

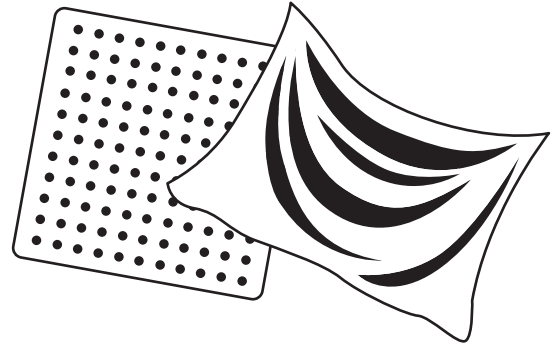
Properties of Materials



WATER RESISTANCE

Water-resistant materials do not let water pass through easily.

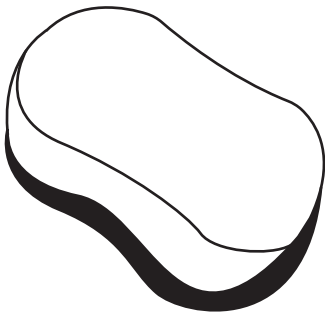
Example: A raincoat is water-resistant because it keeps you dry in the rain.



TEXTURE

Texture is how a material feels when you touch it.

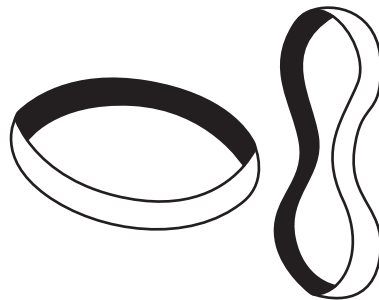
Example: Sandpaper is rough, while silk is smooth.



ABSORBENCY

Absorbent materials soak up water.

Example: A sponge is absorbent because it can soak up water.



FLEXIBILITY

Flexible materials can bend without breaking.

Example: Rubber bands are flexible because you can stretch and bend them.



STRENGTH

Strong materials can hold heavy things without breaking.

Example: A metal bridge is strong because it can hold cars and trucks.

QUIZ TIME!

Instructions: Put a checkmark in the circle next to the answer you choose.

What material is waterproof?

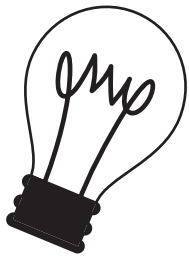
- Plastic wrap
- Paper towel

What material is flexible?

- Glass
- Rubber band

What material is absorbent?

- Sponge
- Metal



Simple Experiment: Testing Absorbency



Let's find out which materials can absorb the most water!

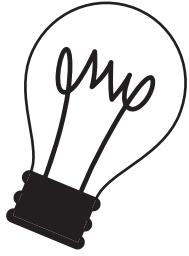
INSTRUCTIONS:

1. Gather Materials:
 - Paper towel
 - Fabric (like a small piece of cloth)
 - Plastic (like a plastic bag)
 - A cup of water
 - A spoon
 - A tray or plate
2. Set Up:
 - Place the paper towel, fabric, and plastic on the tray.
 - Fill the cup with water.
3. Test Absorbency:
 - Use the spoon to pour a small amount of water onto each material.
 - Watch what happens!

PREDICTION:

Which material do you think will absorb the most water?

I think the _____ will absorb the most water.



Simple Experiment: Testing Absorbency



OBSERVATIONS:

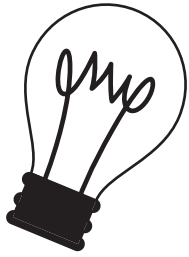
Record what you see:

MATERIAL	ABSORBED WATER? (YES/NO)	HOW MUCH WATER? (A LITTLE, A LOT)
PAPER TOWEL		
FABRIC		
PLASTIC		

CONCLUSION:

What did you learn?

I learned that the _____ absorbed the
most water because _____ .



