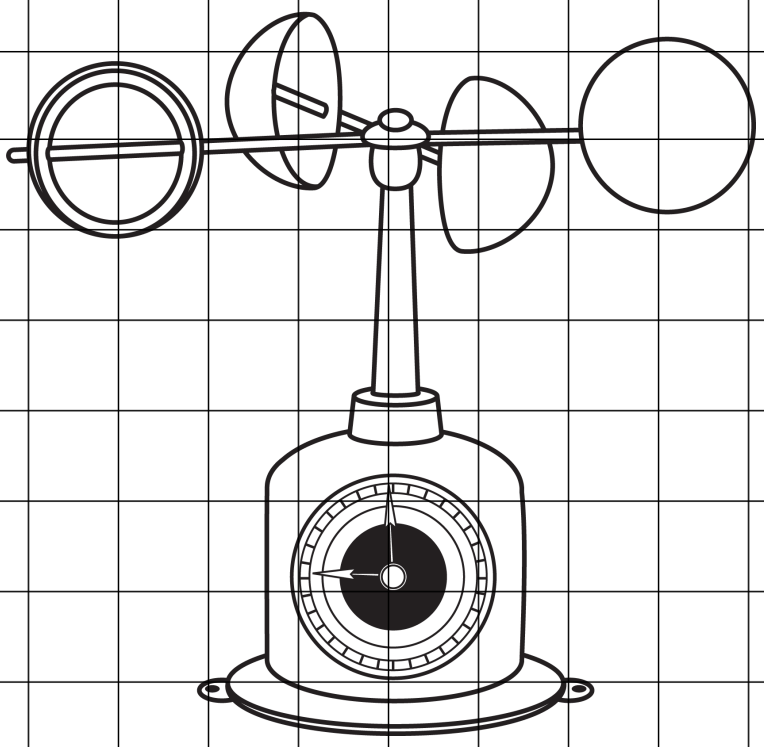
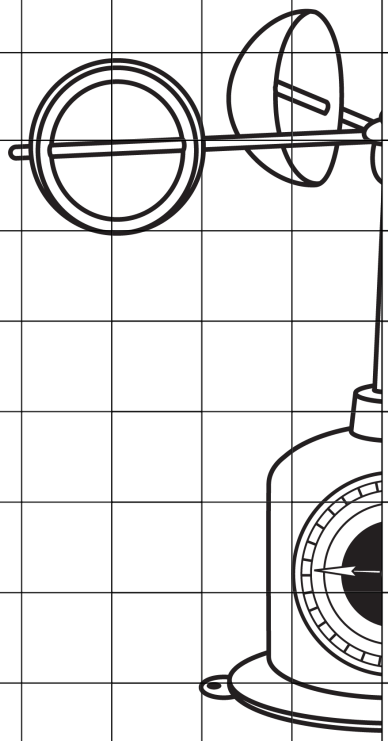
Anemometer

An anemometer is a device used to measure wind speed. There are many types, but the most common type has cups at the end of rods attached to a vertical post. The cups are shaped like cones. There is more wind pressure on the part of the cups that curve in than on the part that curves out. This allows the wind to make the cups spin no matter which way the wind is blowing. The wind speed is measured by calculating how many revolutions the cups make in a certain period of time. This can be shown on a dial on the anemometer or, on some types of anemometers, it can be transmitted electrically to other equipment in a different location.

Follow these instructions to draw an anemometer on the next page like the one shown below:

- In the first grid, draw the half of the picture that is missing.
- In the second grid, see if you can draw the entire picture.



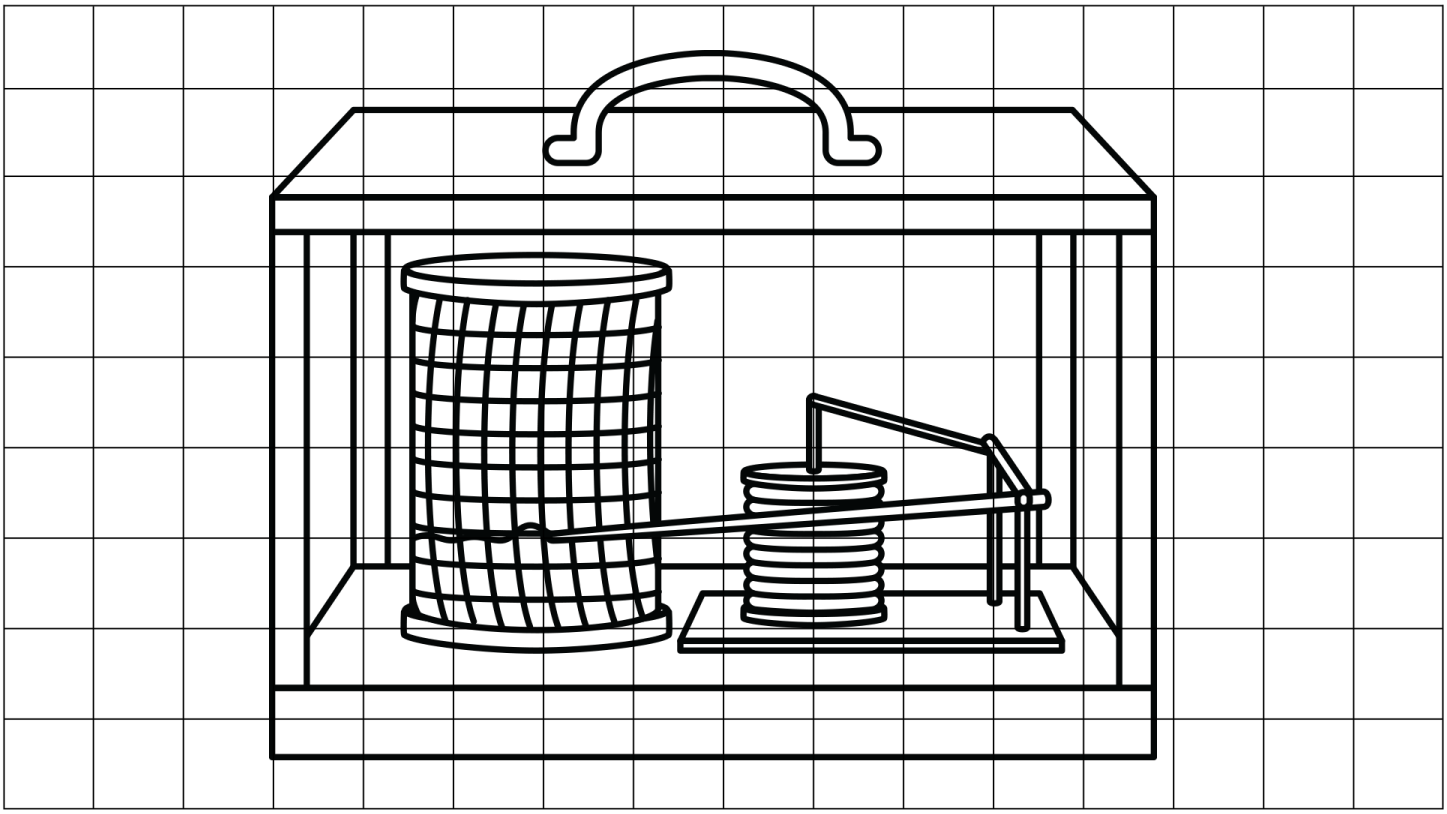


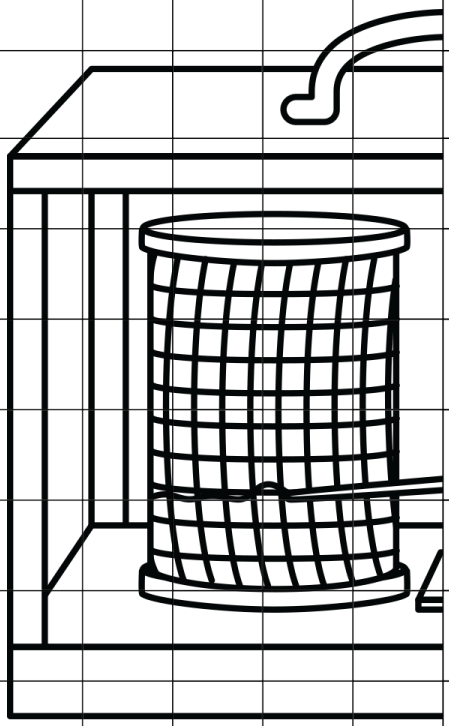
Barograph

A barograph is a device that mechanically records changes in air pressure over time. Mercury barographs have been made, but aneroid barographs are used much more often. The barograph uses a pen that records the air pressure changes on a paper chart that is attached to a rotating drum. Barographs are basically recording barometers. They keep a record of the changes in air pressure over time and show the changes that are occurring as they are happening.

