STEM in a Box

Marvellous Materials

Delight


Welcome
to your STEM-in-a-Box adventure!
You are going to be a scientist and do experiments with some marvellous materials.
Science
ENGINEERING
MATHS

Scientists

Draw a line from the scientist to the discovery or invention they are known for.

Archimedes 

Jocelyn Bell-Burnell 

Tu Youyou 

Charles Macintosh 

Shirley Ann Jackson 

Stephen Hawking 

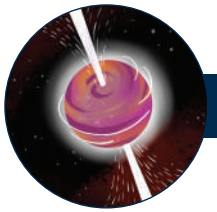


medicine


black hole


raincoat


telephone


pulsar


floating

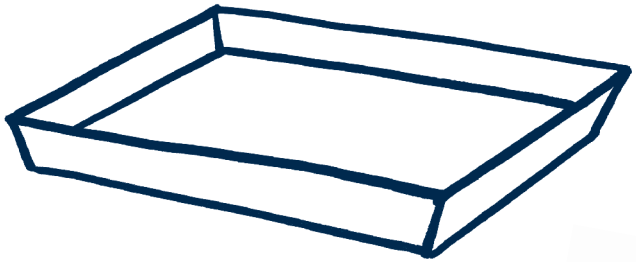
Equipment

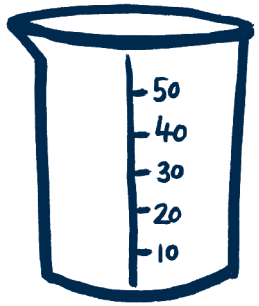
Lay out the science equipment in your STEM-in-a-Box and answer the questions below.



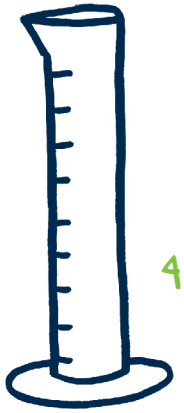
1. goggles

2. examination tray





3. measuring beaker



4. measuring cylinder



5. funnel

Which item would you use to look at things closely?

Which items would you use to measure water?

6. magnet



7. pipette



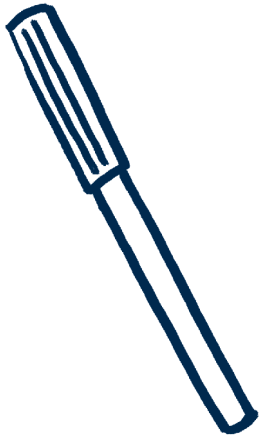


8. magnifying glass

9. scissors



10. pen



11. note pack



Which item would you wear to protect your eyes?

.....

Which item would you use to write down what you discover?

.....

Observing

Use your magnifying glass to observe your materials. Then find and draw everyday objects around you that are made of these materials.

Colour in the squares that best describe each material

Is metal...

	shiny		or		dull
	rough		or		smooth
	soft		or		hard
	transparent		or		opaque
	flexible		or		rigid

Is stone...

	shiny		or		dull
	rough		or		smooth
	soft		or		hard
	transparent		or		opaque
	flexible		or		rigid

Stick your drawings here

metal object

stone object

Write the name of your everyday objects here

.....

.....

Colour in the squares that best describe each material

Is glass…

	shiny		or		dull	
	rough		or		smooth	
	soft		or		hard	
	transparent		or		opaque	
	flexible		or		rigid	

Is plastic…

	shiny		or		dull	
	rough		or		smooth	
	soft		or		hard	
	transparent		or		opaque	
	flexible		or		rigid	

Is paper…

	shiny		or		dull	
	rough		or		smooth	
	soft		or		hard	
	transparent		or		opaque	
	flexible		or		rigid	

Stick your drawings here

glass object

plastic object

paper object

Write the name of your everyday objects here

.....

.....

