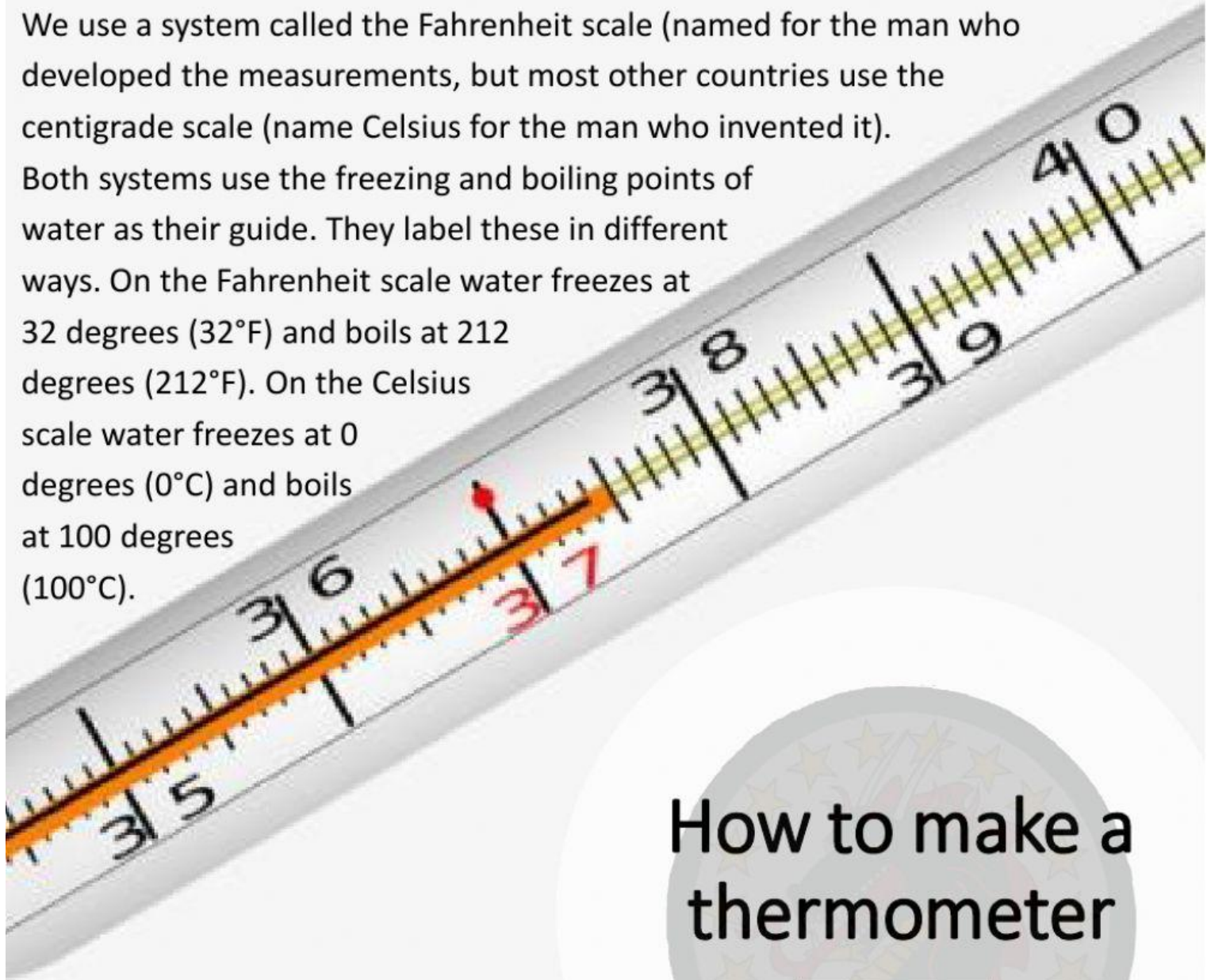


Before going outside in the morning, many of us check a window thermometer for the temperature. This helps us decide what to wear. We use and depend on thermometers to measure the temperature of many other things in our daily lives. We want our food to be a certain coldness in the refrigerator. We want it a certain hotness in the oven. If we don't feel well, we use a thermometer to set if we have a fever. We keep our rooms a certain warmth in the winter and a certain coolness in the summer.

Not all thermometers use the same system to measure the temperature.

We use a system called the Fahrenheit scale (named for the man who developed the measurements, but most other countries use the centigrade scale (name Celsius for the man who invented it).

Both systems use the freezing and boiling points of water as their guide. They label these in different ways. On the Fahrenheit scale water freezes at 32 degrees (32°F) and boils at 212 degrees (212°F). On the Celsius scale water freezes at 0 degrees (0°C) and boils at 100 degrees (100°C).



How to make a thermometer

The most common kind of thermometer is made with mercury inside a clear glass tube. As mercury (or any other liquid) becomes hot, it expands. As it gets colder, it contracts. That is why on hot days the mercury line is high in the glass tube. Now that you know this rule you can make a thermometer of your own that will work.

