

# Year 5 Newsletter



## Science: Get sorted – materials

- Solids, liquids and gases and properties of materials.

## Maths: Shape

- Identifying and classifying shapes
- 2d and 3d shape properties
- Regular and irregular polygons
- Classifying triangles
- Build 2d and 3d shapes
- Properties of circles

## English: Biographies

An account of someone's life written by someone else.

- Learning about the features of biographies
- Gathering information
- Planning a biography (research)
- Writing a biography and editing

## Year 5

Good morning. As we cannot be in the classroom I have put together some lessons for you to do at home. Maths, English and reading will continue to build your core leaning along with additional activities in the afternoon.

The sessions will be links to either BBC Bitesize or Oak Academy online (online teaching with a teacher).

Remember to share any work with me or contact me if you want to speak (email)

[Year5@fairway.uwmat.co.uk](mailto:Year5@fairway.uwmat.co.uk)

**Physical Activity – follow the links on the school website in the additional document.**

60 active minutes every day (minimum) this can be done in one go or over 2 or 3 slots.

Ideas:

**Walking (daily)**

Bike rides/scooter/roller skating

Running/jogging/skipping

Yoga and dance

Tennis/badminton/basketball/football

**Reading:** You will continue to complete the chapter reading assigned to you each week.

Read the chapter and then answer the questions in the quiz. Take your time and make sure that you have read and understood the text first. Discuss the story with your guardian and answer the questions together.

In addition to this, you should be reading for at least **15 minutes EVERY day**. It is vital for language development, reading fluency and understanding.

**Spellings:** **Purple Mash** directed spellings and the Year 5/6 spelling list and select 3 daily to work on.

|                       | Maths sessions   | English sessions  | Afternoon session  |
|-----------------------|--|---|--|
| 6.1.2021<br>Wednesday | <p>Times tables warm up (TT Rockstars or Purple Mash)<br/>Flashback 5 on the PowerPoint</p> <p><b>LO: I can identify, describe and classify shapes</b></p> <p>2 recap and refresh session.</p> <p><a href="https://classroom.thenational.academy/lessons/2d-and-3d-shape-to-identify-describe-and-classify-shapes-based-on-the-properties-part-1-6dhpac">https://classroom.thenational.academy/lessons/2d-and-3d-shape-to-identify-describe-and-classify-shapes-based-on-the-properties-part-1-6dhpac</a></p> <p><a href="https://classroom.thenational.academy/lessons/2d-and-3d-shape-to-identify-describe-and-classify-shapes-based-on-the-properties-part-2-6mrkgt">https://classroom.thenational.academy/lessons/2d-and-3d-shape-to-identify-describe-and-classify-shapes-based-on-the-properties-part-2-6mrkgt</a></p> | <p>SPAG:<br/>LO: I can <b>revise past, present and future progressive tense</b></p> <p>Was walking (past progressive)<br/>Is walking (present progressive)<br/>Will be walking (future progressive)</p> <p>The ing work shows the progressive.</p> <p><a href="https://classroom.thenational.academy/lessons/to-revise-the-past-present-and-future-progressive-tense-6rukjd">https://classroom.thenational.academy/lessons/to-revise-the-past-present-and-future-progressive-tense-6rukjd</a></p> | <p><b>Physical Activity</b><br/><b>Guided reading</b> chapter (Purple Mash) – read the chapter</p> <p>Enjoying what you read<br/><a href="https://www.bbc.co.uk/bitesize/articles/zbsmdp3">https://www.bbc.co.uk/bitesize/articles/zbsmdp3</a></p> <p><b>D&amp;T project - Water clock (follow the attached sheet)</b></p>   |
| 7.1.2021<br>Thursday  | <p>Times tables warm up (TT Rockstars or Purple Mash)<br/>Flashback 5 on the PowerPoint</p> <p>LO: I can identify regular and irregular polygons</p> <p><a href="https://classroom.thenational.academy/lessons/2d-and-3d-shape-to-identify-regular-and-irregular-polygons-by-reasoning-about-equal-sides-and-angles-69jp4c">https://classroom.thenational.academy/lessons/2d-and-3d-shape-to-identify-regular-and-irregular-polygons-by-reasoning-about-equal-sides-and-angles-69jp4c</a></p> <p>Polygon definition:<br/>A plane shape (two-dimensional) with straight sides.</p> <p>Examples: triangles, rectangles and pentagons.<br/>(Note: a circle is not a polygon because it has a curved side)</p>   | <p>Biographies:<br/><b>LO: I can analyse a biography</b><br/><a href="https://classroom.thenational.academy/lessons/to-identify-features-of-a-biography-c4w3jt">https://classroom.thenational.academy/lessons/to-identify-features-of-a-biography-c4w3jt</a></p> <p>What is a biography?<br/>Have you read a biography?</p> <p>In this lesson you will find out the features</p>  | <p><b>Physical Activity</b><br/><b>Guided reading</b> chapter (Purple Mash) – look at the language and record in your magpie book or use a dictionary to find what new words mean (select 6 like in close reading sessions).</p> <p><b>Science session 1</b></p> <p><b>Music: Duration and tempo</b><br/><a href="https://www.bbc.co.uk/bitesize/topics/zcbkcj6/articles/z3yfg8">https://www.bbc.co.uk/bitesize/topics/zcbkcj6/articles/z3yfg8</a></p> |