Follow these instructions to draw a barograph on the next page like the one shown below:

- In the first grid, draw the half of the picture that is missing.
- In the second grid, see if you can draw the entire picture.





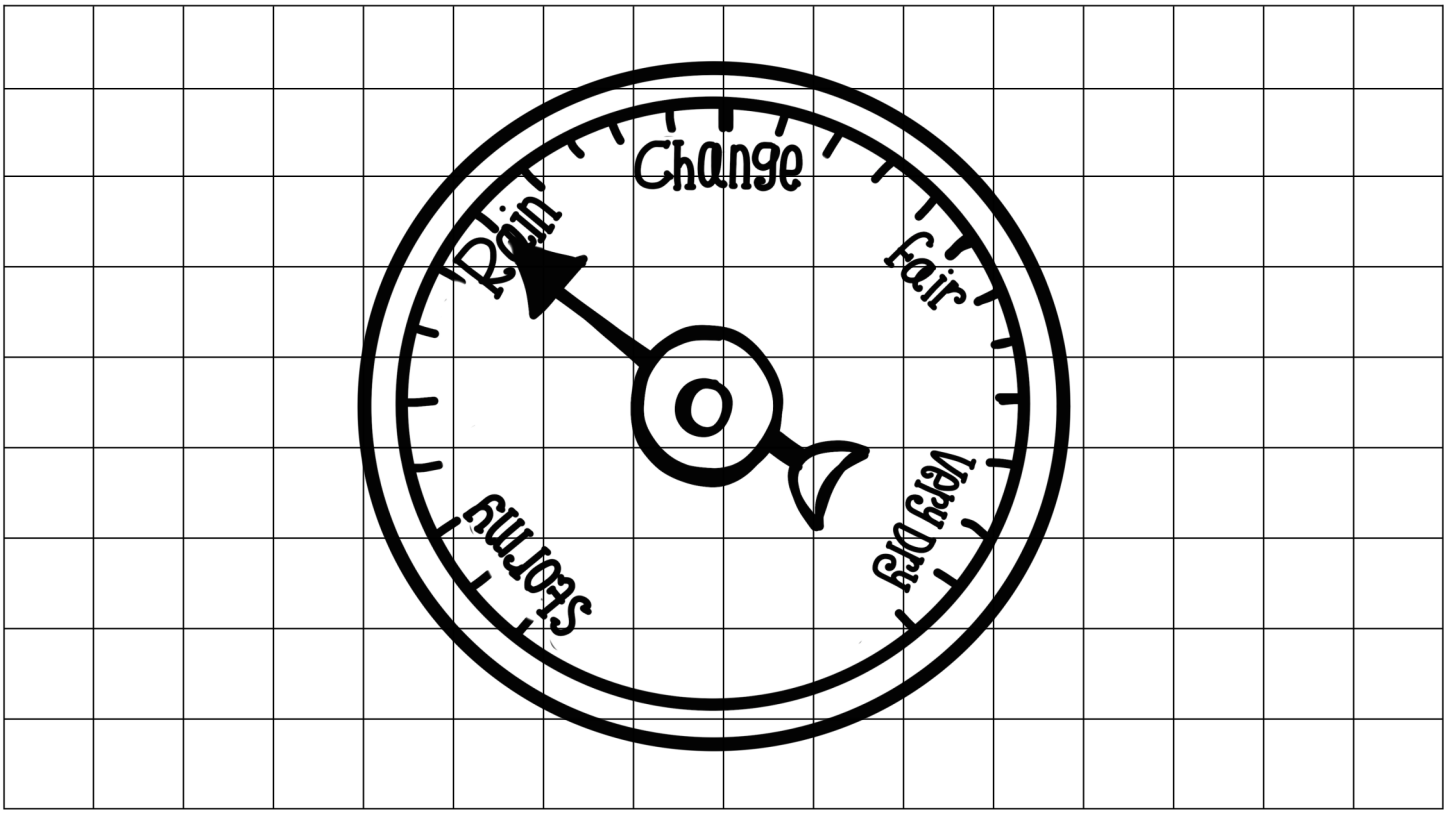
Barometer

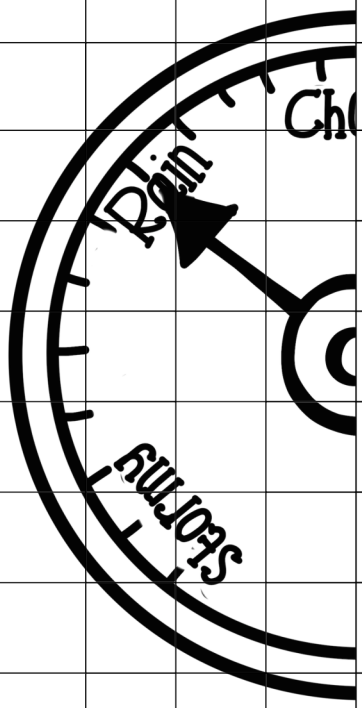
A barometer is a device that measures air pressure or atmospheric pressure. Usually, when there is a change in the air pressure, it means a change in the weather is coming soon. Barometers measure air pressure in inches or millimeters of mercury. They can also use units called bars and millibars. A millibar is 1/1000 of a bar.

There are two main types of barometers. A mercury barometer is more accurate than an aneroid barometer, but an aneroid barometer is more sensitive to air pressure changes.

Follow these instructions to draw a barometer on the next page like the one shown below:

- In the first grid, draw the half of the picture that is missing.
- In the second grid, see if you can draw the entire picture.



