YEAR 6 SCIENCE TRANSITION PACK

Name:

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Hi year 6 and welcome to Science at Blessed Robert Sutton. In this pack you'll find some tasks that you can be doing while we're not in school to get you ready for Science at secondary school.

What do I do!?

1. Complete task one and task two you can show your science teacher in September!

2. Look at tasks 3-5 and pick the ones that you think you will enjoy and complete them. This is all about how science is all around us.

Everything is safe for you to do by yourself (some tasks may need the odd but of help from someone older), but you will find it more fun if an adult or sibling helps you out.

Any issues, send an email to science@robertsutton.staffs.sch.uk and one of our science teachers will get right back to you.

You can also send any pictures you take of you trying these experiments out to us! We're always excited to see what you have been up to.

Have a look at the links below if you need some extra science in your life!!

https://www.edinburghzoo.org.uk/webcams/

https://www.dublinzoo.ie/animals/animal-webcams/

And then say hello to the Science staff at Blessed Robert Sutton


Ms Goode


Mr Packwood


Mr Davies


Miss Toms

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Task 1:

Tell us a little about your favourite scientist. Use the template below to write about them- feel free to attach a picture.

We have filled out an example one for you.

Name of Scientist: Dorothy Hodgkin

What they did:

Dorothy was like me a Chemist. She sent a lot of her time working to improve how we were able to look at chemicals.
She spent her life working on improving x-ray crystallography technique, finally managing to work out the structure of insulin. This allowed other scientists to work on more effective treatments of the disease.

Why they are your favourite:

I feel that Dorothy is inspirational because she was able to use a special technique called x-ray crystallography to work out the atomic structures of some common substances such a cholesterol, penicillin and vitamin B12.

Name of Scientist:

What they did:

Why they are your favourite:

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Task 2:

Write a review about something you have seen or read about to do with science. You can write in the space below or you can type it on the computer.

There is lots in the news now about science.

You can focus on an article you have read in a magazine, in a newspaper, something you have seen on the news or online.

Tell us:

- What did you find interesting about it?
- What area of science is it linked to (e.g. biology, chemistry, physics?)
- Did you enjoy it?
- How is it relevant to you and your life?
- Please include a link to the news item you have written about.

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Task 3:

Grow your own or observe a plant grow.

If you can't get hold of seeds don't worry – you can watch a plant that is out in your garden or an outside space grow.

Draw what you see happening in the boxes below and write a description of what you see.

Date:	Date:	Date:
Date:	Date:	Date:

Find a flower and draw what you see in the box →

What can you tell us about flowers?

Why are they colourful?

Why are they important?

Can you label any parts of the flower?

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Task 4: ASK A PARENT OR GARDEIANS PERMISION BEORE CARRYING OUT ANY OF THE EXPERIMENTS

Try out as many of these awesome experiments as you can. Write 2 or 3 sentences about each describing what you found. Remember HAVE FUN and take some pictures so we can see how much you enjoyed it!

Experiment 1: Making a wind turbine:

What you do:

1. Cut out the turbine shape. Cut out the circles (you could use a hole punch if you have one).
2. Ask an adult to help you make a hole through the paper straw, at least 1 cm from the end, and cut off a piece of the wooden skewer about 6-7 cm long.
3. Fold each of the points with a hole in it into the centre so that all the holes line up, and staple together in one or two places near the hole. Push the piece of skewer through the holes.
4. Now push the skewer through one or two beads, depending on their size, and then through the hole in the straw.
5. Thread another bead onto the skewer at the front and secure the end with some sticky tack. Do the same at the back. You may need more beads or sticky tack at the back to balance the turbine. Tip: don't secure it too tightly or the turbine won't spin.
6. You're all done. Give it a blow!

You will need:

- The template
- Scissors
- A paper straw
- A wooden skewer
- A stapler and staples
- A few beads which are large enough to be threaded onto the skewer
- Sticky tack

Template is on the last page of this booklet.