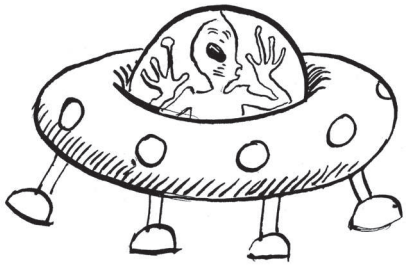
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Magnetic

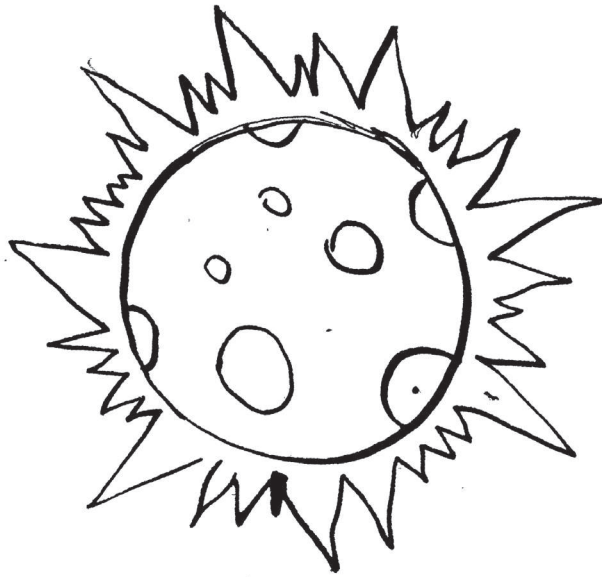
You are part of a science team on a mission in space. Can you travel back to your rocket avoiding bumping into the space objects?
You can colour in this page too.

start

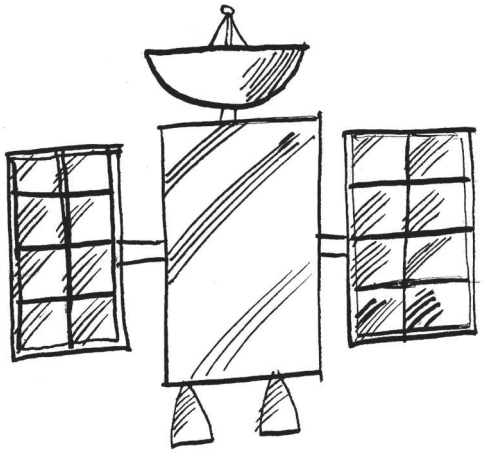


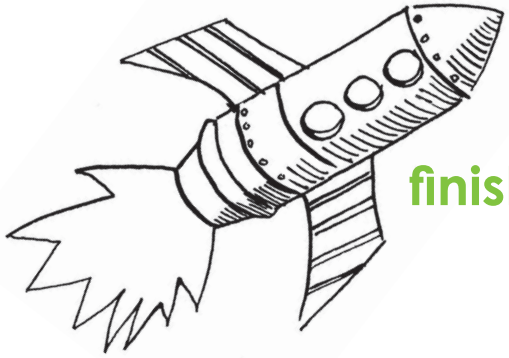












finish

Tick the magnetic material

☐ paper ☐ paperclip

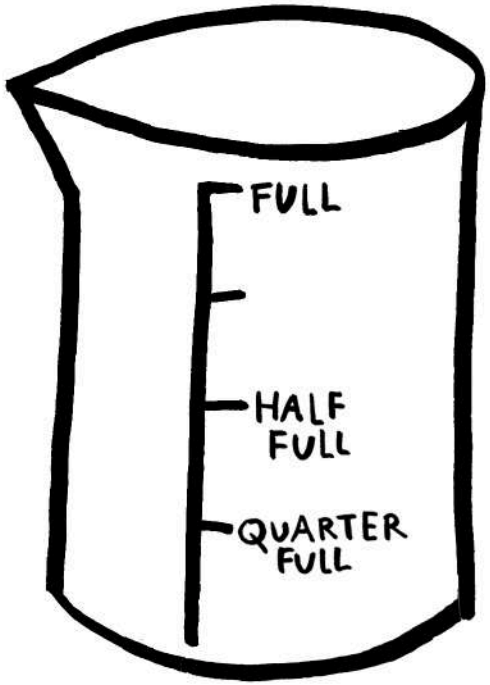
Absorbent

You are part of a science team researching the absorbency of everyday materials. You need to find out which household object would absorb most water if accidentally dropped in the bath.