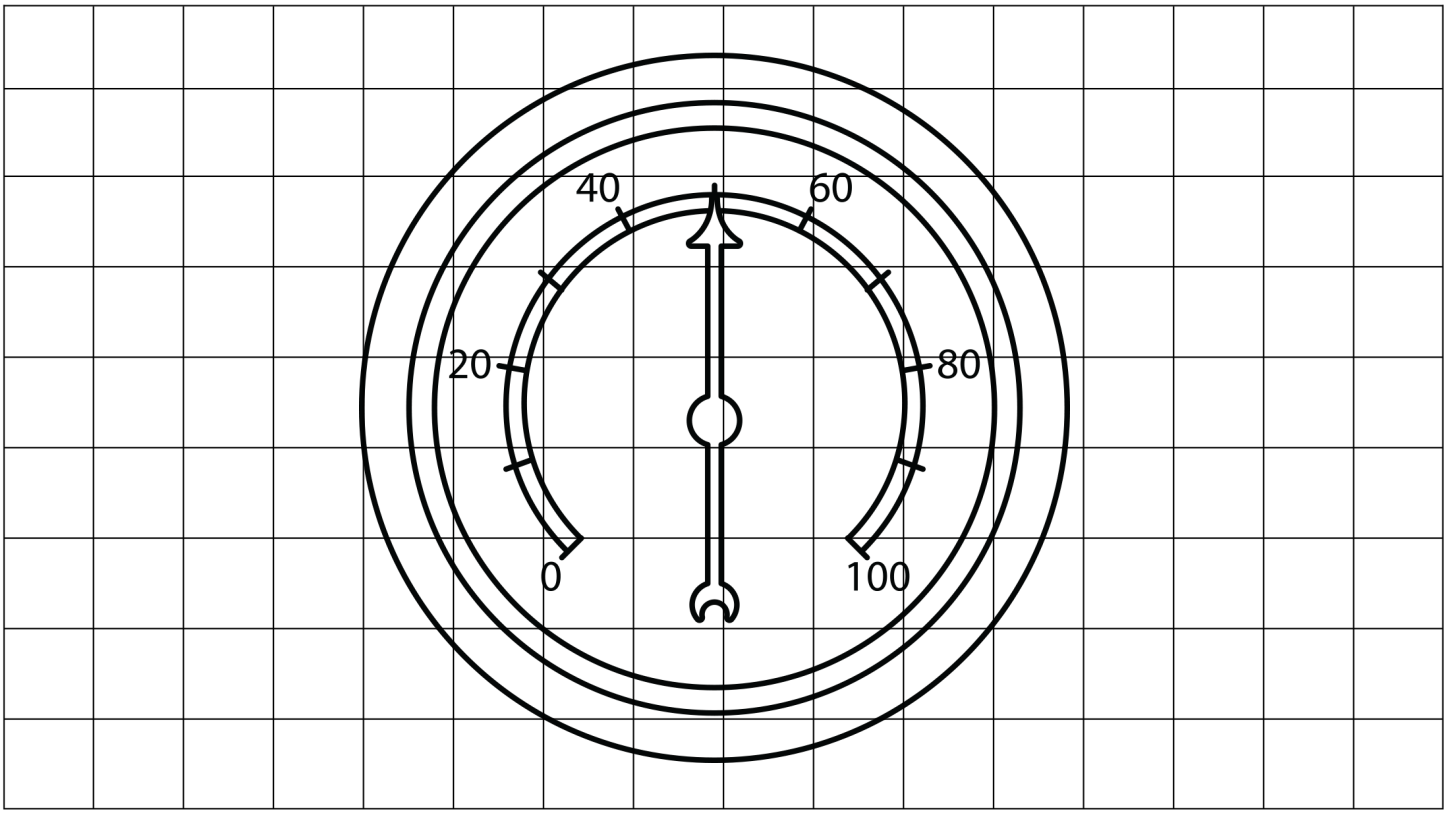

Rain
Snow

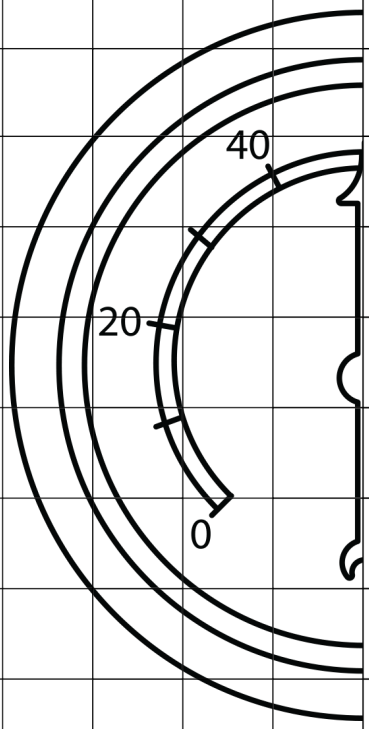
Hygrometer

A hygrometer is a device used to measure the humidity in the air. A very common type of hygrometer is a mechanical hygrometer. It uses some type of organic substance that expands and contracts as the humidity increases or decreases. As the substance grows or shrinks, it causes a spring to move, which then moves a needle on a dial to show the humidity. There are several other types of hygrometers, such as electrical hygrometers, dew point hygrometers, and psychrometers, which all use various methods to measure humidity.

Follow these instructions to draw a hygrometer on the next page like the one shown below:

- In the first grid, draw the half of the picture that is missing.
- In the second grid, see if you can draw the entire picture.



