STEM in a Box

TEACHER PDF RESOURCE

Marvellous Materials

What is a scientist?

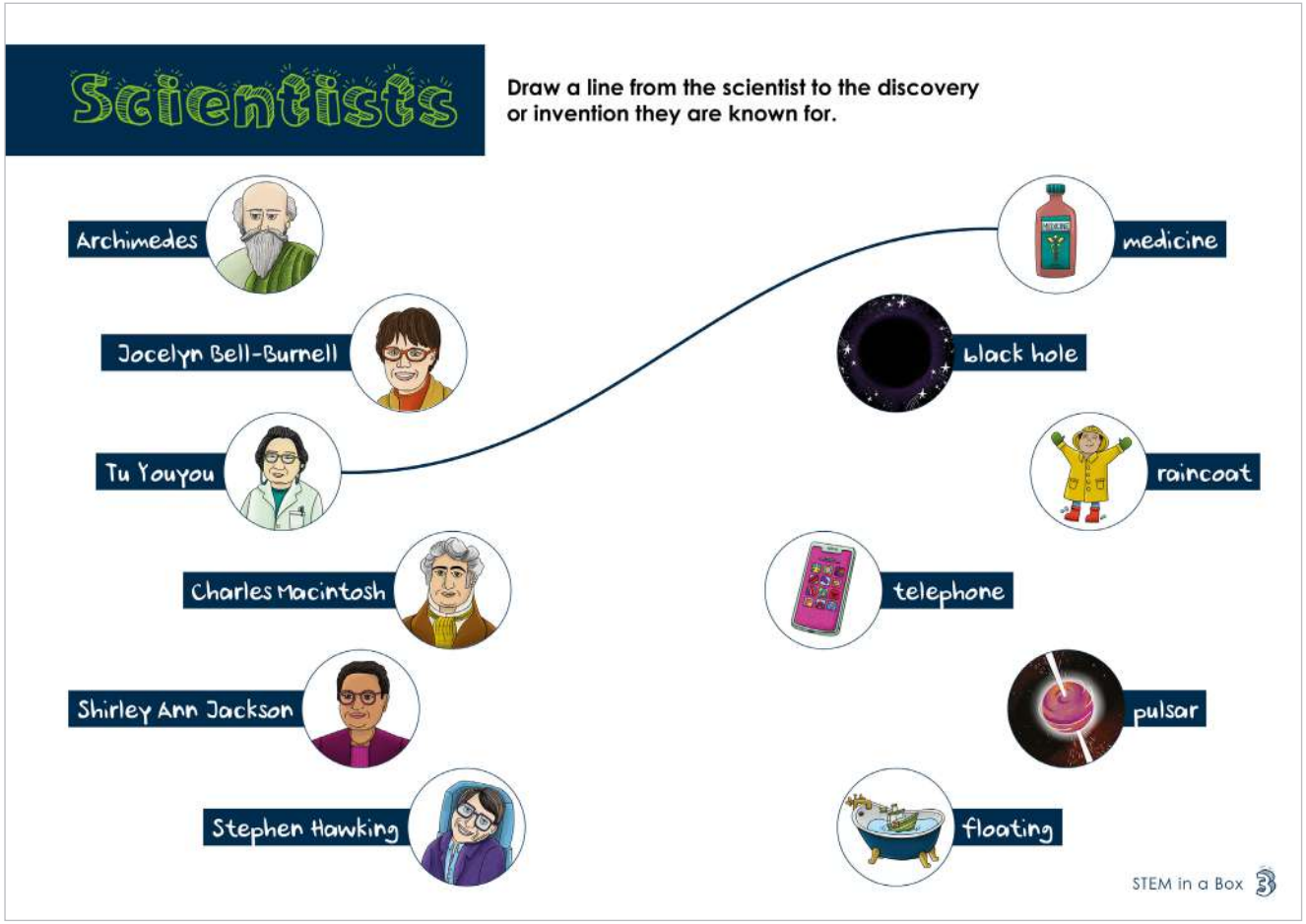
1. What questions do scientists ask?

