

Sorting Matter by Its Properties

Grade: 3 **Subject:** Science **Time:** ~45 min + ~15 min extra **Work mode:** By yourself · pencil only Science

Start Here

This is a **paper science activity**. You will look at a picture and a chart, then answer with a pencil. You do **not** need a computer or any supplies. Work by yourself. Do your best. If a question is hard, skip it and come back. You may read the words out loud to yourself.

Start Notice & Wonder 5 min

Think about how you clean up and put things where they go.

1 You dump out a box of things: a rock, a spoon, a crayon, and a ball. You want to **sort** them into groups. Write **one way** you could group them.

2 Look around the room. Pick **two** things. Write **one thing you wonder** about how they are the same or different.

Build Read the Science 5–10 min

Ways to describe matter

Everything around you is made of **matter**. We can describe matter by its **properties**. A property is something you can **see**, **feel**, or **measure**. Here are ones you will use:

- **Mass** — how much stuff is in it. We **weigh** it on a balance. Heavy or light.
- **Temperature** — how hot or cold it is. We measure it with a **thermometer**.
- **Magnetic?** — Does a magnet **pull** it? We hold a magnet near it and watch.
- **Sink or float?** — We drop it in water and **look**. Does it go down or stay up?
- **State** — Is it a **solid** (keeps its shape), a **liquid** (pours and takes the cup's shape), or a **gas** (spreads out to fill space, like air)?

Word Bank

matter

anything that takes up space, like a rock, water, or air.

property

something you can see, feel, or measure about matter.

mass

how much stuff is in an object; we find it by weighing.

magnetic

able to be pulled by a magnet.

solid

matter that keeps its own shape, like a block.

liquid

matter that pours and takes the shape of its cup, like water.

gas

matter that spreads out to fill space, like air.

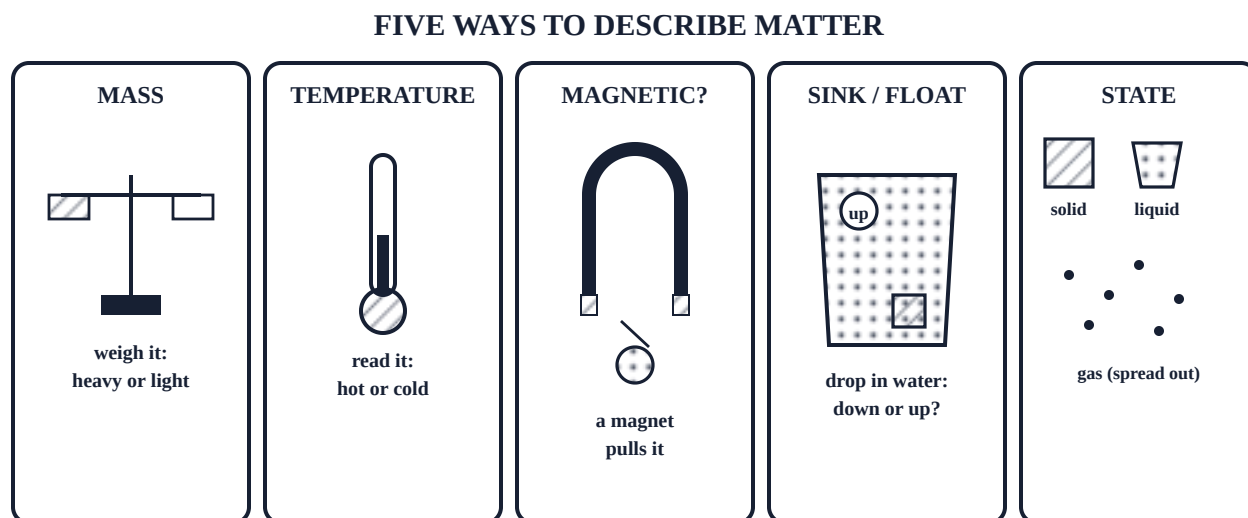


Figure 1. A property chart. Each box shows one **property** and how we **observe or measure** it. The pictures use outlines and patterns (hatching and dots), not colors, so they are clear in black and white.

3Look at Figure 1. Which tool do we use to find **temperature**? Write your answer.

Apply Use the Data 20 min

A class tested five objects and wrote down what they saw. Read Table 1, then answer.

Table 1. Five objects and what the class observed (original class data).

Object	Magnetic? (magnet pulls it)	Sink or float in water?	State
1. Steel paper clip	Yes	Sinks	Solid
2. Wood block	No	Floats	Solid
3. Penny (copper coin)	No	Sinks	Solid
4. Plastic cap	No	Floats	Solid
5. Cup of water	No	—	Liquid

4Sort by **magnetic**. Write the **number** of each object a magnet **pulls**. Then tell how the table helped you know.

Objects a magnet pulls: _____

How the table told me:

5Sort by **sink or float**. Write the numbers of the objects that **float**. Write the numbers of the objects that **sink**.

Float: _____

Sink: _____

6**Observation or good guess?** An **observation** is something you **see** or **measure**. A **good guess** is an idea you **figure out**. Write **O** or **G** for each.

____ a) The wood block stayed on top of the water.

_____ b) The wood block would also float in a bigger tub.

_____ c) The magnet pulled the paper clip.

7Tell them apart. The **penny** (3) and the **plastic cap** (4) are both solids that are not magnetic. Which property in the table tells these two apart? Write it, and tell what each one does.

Explain Claim–Evidence–Reasoning 5–10 min

Question 8. Ana says the **steel paper clip** (1) is the only object in the table a magnet will pull. Is she right? Use Table 1 to explain.

Sentence starters you may use: "My claim is..." · "My evidence from Table 1 is..." · "This shows that..."

Claim (is Ana right?)

Evidence (from Table 1)

Reasoning (why the evidence shows it)

Close ACE Wrap-Up 5 min

Articulate

In your own words, what is a **property** of matter?

Connect

Point to one row of Table 1 that **floats**. Write its number and how you know.

Extend

Name one **thing at home** and one property you could test on it.

Continue Early Finisher optional · ~15 min

If you finish early (no new supplies needed):

Pick one property (magnetic, floats, or solid). On the back of this page, write the property you picked. Then **list 3 objects** from your room or home that have that property. Draw a small picture next to each one.

Turn in: Hand in this whole packet with your name, class, and date filled in. Make sure questions 1–8 and the ACE box are answered. The early-finisher list is optional — turn it in too if you did it.

G03_SCI_MatterProperties_01 — Sorting Matter by Its Properties Student Packet