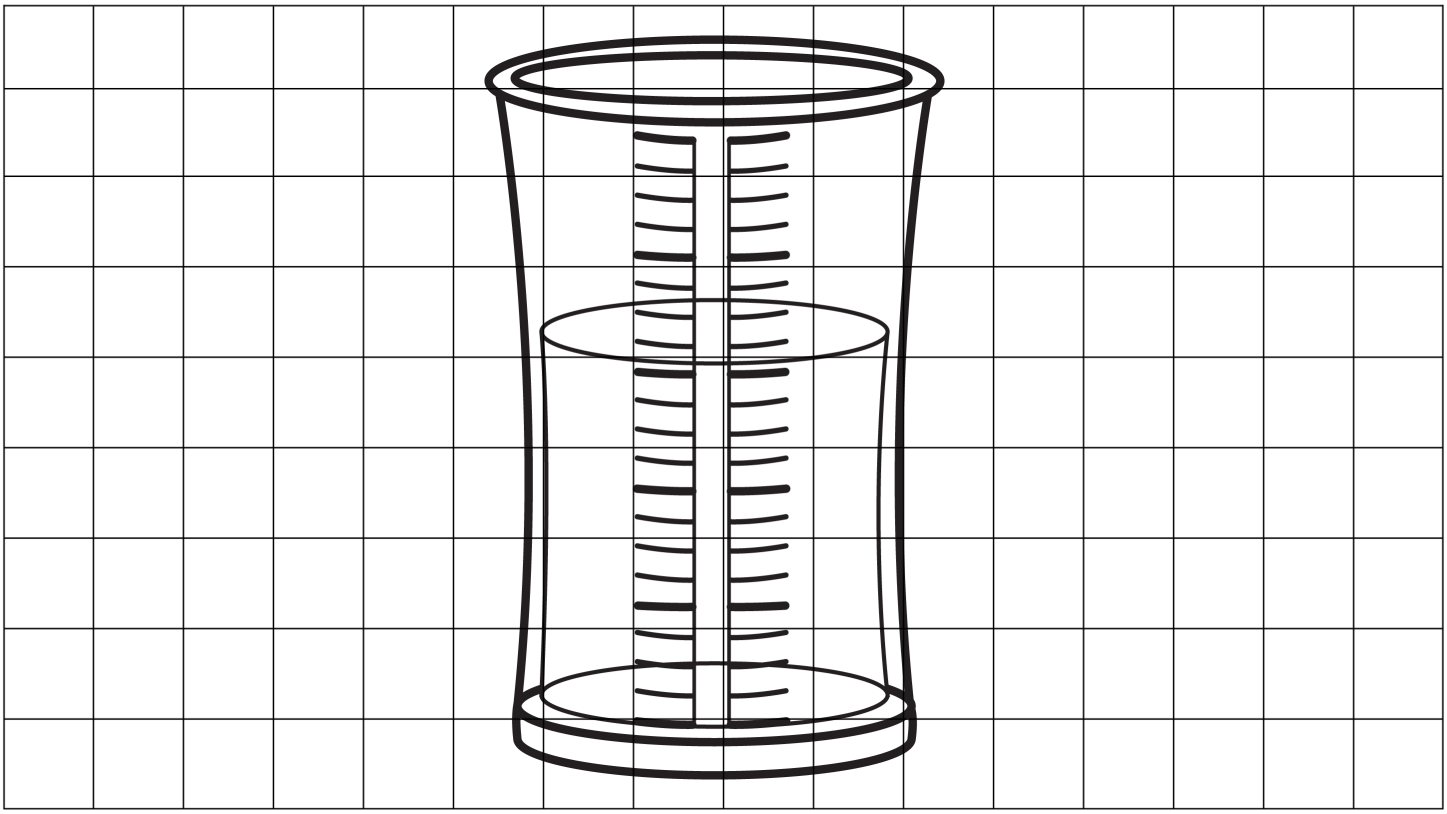

40
20
0

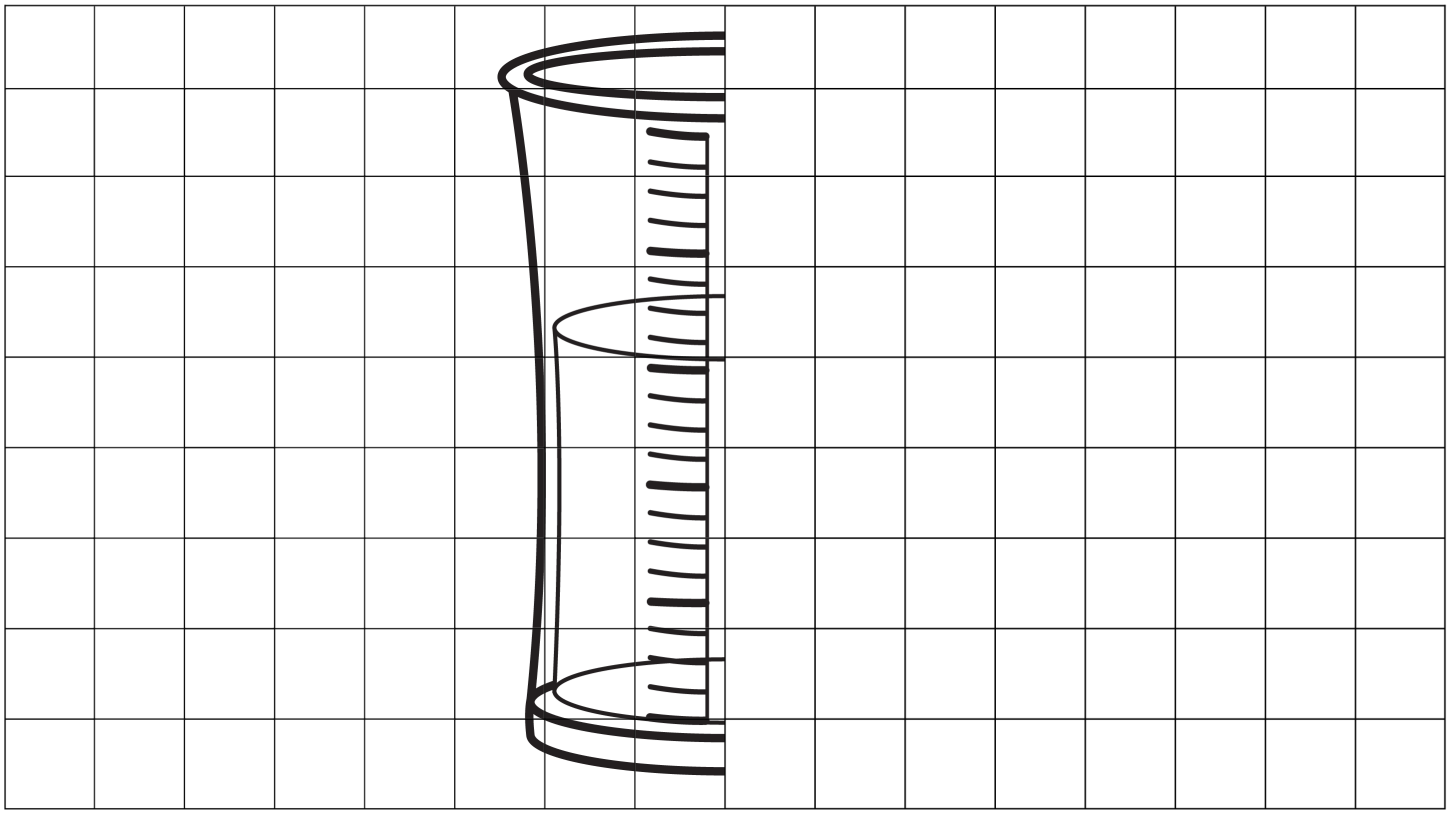
Rain Gauge

A rain gauge measures the amount of rain that falls in a particular place over a certain period of time. The rain is collected in a container that has markings to show how much rain is in the container. The amount of rainfall can be checked over any period of time as long as the container is large enough to hold the rain. Some rain gauges are made to not only record the amount of rainfall but also the rate of rainfall. This is used to determine the inches or millimeters per minute, per hour, etc.

Follow these instructions to draw a rain gauge on the next page like the one shown below:

- In the first grid, draw the half of the picture that is missing.
- In the second grid, see if you can draw the entire picture.



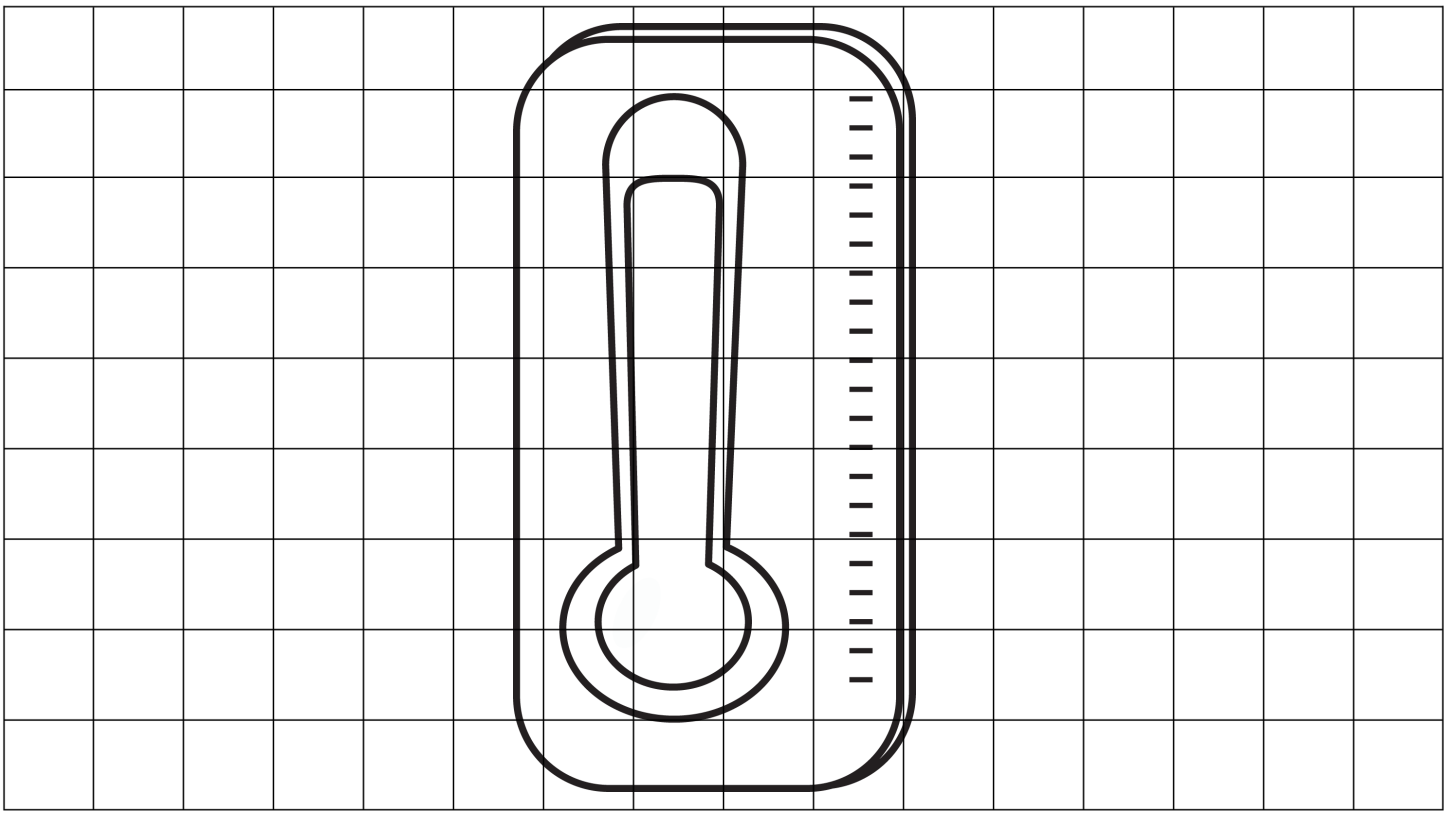


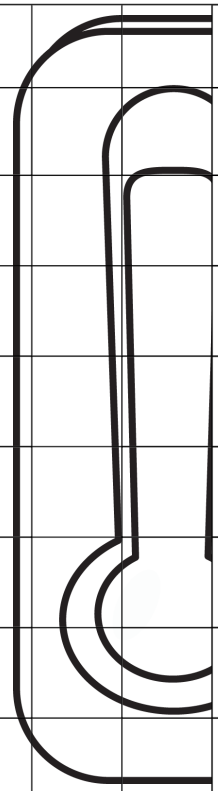
Thermometer

A thermometer is a device used to measure temperature. The most common type of thermometer is the thermal expansion thermometer. This thermometer has a sealed glass tube partially filled with a liquid, usually mercury. As the temperature changes, the liquid expands or contracts. Since the liquid has no place to go except up or down in the sealed tube, you can tell the temperature by reading the scale next to where the liquid has stopped.

Follow these instructions to draw a thermometer on the next page like the one shown below:

- In the first grid, draw the half of the picture that is missing.
- In the second grid, see if you can draw the entire picture.