2. What do scientists do?

3. What do ‘observe’, ‘experiment’, and ‘record’ mean?

Meet the Scientists

Workbook (page 3)

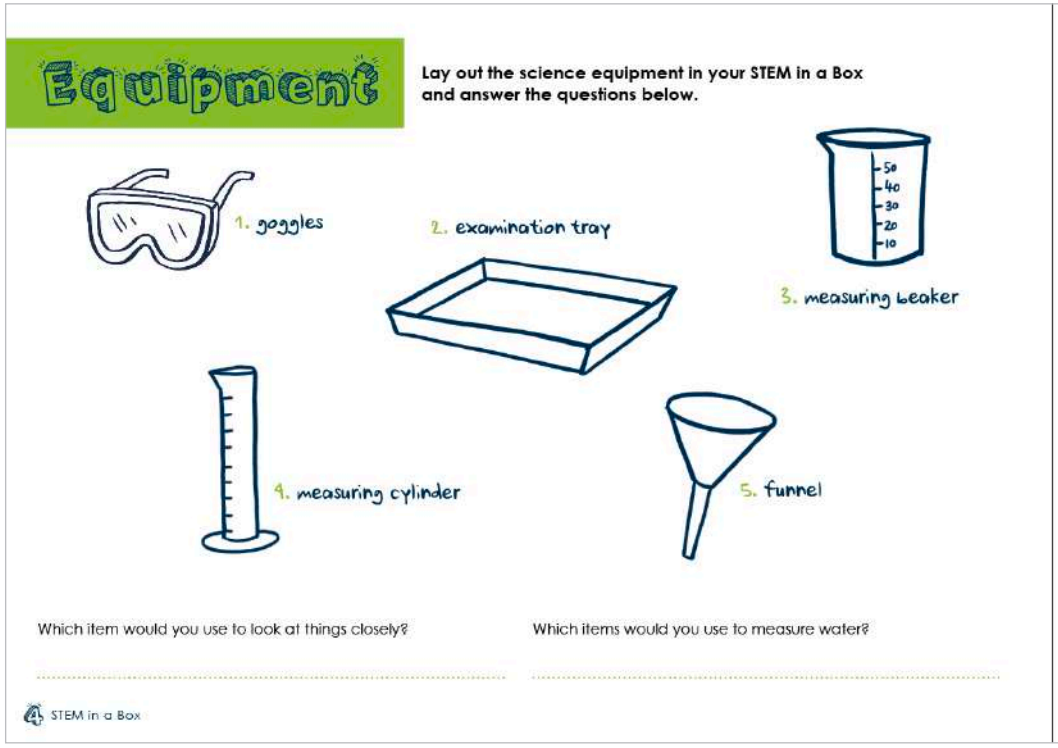


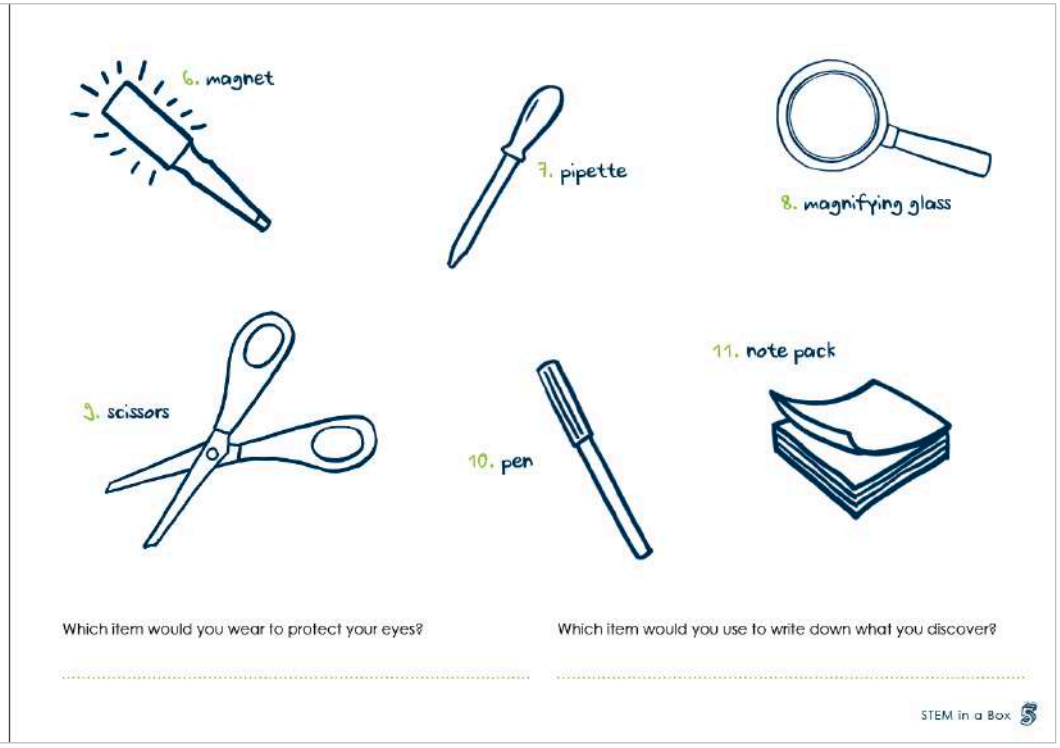
Coloured pens



Exploring Scientific Equipment

Workbook (page 4 & 5)





Coloured pens



Science equipment laid out on your 'Lab Station'

Using Scientific Equipment

Science equipment arranged like this on your 'Lab Station'



Floating Ice Roses

1 x Large (250ml) beaker



Floating Ice Roses

1. What happened to the blue roses?

2. Do you think that ice and water are the same thing?

3. Why do you think the ice melted in the water?

What's in the Bag?



Now put all the objects back in the bag.