|                     |   |   |   |
|---------------------|---|---|---|
| 8.1.2021<br>Friday  | Times tables warm up (TT Rockstars or Purple Mash)<br>Flashback 5 on the PowerPoint<br><br>LO: I can classify triangles<br><br><a href="https://classroom.thenational.academy/lessons/2d-and-3d-shapes-to-classify-triangles-6rupad">https://classroom.thenational.academy/lessons/2d-and-3d-shapes-to-classify-triangles-6rupad</a><br><br>isosceles – 2 sides and angles of equal length<br>scalene – having all different sides and angles<br>equilateral – all sides and angles are equal | Biographies:<br>LO: I can gather information on an inspirational figure<br><br>You will be looking at Harriet Tubman<br><br><a href="https://classroom.thenational.academy/lessons/to-gather-information-on-an-inspirational-figure-74u68d">https://classroom.thenational.academy/lessons/to-gather-information-on-an-inspirational-figure-74u68d</a><br><br>Once you have made your notes, you can research others and add to your   | Physical Activity<br>Guided reading chapter (Purple Mash) – answer the questions<br><br>D&T project – Cartesian Diver (follow the attached sheet)   |
| Monday<br>11.1.2021 | Times tables warm up (TT Rockstars or Purple Mash)<br>Flashback 5 on the PowerPoint<br><br>LO: I can identify the properties of quadrilaterals<br><br><a href="https://classroom.thenational.academy/lessons/2d-and-3d-shapes-to-identify-the-properties-of-quadrilaterals-74u64t">https://classroom.thenational.academy/lessons/2d-and-3d-shapes-to-identify-the-properties-of-quadrilaterals-74u64t</a>   | Biographies:<br>LO: I can plan a biography<br><br>In today's lesson you will plan out how to write a biography learning about what to include in the introduction and how to structure paragraphs.<br><br><a href="https://classroom.thenational.academy/lessons/to-plan-a-biography-c8wp6d">https://classroom.thenational.academy/lessons/to-plan-a-biography-c8wp6d</a>   | Physical Activity<br>Guided reading chapter (Purple Mash) – read the chapter<br><br>Science session 2   |
| Tuesday             | Times tables warm up (TT Rockstars or Purple Mash)<br>Flashback 5 on the PowerPoint<br><br>LO: I can describe the properties of diagonals of quadrilaterals<br><br><a href="https://classroom.thenational.academy/lessons/2d-and-3d-shape-to-describe-the-properties-of-diagonals-of-quadrilaterals-6gvk2d">https://classroom.thenational.academy/lessons/2d-and-3d-shape-to-describe-the-properties-of-diagonals-of-quadrilaterals-6gvk2d</a>  | Biographies:<br>LO: I can write a biography<br><br>Writing the biography will be completed over 2 sessions. This can be done on word or you can type it on a blank Purple Mash document.<br><b>Your final piece MUST be sent to me by email or through Purple Mash. These will be marked and sent back to you.</b><br><br><a href="https://classroom.thenational.academy/lessons/to-write-a-biography-part-1-cmwkgr">https://classroom.thenational.academy/lessons/to-write-a-biography-part-1-cmwkgr</a> | Physical Activity<br>Guided reading chapter (Purple Mash) – look at the language and record in your magpie book or use a dictionary to find what new words mean (select 6 like in close reading sessions).<br><br>Science session 3 |

|           |  |   |   |
|-----------|--|---|---|
| Wednesday | <p>Times tables warm up (TT Rockstars or Purple Mash)<br/>Flashback 5 on the PowerPoint</p> <p>LO: I can identify, describe and classify 3D shapes</p> <p><a href="https://classroom.thenational.academy/lessons/2d-and-3d-shape-to-identify-describe-and-classify-3d-shapes-based-on-the-properties-64tpac">https://classroom.thenational.academy/lessons/2d-and-3d-shape-to-identify-describe-and-classify-3d-shapes-based-on-the-properties-64tpac</a></p>  | <p><b>Biographies:</b><br/><b>LO: I can write a biography</b></p> <p><a href="https://classroom.thenational.academy/lessons/to-write-a-biography-part-2-6njpad">https://classroom.thenational.academy/lessons/to-write-a-biography-part-2-6njpad</a></p>  | <p><b>Physical Activity</b></p> <p>Guided reading chapter (Purple Mash) – drawing images to help you remember the new words</p> <p><b>D&amp;T project – Invisible Ink (follow the attached sheet)</b></p> |
| Thursday  | <p>Times tables warm up (TT Rockstars or Purple Mash)<br/>Flashback 5 on the PowerPoint</p> <p>2D and 3D shape classification</p> <p><a href="https://classroom.thenational.academy/lessons/2d-and-3d-shape-classifying-shapes-crrk8d">https://classroom.thenational.academy/lessons/2d-and-3d-shape-classifying-shapes-crrk8d</a></p> <p>LO: I can build simple 2D and 3D shapes</p> <p><a href="https://classroom.thenational.academy/lessons/2d-and-3d-shapes-to-build-simple-3-d-shapes-6mup4c">https://classroom.thenational.academy/lessons/2d-and-3d-shapes-to-build-simple-3-d-shapes-6mup4c</a></p>   | <p><b>Biographies:</b><br/><b>LO: I edit my biography</b></p> <p><a href="https://classroom.thenational.academy/lessons/to-edit-a-biography-ctj32c">https://classroom.thenational.academy/lessons/to-edit-a-biography-ctj32c</a></p> <p>Before sending your make sure that you check:<br/>Spellings<br/>Capital letters<br/>Punctuation<br/>Openers (also, furthermore, additionally, to add to this, interestingly)</p>  | <p><b>Physical Activity</b></p> <p>Guided reading chapter (Purple Mash) – answer the questions</p> <p><b>Science session 4</b></p>  |
| Friday    | <p>Times tables warm up (TT Rockstars or Purple Mash)<br/>Flashback 5 on the PowerPoint</p> <p>LO: I can identify properties of circles</p> <p><a href="https://classroom.thenational.academy/lessons/2d-and-3d-shapes-to-illustrate-and-name-parts-of-a-circle-70u3ce">https://classroom.thenational.academy/lessons/2d-and-3d-shapes-to-illustrate-and-name-parts-of-a-circle-70u3ce</a></p> <p><b>Circumference</b> - the distance around the <b>circle</b>.<br/><b>Diameter</b> – a straight line across the circle through the centre point (double the radius)<br/><b>Radius</b> - the distance from the centre of a <b>circle</b> to any point on it.</p> | <p><b>D&amp;T project – Spaghetti Bridges (follow the attached sheet)</b></p> <p><b>Spanish – introduction lesson</b><br/>Recap your numbers 1-20 and colours</p> <p>Spanish animals<br/><a href="https://www.bing.com/videos/search?q=spanish+animals+for+kids&amp;ru=%2fvideos%2fsearch%3fq%3dspanish%2banimals%2bfor%2bkids%26FORM%3dHDRSC4&amp;view=detail&amp;mid=C465B9599A4A56C69288C465B9599A4A56C69288&amp;&amp;FORM=VDRVRV">https://www.bing.com/videos/search?q=spanish+animals+for+kids&amp;ru=%2fvideos%2fsearch%3fq%3dspanish%2banimals%2bfor%2bkids%26FORM%3dHDRSC4&amp;view=detail&amp;mid=C465B9599A4A56C69288C465B9599A4A56C69288&amp;&amp;FORM=VDRVRV</a></p> <p>Follow the saying and repeat – draw and write the animals to help you learn them.</p> | <p><b>Physical Activity</b></p> <p>Independent reading</p> <p><b>Art: Perspective</b><br/><a href="https://www.bbc.co.uk/bitesize/clips/zvq6sbk">https://www.bbc.co.uk/bitesize/clips/zvq6sbk</a></p>     |

## Science sessions

### Session 1: LO: To classify a variety of materials according to their properties

1. Go on a hunt around your home and find 15 different objects which are made from range of materials – sort these (e.g. plastic, metal, glass). Now watch <https://www.bbc.co.uk/bitesize/topics/z4339j6/articles/zx8hhv4>
2. Find out the meaning of: malleable, brittle, permeable, impermeable, conductor and insulator.
3. Now look at the properties (transparent, malleable, brittle, waterproof, elastic) – group the items again. What do you notice? Do any meet both criteria?

### Session 2: LO: To compare and contrast different solids according to their properties, including their hardness

1. *How soft can a solid be, and still be classified as a solid? Are all solids soft in the same way?*

Have a selection of solids to explore, for example, marshmallows and jelly sweets, chocolate buttons, cheese strings, cooked pasta, foil, elastic, net (or old tights), polystyrene, sand, soil. Group them first, thinking about their properties, identifying their similarities and using these similar properties to group them.

2. *Ask: How could you test the materials to decide which is the softest?*
3. Carry out a simple comparative test to establish an order of softness across the materials in the selection. Observing how much they stretch when pulled, or how much they squash when a mass is placed on top of them.
4. Write a brief description of how you carried out the test and what you found.

### Session 3: LO: To compare and contrast the properties of different liquids, including viscosity

1. What is a liquid? Is a liquid always runny?
2. *Ask: Is that true? How would you describe a liquid? Are all liquids the same?*

*Introduce the terms 'viscous' (thick) and 'viscosity' (how thick something is). Explain that during this lesson they are going to be finding out about the viscosity of liquids.*

3. **Challenge 1:** Carry out a comparative test to find out which is the thickest liquid. For this, you will need a range of liquids (shampoo, ketchup, mayonnaise, oil, toothpaste)

Show them a test method they might use, for example, timing how long it takes for a liquid to pour from an unshaken bottle or from a large spoon, or timing how long after pouring it takes for a quantity of liquid to form a flat surface.

Record your results in a bar chart and label the axes with the different type of liquid (x axis) and time taken (y axis).

After you have completed the investigation, order the liquids from thinnest to thickest.

*Ask: Can you think of any other thick liquids we could have tested? Where would they fit into the order?*

**Session 4: LO: To** identify the properties of different plastics and explain how these make them suitable for particular purposes

<https://www.bbc.co.uk/bitesize/topics/z2882hv/articles/zxv482p>

You will need: large spoons made of wood, plastic and metal.

1. Put one spoon made of each material into some very hot water.

Ask children what will happen to the spoons, and to say which spoon handle they think will get hotter more quickly? Carefully feel the handles of the spoons. Were their predictions correct? Which spoon handle got hottest, and the most quickly?

2. *Introduce the terms 'thermal insulator' and 'thermal conductor'.*

*Ask: Are plastics good or poor insulators? (good). What about metals? (poor). Are woods good or poor conductors? (poor). What about metals? (good).*

Think about the properties of these different materials and how they might be affected by how they are used.

*Ask: When might a wooden spoon be better to use than a metal spoon? When might a plastic spoon be better than a wooden spoon?*

Explain that we also use the terms conductor and insulator when talking about electricity.

*Ask: Are woods, plastics and metals good or poor conductors of electricity?*

# WATER CLOCK

## ENGINEERING CHALLENGE 13

Designed by Sam,  
Teacher and Design  
and Technology enthusiast  
at Malmesbury Primary School

### The brief

Create a water clock that times exactly one minute with 200ml of water.

### The method

1. A simple water clock could consist of two plastic cups fixed one above the other with a hole in the top cup to allow water to pass from one to the other.
2. Additional cups, string, straws, plasticine, etc. can also be used to create more elaborate examples or to help slow the water if necessary.

### Top tip

You will need to use a timer to observe and measure time accurately and make changes depending on your results. The size and position of the holes, the number of cups the water passes through, the angle of straws and flow rates will all affect your design.

### Materials

Plastic cups (clean used cups are best)

Straws

Plasticine

String

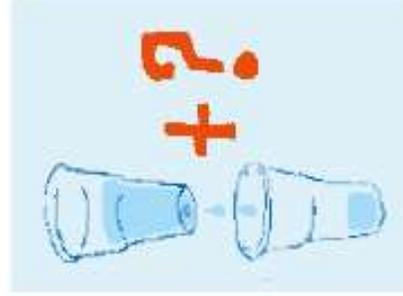
A timer

Wooden doweling or similar to act as a stand

Scissors

(with adult supervision)

Tape



Look at a range of plastics – the thickness, heaviness, transparency and properties (smoothness, rough) – group the plastics.