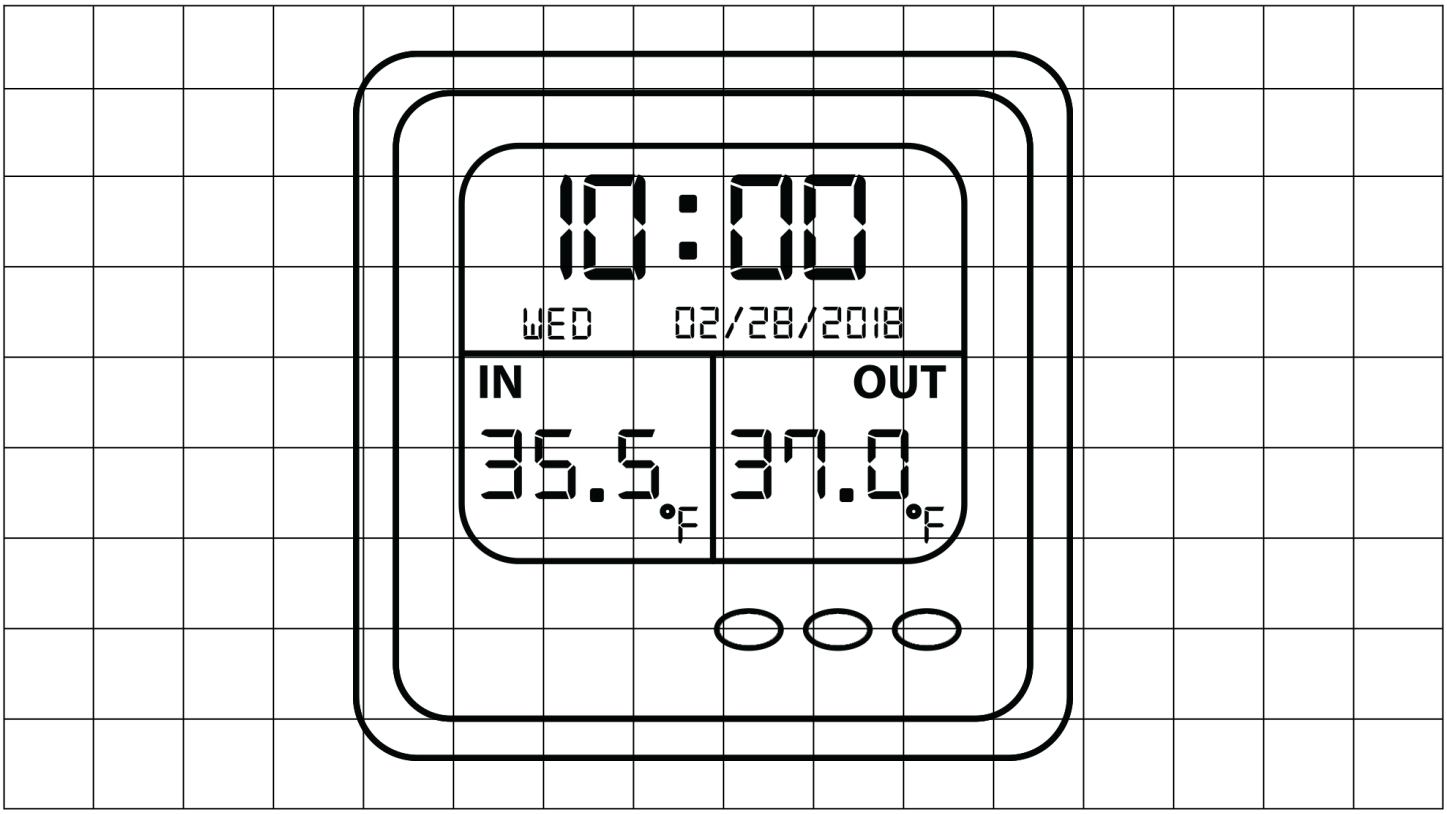


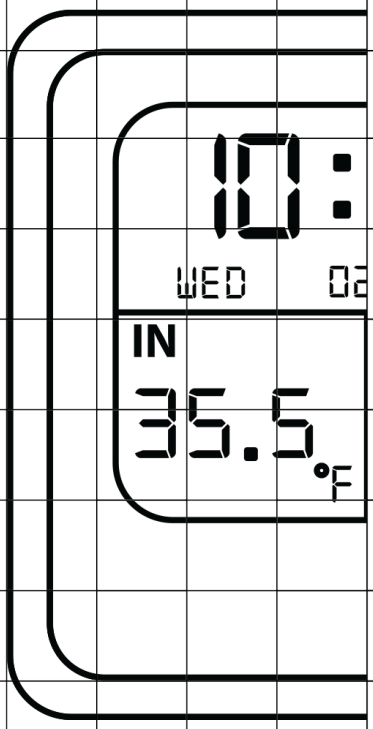
Thermometer (Digital)

A digital thermometer is a device used to measure temperature. A common type of digital thermometer has heat sensitive liquid crystals that react to the temperature. This sends signals to the digital temperature display, which then tells you the temperature. The advantage is that you don't have to try to read the scale, which is sometimes very small. The digital thermometer tells you the temperature in numbers you can read easily.

Follow these instructions to draw a digital thermometer on the next page like the one shown below:

- In the first grid, draw the half of the picture that is missing.
- In the second grid, see if you can draw the entire picture.