Sort the Materials

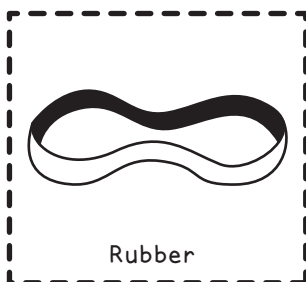
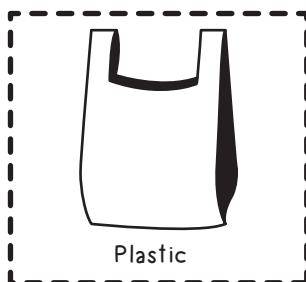
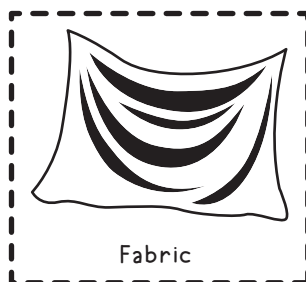
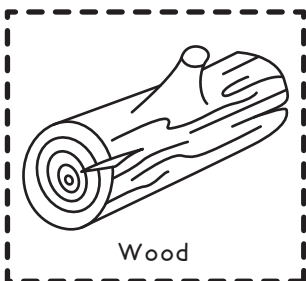
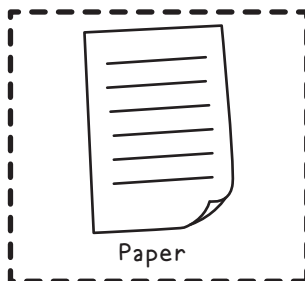
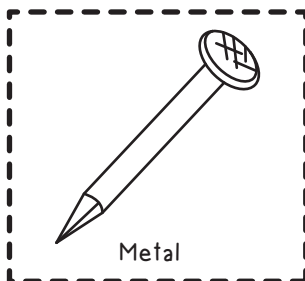
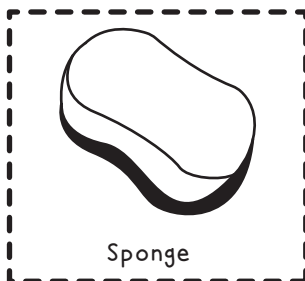


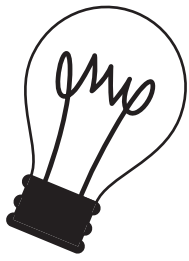
INSTRUCTIONS:

1. Cut out the images of different materials provided.
2. Look at each material and think about its properties. Is it absorbent, waterproof, flexible, or rigid?
3. Sort the materials by pasting them into the correct category on the sorting chart.

SORTING CHART

ABSORBENT	WATERPROOF	FLEXIBLE	RIGID



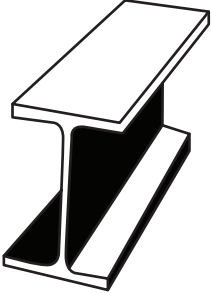

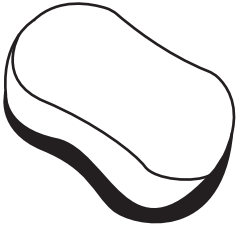


Match the Property



INSTRUCTIONS:

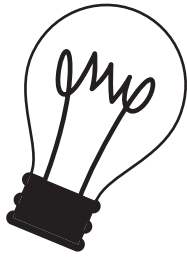
Look at the pictures of the objects on the left. Draw a line to match each object with its property on the right.

OBJECT		PROPERTY
Steel Beam	 ●	● Absorbent
Raincoat	 ●	● Strong
Raincoat	 ●	● Waterproof

WRITING PROMPT:

Choose one object and explain why you matched it with its property. Write your answer below:

I matched the _____ with _____ because _____
_____.



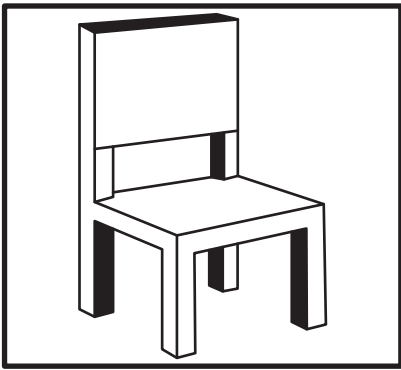
What is it made of?



INSTRUCTIONS:

1. Look at the pictures of everyday objects.
2. Identify what material each object is made from.
3. Write why you think that material was chosen for that object.

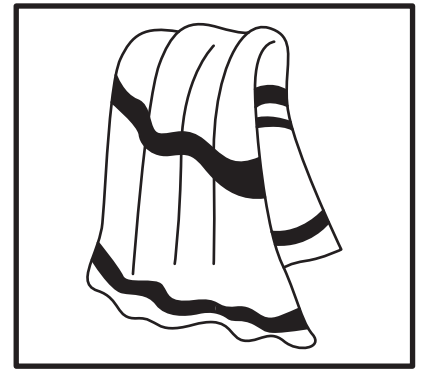
OBJECTS AND MATERIALS:



Object: Chair
 Material: _____
 Why do you think this material was used for this object?



Object: Rainboots
 Material: _____
 Why do you think this material was used for this object?