What's in the Bag?

1. What makes you think that the objects are made from those materials?

2. Can you think of any other objects that are made from these materials (wood, plastic, metal, glass, or stone)?

Workbook (pages 6 & 7)

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

Write the name of your everyday objects here

metal object

stone object

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

Write the name of your everyday objects here

glass object

plastic object

paper object

Everyday Materials bag

Magnifying glass

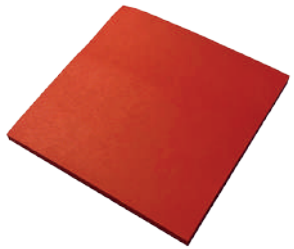
Coloured pens

Note packs









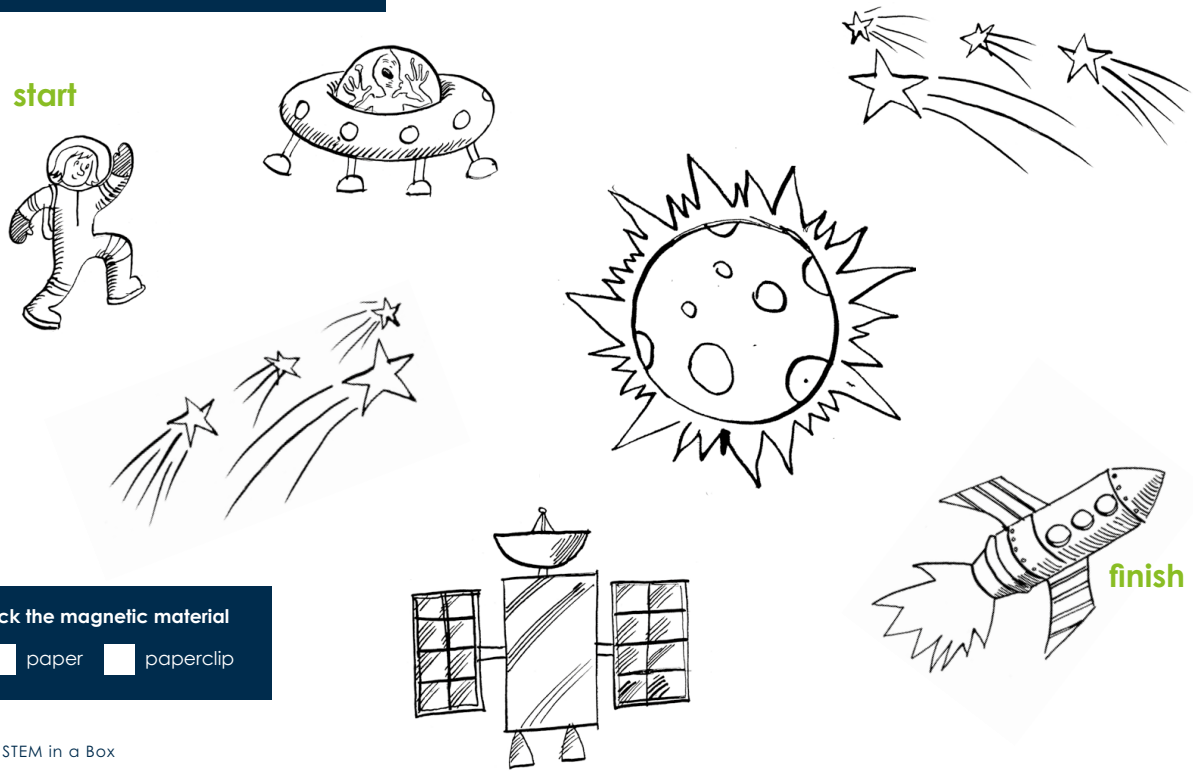
Now put all the everyday materials back in the bag.

Magnetic Astronaut

Workbook (page 8)

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.



Tick the magnetic material

☐ paper ☐ paperclip

STEM in a Box

Magnet wand
Astronaut on paperclip



Absorbent Everyday Materials

Workbook (page 9)

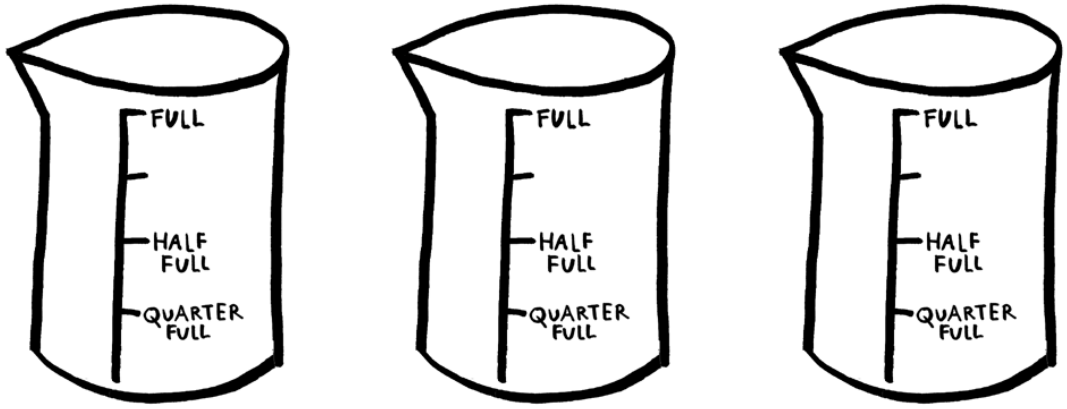
Absorbent

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

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Absorbent bag
1 x Small examination tray
1 x Large examination tray
3 x Large (250ml) beakers
Coloured pens



Experimenting with Everyday Materials

Workbook (pages 10 &11)

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.

	metal	paper	stone	plastic	glass
1. Is it magnetic	magnetic	magnetic	magnetic	magnetic	magnetic
2. Can it be cut with scissors?	cut	cut	cut	cut	cut
3. Can it be folded?	fold	fold	fold	fold	fold
4. Does it float in water?	float	float	float	float	float
5. Does it absorb water?	absorb	absorb	absorb	absorb	absorb

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? .....

- Everyday Materials bag
- Scissors
- Magnet wand
- Coloured pens







Now put the metal disc, the glass disc and the stone back in the bag.

Science Words

Can you remember what these words mean?