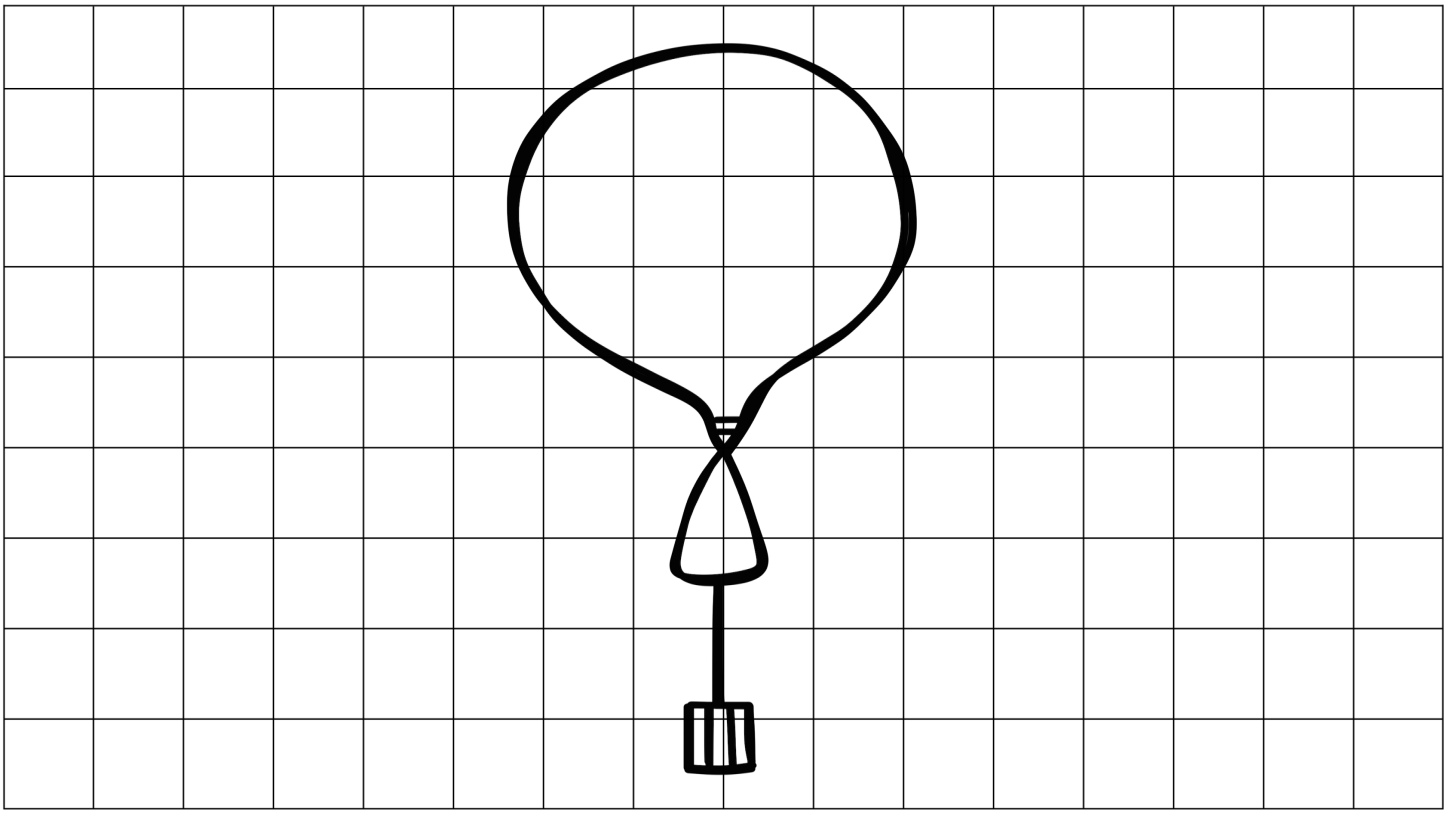

10:
WED
IN
35.5
°F

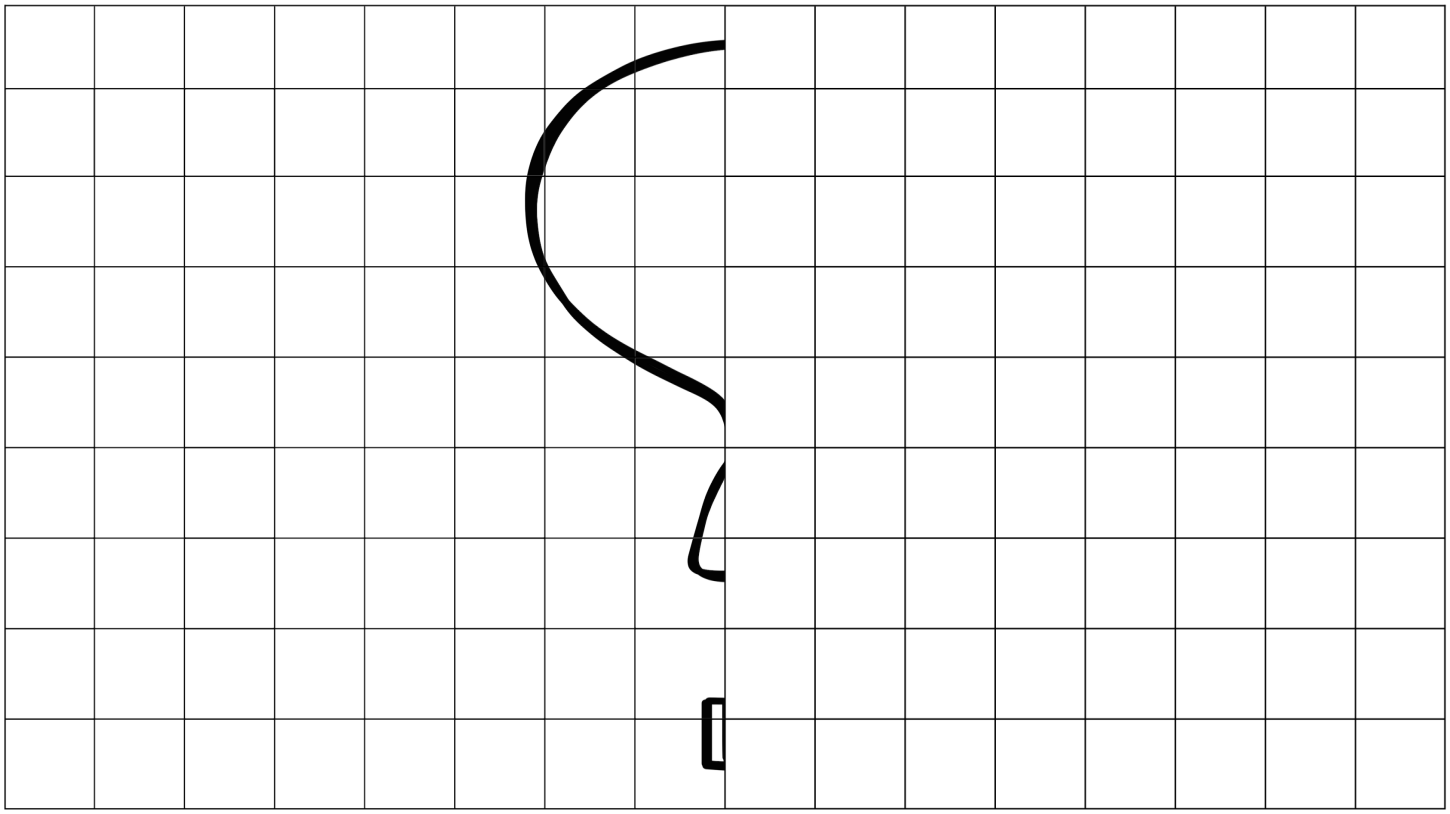
Weather Balloon

A weather balloon is a device used to carry scientific instruments high into the atmosphere. A device called a radiosonde is attached underneath the balloon. It holds devices for making measurements as well as radio transmitters to send data back to scientists on the ground. Weather balloons are filled with hydrogen or helium gas so they can float. They typically go about 20 miles (30 km) or more above the earth, and their flights last about 2 hours. The scientific instruments in the radiosonde measure temperature, humidity, and air pressure. When a weather balloon bursts, the radiosonde falls back to earth using a parachute. Less than one-fourth are recovered.

Follow these instructions to draw a weather balloon on the next page like the one shown below:

- In the first grid, draw the half of the picture that is missing.
- In the second grid, see if you can draw the entire picture.



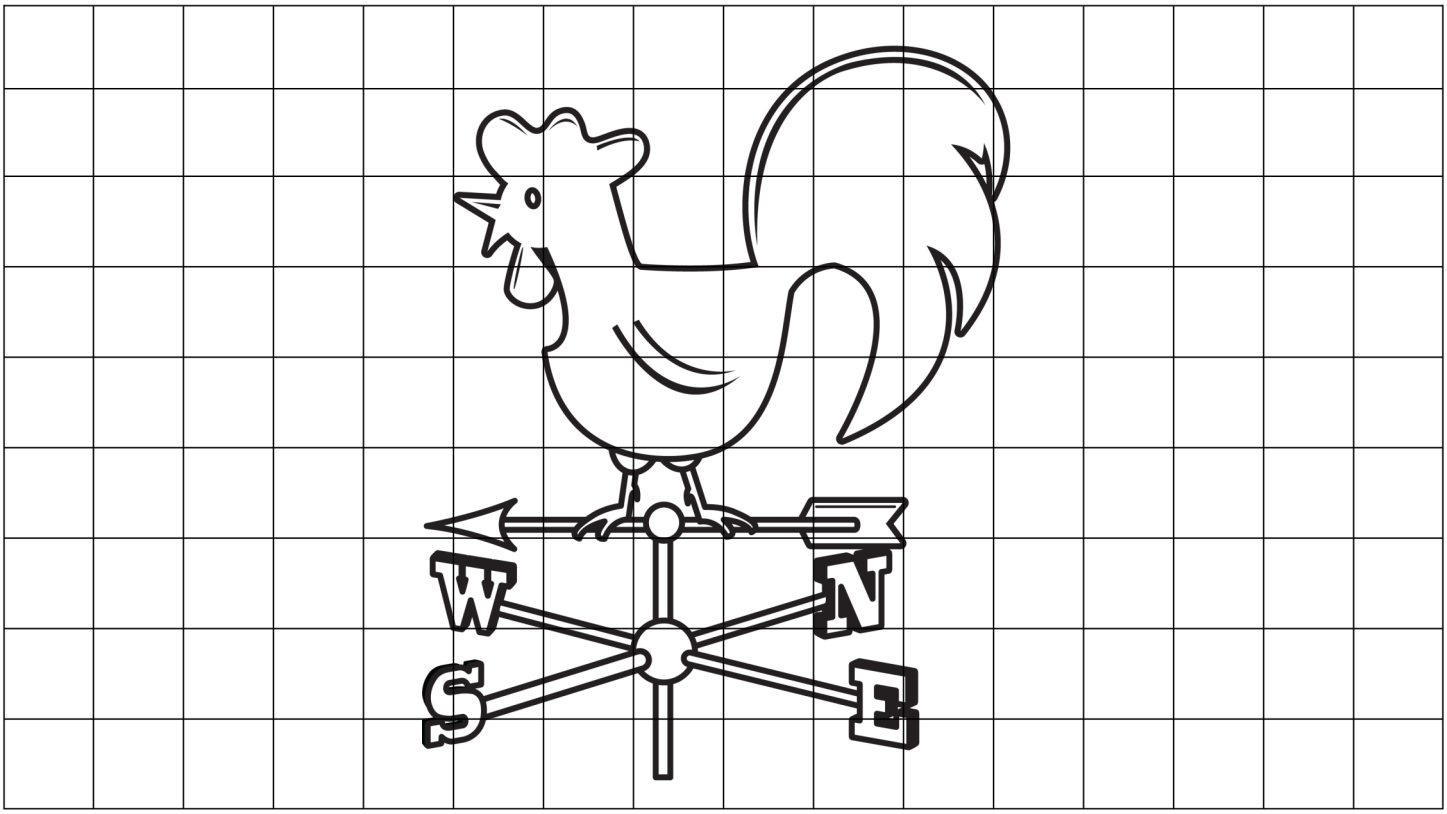


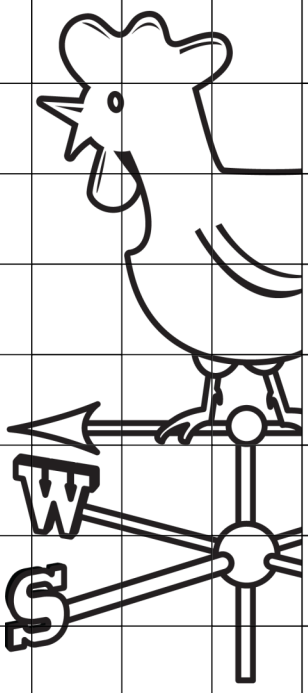
Weather Vane

A weather vane is a device used to show wind direction. It has a flat blade attached to a pole that can turn. This flat blade is sometimes shaped like an arrow and has a shape attached to the top for decoration, such as a rooster, a cat, etc. Also attached at the bottom, but not able to turn, are one or more arrows that show direction. When the wind hits the arrow-shaped blade, it turns the weather vane. You know the direction the wind is blowing by looking at the stationary arrows and seeing which way the blade is pointing.

Follow these instructions to draw a weather vane on the next page like the one shown below:

- In the first grid, draw the half of the picture that is missing.
- In the second grid, see if you can draw the entire picture.



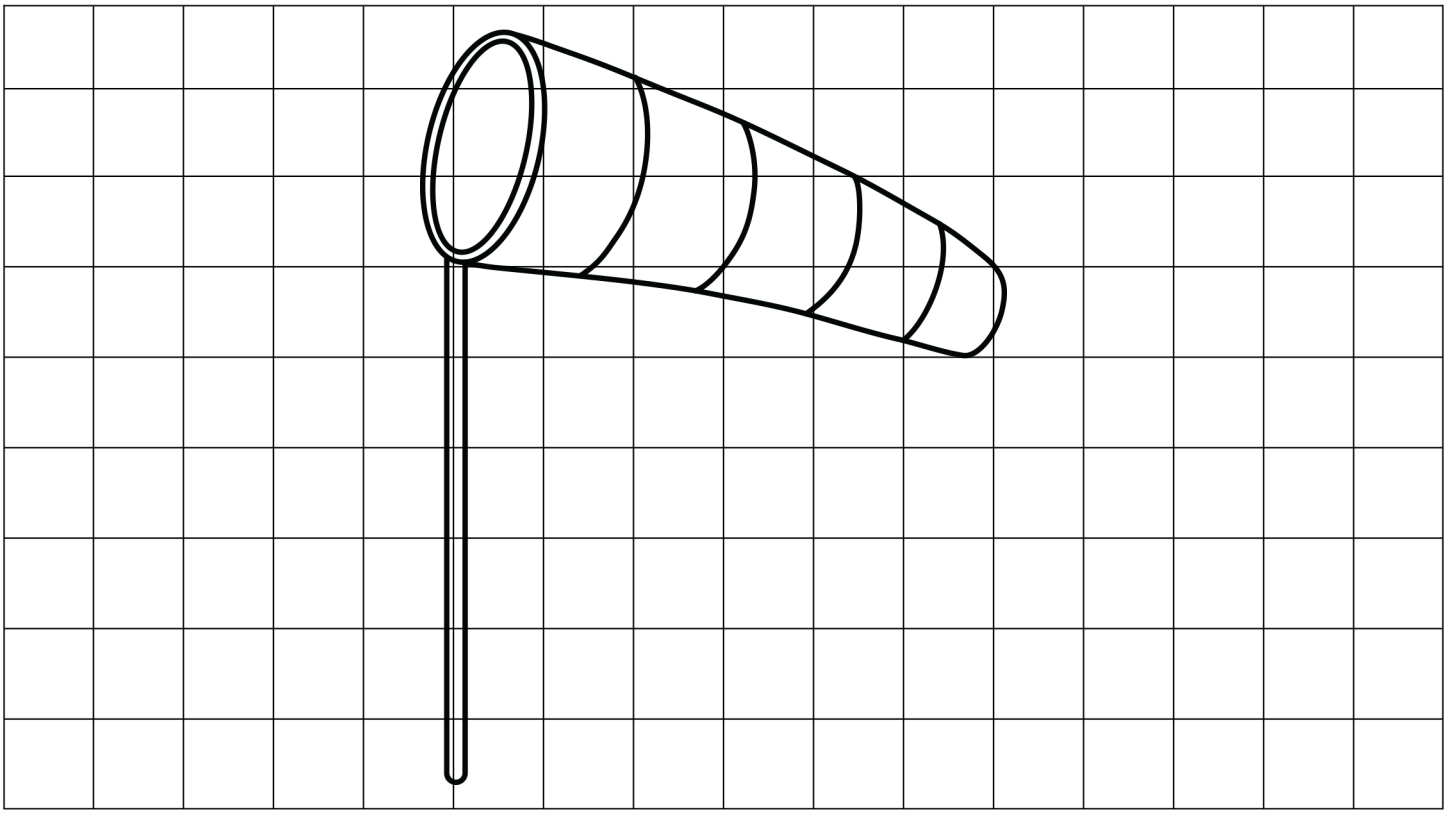

W
S

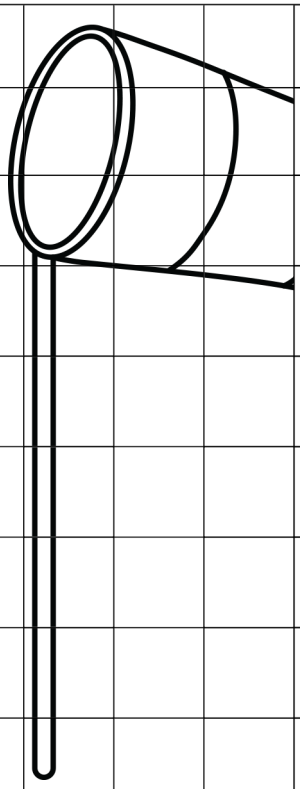
Wind Sock

A wind sock is a device used to determine the direction of the wind and to give a general idea of its speed. It is made of cloth and sewn together, but it is open at both ends. This cloth is mounted on a pole. The wind blows through the wind sock, making it stand out from the pole it is attached to. If there is a strong wind, the wind sock flies horizontal to the ground. If the wind is not very strong, the wind sock droops. They are often used at airports to indicate the direction and speed of the wind. They are also used at industrial plants where fumes could be carried by the wind to populated areas.

Follow these instructions to draw a wind sock on the next page like the one shown below:

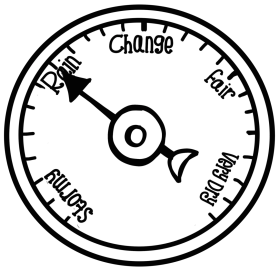
- In the first grid, draw the half of the picture that is missing.
- In the second grid, see if you can draw the entire picture.