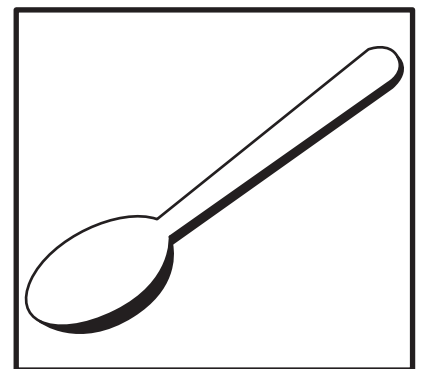
Object: Towel
 Material: _____
 Why do you think this material was used for this object?



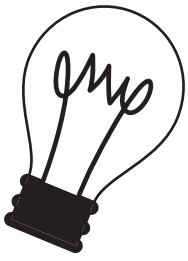
Object: Water Bottle
 Material: _____
 Why do you think this material was used for this object?



Object: Cup
 Material: _____
 Why do you think this material was used for this object?



Object: Spoon
 Material: _____
 Why do you think this material was used for this object?



Material Investigation: Paper Towel Test



INSTRUCTIONS:

1. Gather Materials:

- Different brands of paper towels
- A cup of water
- A measuring cup
- A bowl
- A stopwatch or timer

2. Set Up the Experiment:

- Pour a small, equal amount of water into the bowl (e.g., 50 ml).
- Take one sheet of the first brand of paper towel and dip it into the water for 10 seconds.
- Lift the paper towel and let it drip for 5 seconds.
- Squeeze the water from the paper towel into the measuring cup.
- Record the amount of water absorbed in the observation chart.
- Repeat the steps for each brand of paper towel.

OBSERVATION CHART:

BRAND OF PAPER TOWEL	AMOUNT OF WATER ABSORBED (ML)

REFLECTION QUESTIONS:

Which brand of paper towel absorbed the most water?

Answer: _____

Which brand of paper towel absorbed the least water?

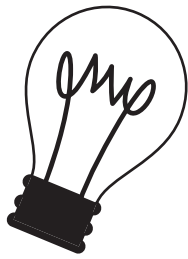
Answer: _____

Why do you think some paper towels absorb more water than others?

Answer: _____

Which paper towel would you choose to use at home and why?

Answer: _____



Material Properties Crossword



INSTRUCTIONS:

Fill in the crossword puzzle using words about material properties. Use the word bank to help you with the clues.