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Experiment 2: Making a water Catcher:

You will need:

- 1 small plastic bottle
- 1 large yoghurt pot or plastic bottle cut in half
- Duct tape
- String
- Paper clip
- Bowl
- Wooden spoon or pencil

What you do:

1. Make a hole in the bottom of the small plastic bottle.
2. Push the wooden spoon in through the top of the bottle and out through the hole in the bottom.
3. Cut the large yoghurt pot or plastic bottle into four or more pieces (catchers).
4. Stick these catchers onto the bottle at equally spaced intervals using duct tape on both sides.
5. Stick one end of the string to the wooden spoon and attach the paper clip to the other end.
6. Now balance the water wheel on top of the bowl and pour water over it.

Try this...

Now experiment with different shapes of catcher; for example, try using four small yoghurt pots or attaching more catchers. Send us your photos at

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Experiment 3: Making Crystals

You will need:

- A glass
- Sugar or salt
- Water
- A pencil or stick
- String or pipe cleaner

What you do:

1. Add 6 tablespoons of salt or sugar to half a glass of hot water, stirring until no more sugar or salt will dissolve. You should have a thick syrup with no sugar visible. You can add food colouring if you like.
2. Tie a piece of string to a pencil or stick and place the pencil on top of the glass, so that the string hangs down into the solution.
3. Alternatively, bend a pipe cleaner into a snowflake or star shape and dangle this into the glass.
4. Leave the glass in a warm place away from vibrations.

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Experiment 1:

When I made the turbine, I found that

_____

_____

I changed this about the turbine

_____

_____

I think this links to science because

_____

_____

Experiment 2:

When I poured water on to my design I observed that

_____

_____

_____

I tried making water catchers of different shapes in the boxes I've drawn the different designs I thought of, I made none, all, some (please circle) of them and found number___ worked best. Feel free to add in more boxes if you wish ☺

_____

_____

_____

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Experiment 3:

I made my crystals using

_____

_____

_____

Progress Pictures: Draw what you see at each stage

Day 1	Week 1	Week 2	Week 3

I think that my experiment worked/didn't work because

_____

_____

_____

_____

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Task 5:

There are 2 different options here. Pick one and really go to town with it send pictures in and feel free to show us how it went in September – we're excited to see what you can do with this task.

MAKE A ROBO-HAND

You will need:

- Narrow rubber bands (cut into nine 5 cm lengths)
- 2 drinking straws (cut into twelve 2 cm lengths)
- Cardboard (cut into one 10 cm x 10 cm square and three 2 cm x 9 cm rectangles)
- String (cut into three 35 cm lengths)
- Tape, scissors and a ruler

Cut each of the cardboard rectangles into three equal (3 cm long) pieces, then tape them back together to make jointed fingers.

Lay one finger tape-side down and stick a length of rubber band over each joint, leaving the ends untaped.

Fold the ends of the rubber band back over the tape and stick them down firmly.

Tape the finger tape-side up onto the palm, then turn the hand over and use another strip of rubber band for the final joint, connecting the finger to the hand.

Repeat steps 2-4 for the other two fingers.

Lay the hand palm-side up (so you can't see the rubber bands) and tape one end of the string over the tip of the first finger.

Thread four of the straw tubes onto the string, then tape one piece of straw onto each section of the finger, and one to the palm.

Repeat steps 6-7 for the other two fingers.

STEM Challenge

Experiment with adding more fingers and even a thumb to see if that makes it easier to pick things up. You could even make a whole robot suit out of cardboard boxes and attach two robo-hands that you can operate from inside! Can you design and make something else that moves in the same way?

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BRIDGES

You will need:

- Lego
- Coins
- Two chairs or stools
- Plastic pot
- String or wool

What you do:

Build a beam with the flat Lego pieces. We used 15 pieces. Add a tower at each end. Bridge the gap between two chairs or stools. Hang the pot from the centre of the beam. How many coins can you add before the bridge bows or breaks?

It doesn't have to be lego any building bricks will work in this first challenge or skip and go straight to the challenge task ☺

Now turn your beam bridge into a suspension bridge. Loop a long piece of wool or string around the centre of the beam, and over each tower. Anchor the ends by tying them around the chair or stool legs. How many coins can you add to the pot this time?

Engineering Challenge

Design and make your own bridge. This time don't make it out of Lego. You can use whatever materials are available. For example, you could choose to fold paper or use kitchen roll tubes. The challenge is to see whose is the strongest. Each bridge should be tested in the same way (you could use coins, like before). Record the results in a table so you can make simple comparisons.

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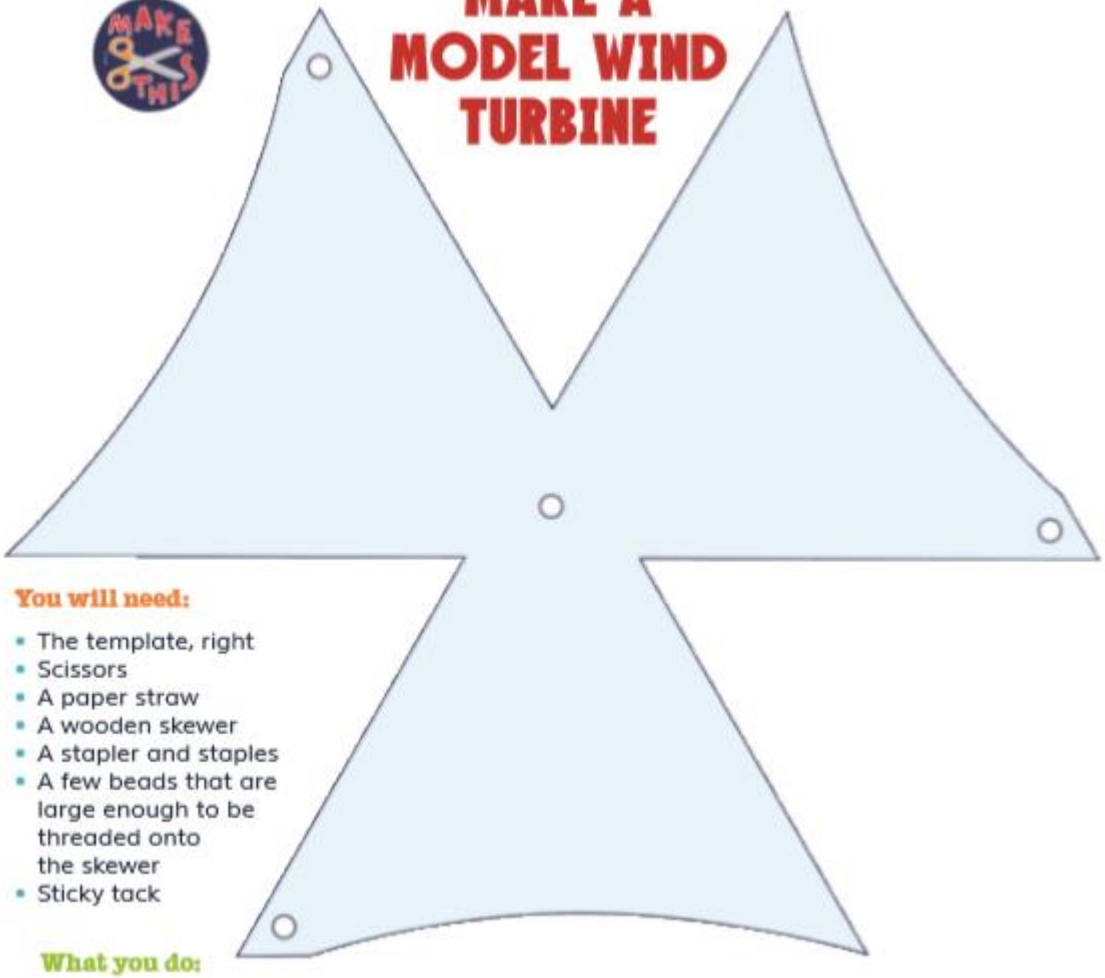
MAKE A MODEL WIND TURBINE



You will need:

- The template, right
- Scissors
- A paper straw
- A wooden skewer
- A stapler and staples
- A few beads that are large enough to be threaded onto the skewer
- Sticky tack

What you do:

1. Cut out the shape above. Cut out the circles (you could use a hole punch if you have one).
2. Ask an adult to help you make a hole through the paper straw, at least 1 cm from the end, and cut off a piece of the wooden skewer about 6-7 cm long.
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