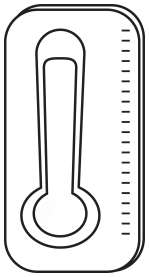
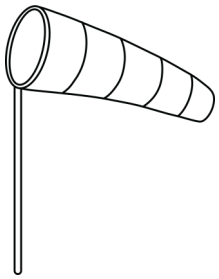




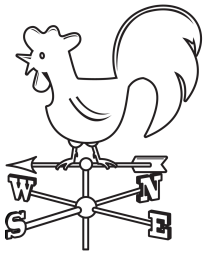
Questions

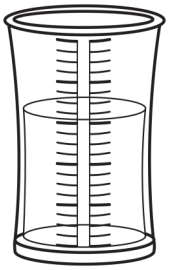
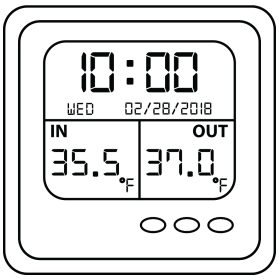
1. Which device measures air pressure? Circle it.



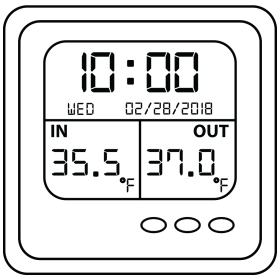



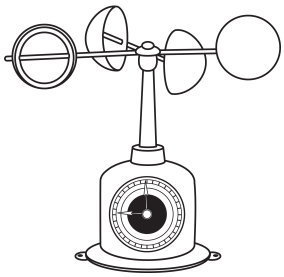
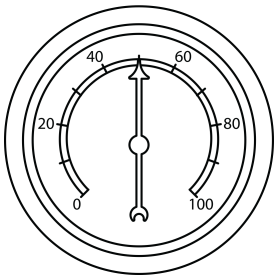
2. Which device measures temperature? Circle it.



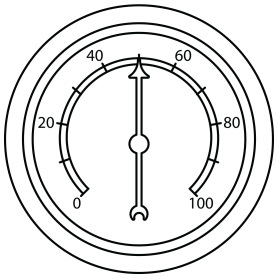



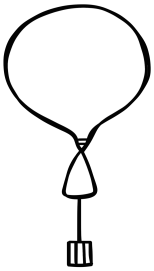
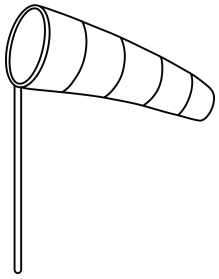
3. Which device measures wind speed? Circle it.



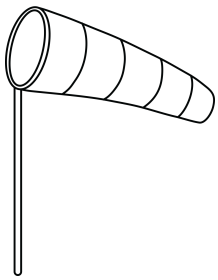
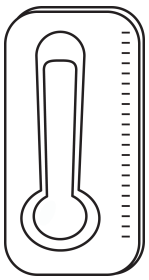
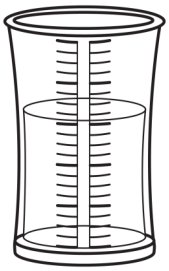



4. Which device carries scientific instruments into the air? Circle it.



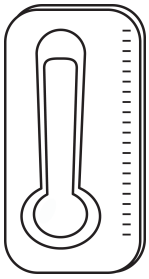
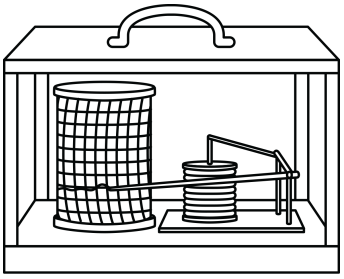
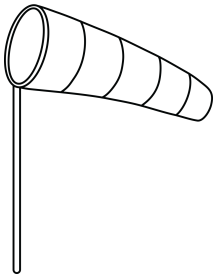



5. Which device measures the amount of rain that falls? Circle it.

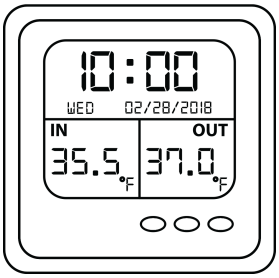




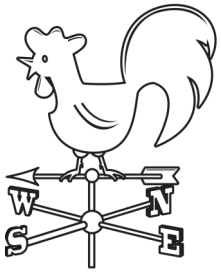
Questions (continued)

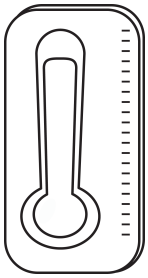
6. Which device measures temperature? Circle it.

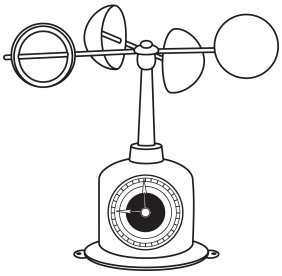
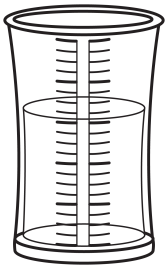
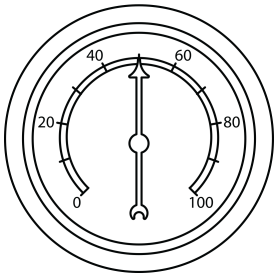
7. Which device shows wind direction? Circle it.



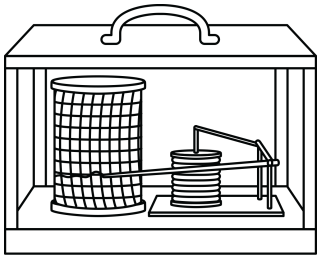
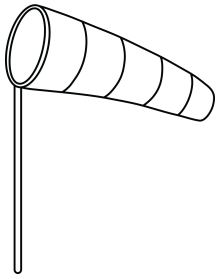
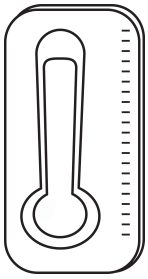




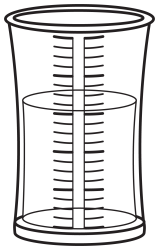
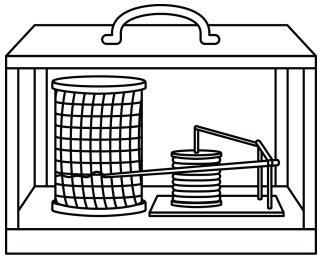
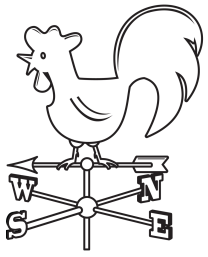
8. Which device measures the humidity in the air? Circle it.

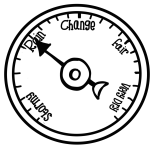
9. Which device shows wind direction and speed? Circle it.

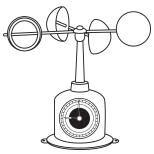
10. Which device mechanically records changes in air pressure over time? Circle it.

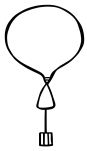




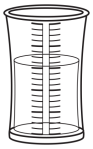
Answer Key

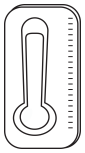
1. 

2. 

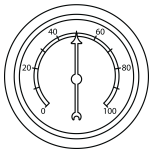
3. 

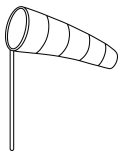
4. 

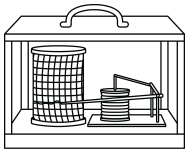
5. 

6. 

7. 

8. 

9. 

10. 

Copyright © 2019 by WriteBonnieRose, LLC

Select graphics used courtesy of EduClips, Kari Bolt Clip Art, and Zip-a-Dee-Doo-Dah Designs.

All Rights Reserved. This book may not be reproduced or transmitted by any means, including graphic, electronic, or mechanical, without the express written consent of the author except in the case of brief quotations embodied in critical articles and reviews and those uses expressly described in the following Terms of Use. You are welcome to link back to the author's website, http://writebonnierose.com, but may not link directly to the PDF file. You may not alter this work, sell or distribute it in any way, host this file on your own website, or upload it to a shared website.

Terms of Use: For use by a family, this unit can be printed and copied as many times as needed. Classroom teachers may reproduce one copy for each student in his or her class. Members of co-ops or workshops may reproduce one copy for up to fifteen children. This material cannot be resold or used in any way for commercial purposes. Please contact the publisher with any questions.