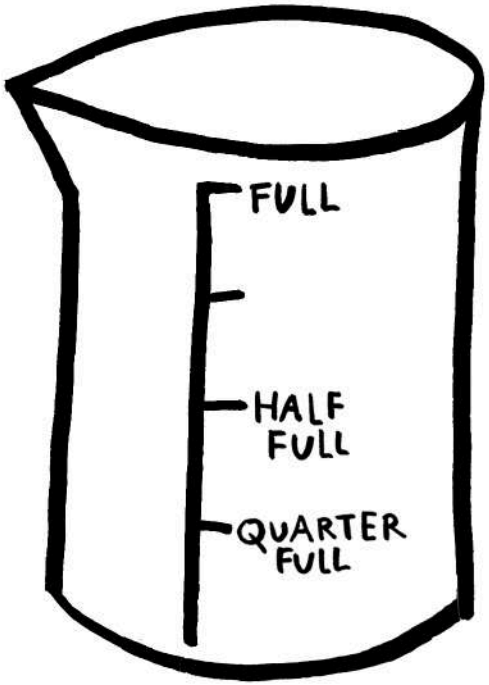
Before you start the experiment, tick which you think will hold the most water.

- ☐ yellow sponge
- ☐ blue cloth
- ☐ brown paper

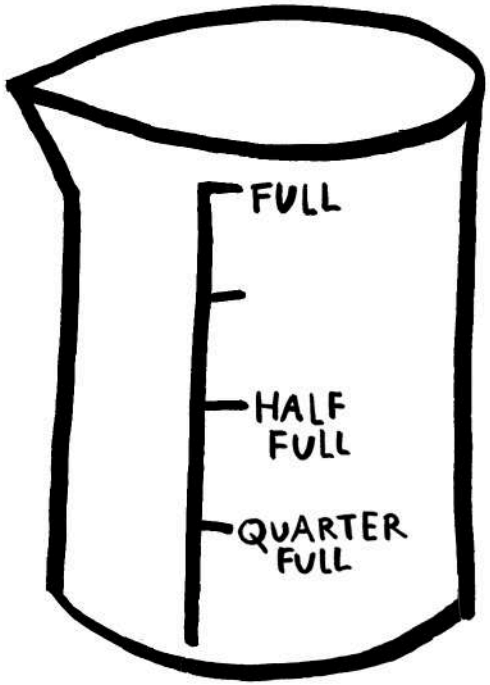
Now colour in the beakers to show the results.