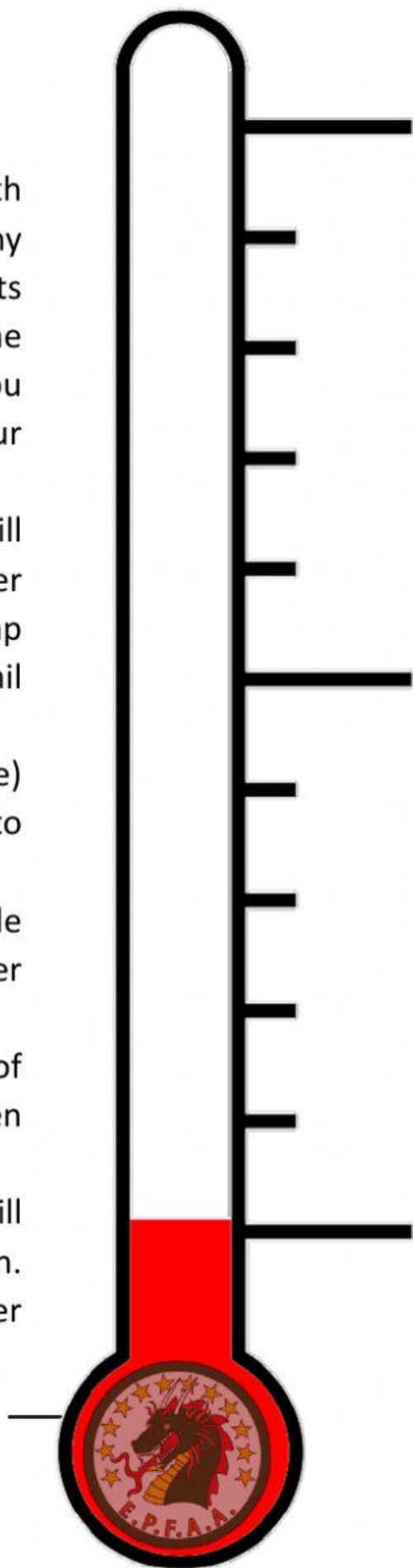
First, take a clear glass juice bottle that has a cap: fill the bottle with colored water. Tap a hole in the center of the cap using a hammer and thick nail. Put the cap on the jar. Then stick a plastic straw through the nail hole.

Take wax (you may use an old candle if you have one) and melt some of it right where the straw is stuck into the cap to seal them together.

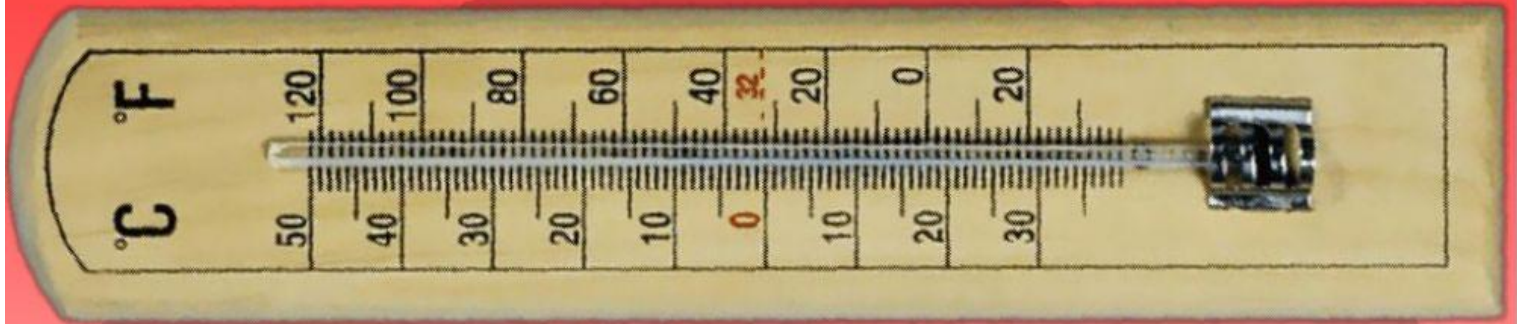
Finally, place a white card on the outside of the bottle and behind the straw. Now you can see the water level easily.

The water will rise in the straw. As the temperature of the air goes up, the water will expand and rise even higher.

As the temperature goes down, the water will contract, and the level in the straw will come down. Perhaps you will want to keep a record of the water level in the straw each morning for a week.



What are the names of the two systems used to measure the temperature?



Find the main ideas. Choose one.

- ☐ A bottle with a cap has many uses.
- ☐ Thermometers break easily.
- ☐ Thermometers, which are important tools for us, are not difficult to make.
- ☐ A straw is stuck in a cap.

Find the facts: Mark each one true or false

- A thermometer measures temperature. ☐ TRUE ☐ FALSE
- It is very important to make a thermometer. ☐ TRUE ☐ FALSE
- Almost all people in the world use a Fahrenheit thermometer. ☐ TRUE ☐ FALSE
- Thermometers help us how hot our food is. ☐ TRUE ☐ FALSE
- Water freezes at 100°C ☐ TRUE ☐ FALSE
- When air temperature goes up, the water rises. ☐ TRUE ☐ FALSE

Find the order. Number the following in the order in which they appear in the passage

- If we don't feel well, we use a thermometer to see if we have a fever.
- As the temperature goes down, the water will contract.
- Fill the bottle with colored water
- A thermometer measures temperature
- Take wax and melt it where the straw is stuck into the cap.
- Not all thermometers use the same system for measuring temperature.

1
2
3
4
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6

Words and their meanings. Choose the correct letter according to its definition.

THERMOMETER	A device for measuring temperature
TO MEASURE	How hot or cold something is
TEMPERATURE	A regular way of arranging something
FEVER	To become smaller
SYSTEM	To find out the amount
TO EXPAND	Body temperature that is too high
TO CONTRACT	To grow bigger

Describe as many uses of a thermometer as you can