WORD BANK

TRANSPARENT

CONDUCTIVE

FLEXIBLE

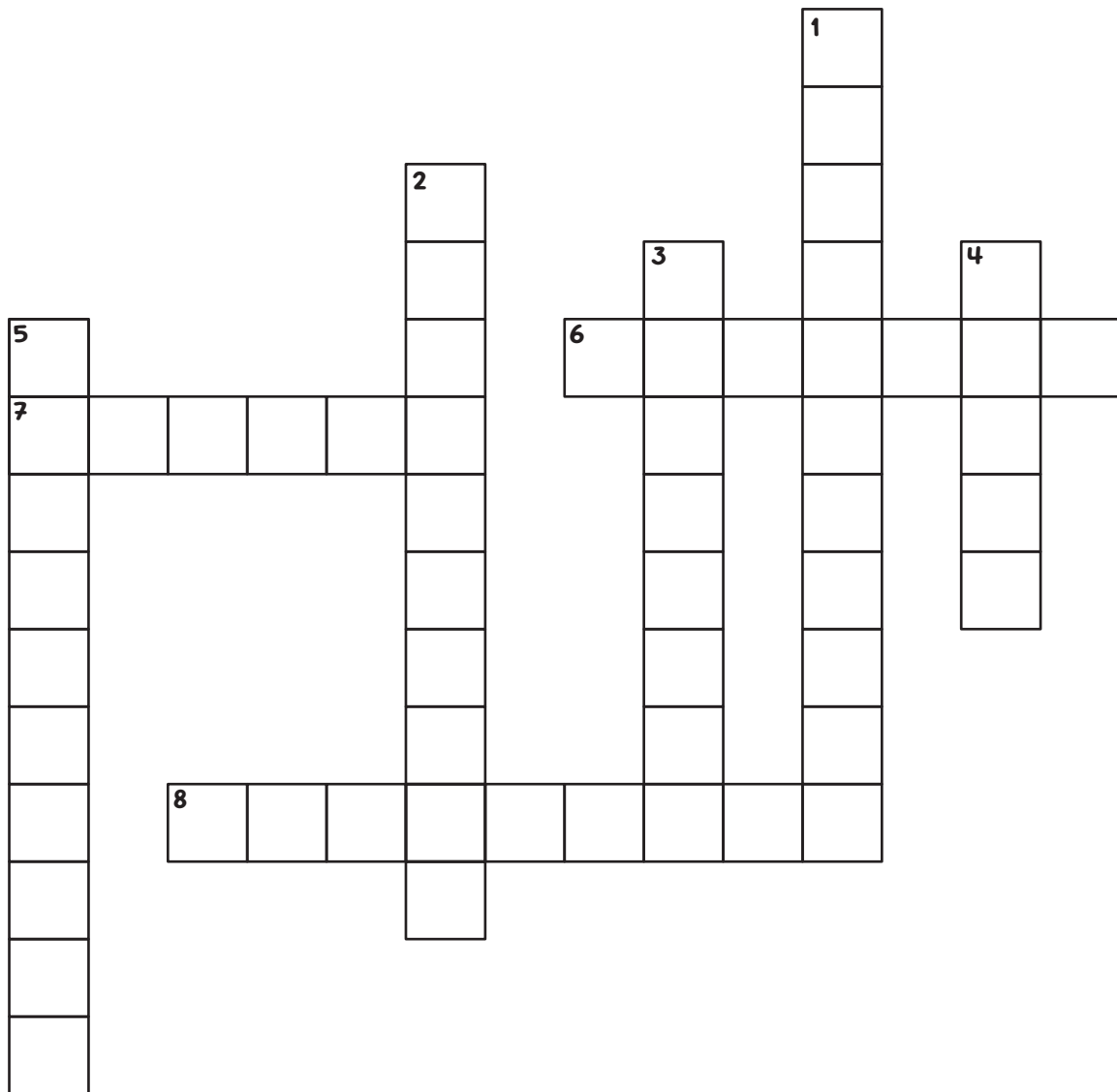
ABSORBENT

WATERPROOF

RIGID

ELASTIC

OPAQUE

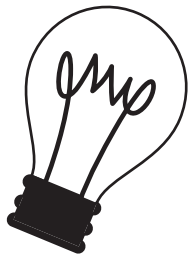


ACROSS:

1. Allows light to pass through clearly.
2. Does not allow water to pass through.
3. Can bend without breaking.
4. Not flexible; stiff.
5. Allows electricity to flow through.

DOWN

6. Can return to its original shape after being stretched.
7. Does not allow light to pass through.
8. Can soak up liquids.



Design a Waterproof Shelter



This activity will challenge you to design a shelter that protects a small object from water. You will use materials you think will be waterproof and then test your design by spraying it with water.

INSTRUCTIONS:

1. Draw your design:

- a. Draw a picture of your shelter. Label the parts and the materials you will use.

2. Suggested materials for you

to use:

- a. Plastic wrap
- b. Aluminum foil
- c. Paper towels
- d. Cardboard
- e. Tape
- f. Glue

DRAWING SPACE

TEST YOUR SHELTER:

Once you have built your shelter, spray it with water to see if it keeps the small object dry.

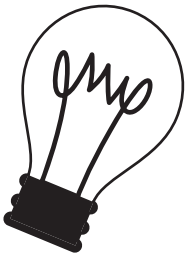
REFLECTION:

Write about whether your design worked and why.

Did your shelter keep the object dry?

Yes No

Why do you think it worked or didn't work?



True or False: Material Properties



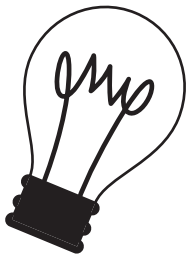
INSTRUCTIONS:

Read each statement carefully. Circle "True" if you think the statement is correct, or "False" if you think it is not correct. Then, choose one statement and explain why you think it is true or false.

- | | | |
|-------------|--------------|----------------------------------|
| TRUE | FALSE | 1. Metal is flexible. |
| TRUE | FALSE | 2. Fabric is usually waterproof. |
| TRUE | FALSE | 3. Plastic is strong. |
| TRUE | FALSE | 4. Glass is transparent. |
| TRUE | FALSE | 5. Wood can float on water. |
| TRUE | FALSE | 6. Rubber is stretchy. |
| TRUE | FALSE | 7. Paper is heavy. |
| TRUE | FALSE | 8. Stone is soft. |

EXPLAIN YOUR REASONING:

Choose one statement and explain why you think it is true or false.



Material Scavenger Hunt



Let's go on a scavenger hunt! Find objects in your home or classroom that match the material properties listed below.

Write down what you find next to each property.

CHECKLIST OF PROPERTIES:

1. Absorbent

Find something that can soak up water.

Object:

2. Flexible

Find something that can bend without breaking.

Object:

3. Hard

Find something that is solid and not easily broken.

Object:

4. Soft

Find something that is gentle to touch.

Object:

5. Shiny

Find something that reflects light.

Object:

6. Rough

Find something that feels bumpy or uneven.

Object:

7. Smooth

Find something that feels even and flat.

Object:

8. Heavy

Find something that is difficult to lift.

Object:

9. Light

Find something that is easy to lift.

Object:

10. Transparent

Find something you can see through.

Object: