Closure

- After at least five days, have the students sort the items into two groups, those which rusted and those which did not. List this information on the board. If a video record was made of the items, show it to the class. Ask students to see if they can find anything which those that rusted have in common. *(They should discover that these are all metal but that not all items rusted.)*
- Have students test the items that rusted with a magnet to see if it will pick them up. *(They will be attracted to a magnet since the metals that rusted have iron in them.)*
- After the students test the metals that rusted with their magnets, tell them the metal is iron.
- Tell students to look for signs of rusting metal at school and home and have them share their discoveries with the rest of the class.

What Will Rust? *(cont.)*

Parent Letter for Rust Test

Date _____

Dear Parents,

We are learning about the chemical properties of matter and will be doing experiments to discover what type of matter rusts. Your child has been requested to bring in some type of matter to test. These should be small items which will fit into a baby food jar. We plan to put water into the jar with the object and let the item sit for a week to see if it will rust. We will test items made of metal, glass, plastic, cork, and a variety of other materials. Each student will keep a daily record of the changes they see in the items they are testing.



Some suggestions for the items you might send with your child follow:

- aluminum foil
- bottle caps
- coins
- steel nails
- paper clips
- steel wool
- pebbles
- aluminum nails
- marbles
- cork

Students are encouraged to bring something unusual to test.

Thank you for helping make our experiment interesting. You are welcome to join our class to look at the results of our experiment on _____.

Sincerely,



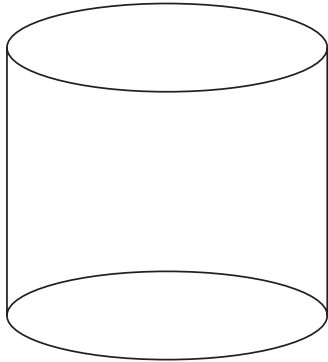
What Will Rust? *(cont.)*

Will This Rust? Data Sheet

Name: _____ Date: _____

I am testing _____ to see if it will rust.

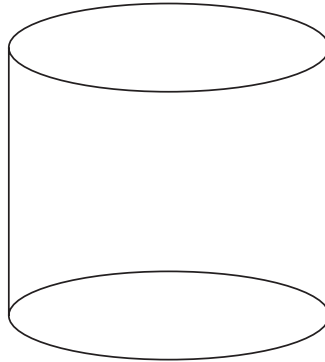
Draw a picture of the thing you are testing every day. Color the picture as carefully as possible to show what the object and water look like. Be sure to write the day, date, and time under each drawing.



Day: _____

Date: _____

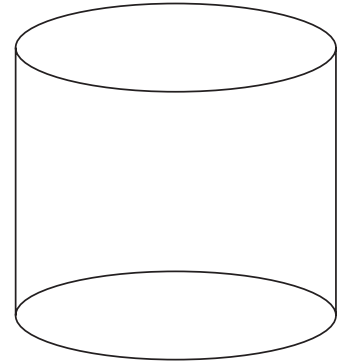
Time: _____



Day: _____

Date: _____

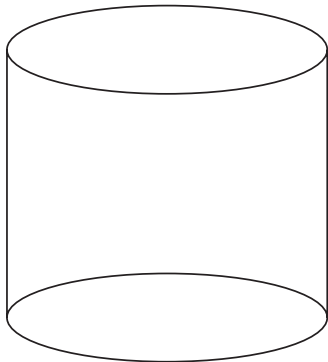
Time: _____



Day: _____

Date: _____

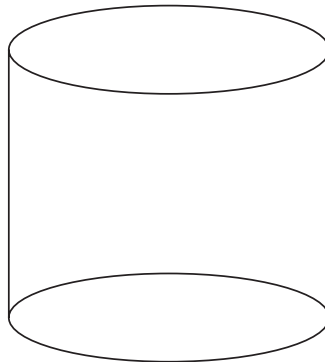
Time: _____



Day: _____

Date: _____

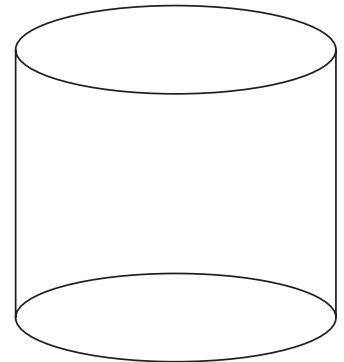
Time: _____



Day: _____

Date: _____

Time: _____



Day: _____

Date: _____

Time: _____

Tell what happened to the thing you were testing.