yellow sponge



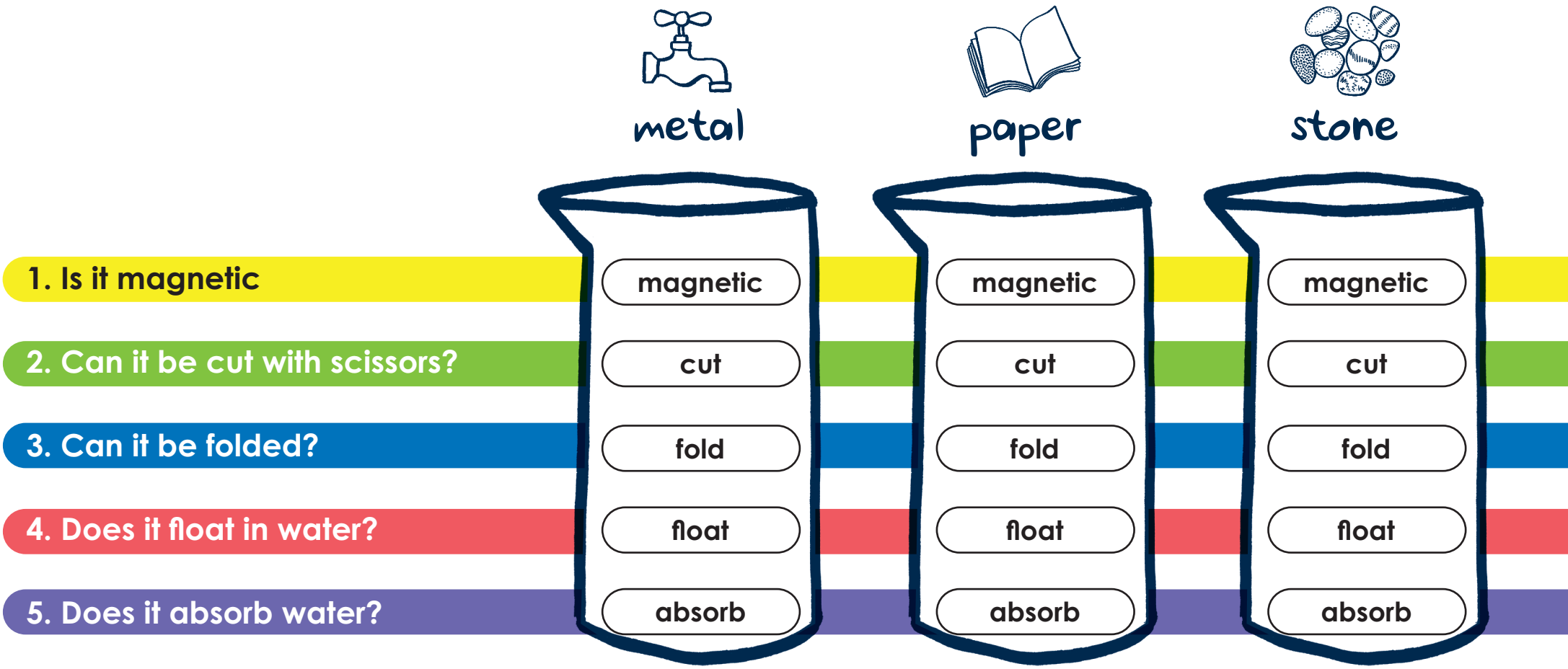
blue cloth



brown paper

Experimenting

Do the experiments 1-5 on your materials samples.
If the answer to the question is "yes", use your coloured pens to colour in the shape on that material's beaker.

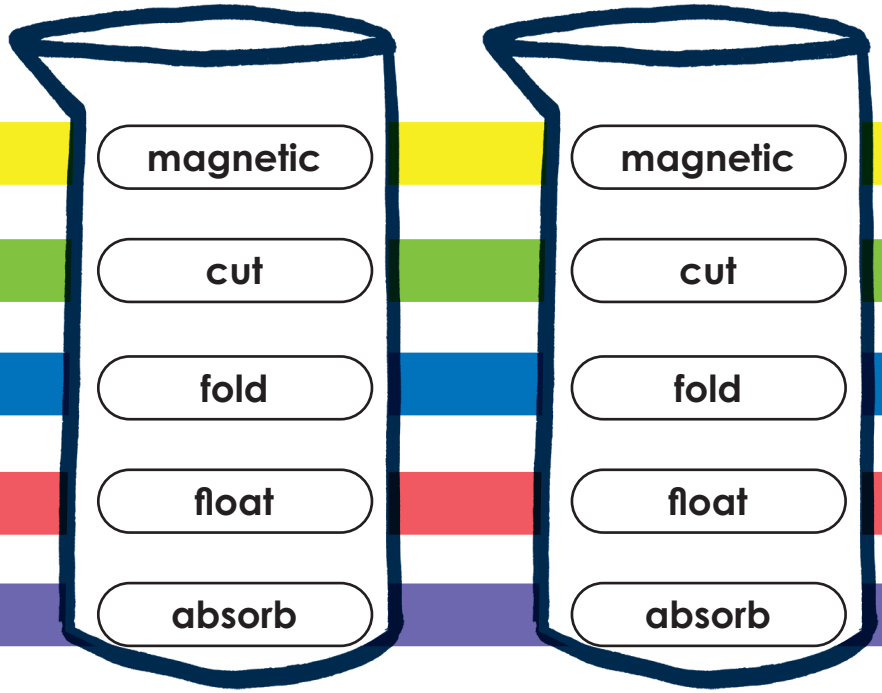




plastic



glass



Count up how many there are of each.

How many are magnetic? .....

How many can be cut by scissors? .....

How many can be folded? .....

How many float in water? .....

How many absorb water? .....

Congratulations

You've completed your STEM in a Box adventure!