# CARTESIAN DIVER

ENGINEERING CHALLENGE 10

Designed by Daryl,  
Design engineer at Dyson

## The brief

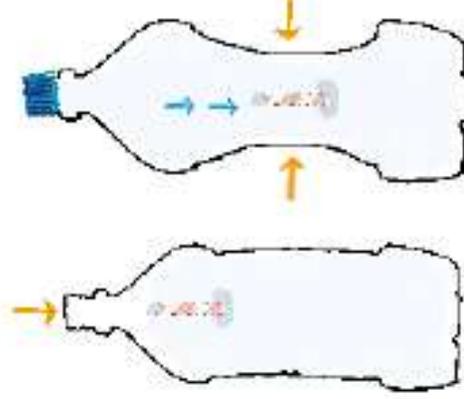
Build a Cartesian diver.

## The method

1. Put a small ball of plasticine on the top of the straw to seal it.
2. Roll a sausage of plasticine and wrap it around the bottom of the straw, leaving the bottom open. This is your diver.
3. Now attempt to balance the diver so that it stays upright.
4. Place the diver vertically in the drinking glass. Add or remove weight from the base or top so that when you push it down, it just about bobs back up to the surface (and stays upright).
5. Once you are happy, place the completed diver in the two litre bottle filled to the top with water. Screw on the lid. Squeeze the bottle, and the diver will drop down to the bottom of the bottle. Release it and it floats back to the surface.

## Materials

- Drinking straw cut to 30mm in length
- Plasticine
- A two litre bottle (used clean bottles are best)
- A drinking glass and water



## How does it work?

This is all about density. When the diver floats, there is a volume of air trapped inside, when the bottle is squeezed, the air is compressed but the water is not. The volume of air trapped decreases, and the displaced water reduces. The diver loses buoyancy, and sinks. When the pressure on the bottle is released, the air expands, displaces the water and the diver floats.

## Design icons

Submarines are surrounded by ballast tanks, which help control their buoyancy. When filled with water, the tanks increase the density of the submarine and it sinks. When the submarine needs to rise, the water in the ballast tanks is replaced with compressed air.

# SPAGHETTI BRIDGES

## ENGINEERING CHALLENGE 03

Designed by Kristian,  
Design engineer at Dyson

### The brief

Construct a free standing bridge out of spaghetti, strong enough to support a 250g bag of sugar.

### The method

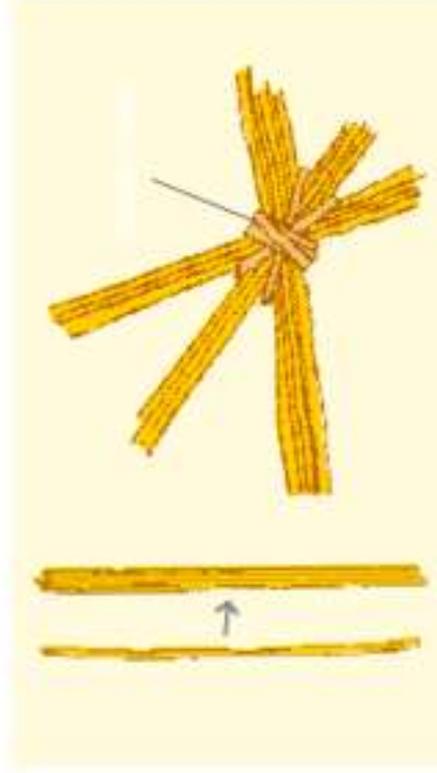
Think about bracing strands together for strength. Some shapes are better at absorbing loads – triangles are particularly strong. Rubber bands make for good junctions.

### Top tip

Be patient. Through trial and error, you'll become proficient at working with spaghetti.

### Materials

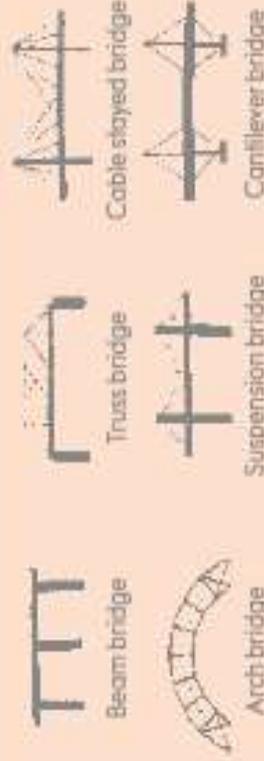
- Spaghetti
- Small rubber bands or bag ties
- Sticky tape
- 250g bag of sugar



### How does it work?

Bridges manage two important forces: compression and tension – pushing and pulling. Too much of either and they buckle or snap.

### Design icons



Why not take inspiration from these iconic bridge designs?

# INVISIBLE INK

SCIENCE  
CHALLENGE

20

Designed by Jack,  
Design engineer at Dyson

## The brief

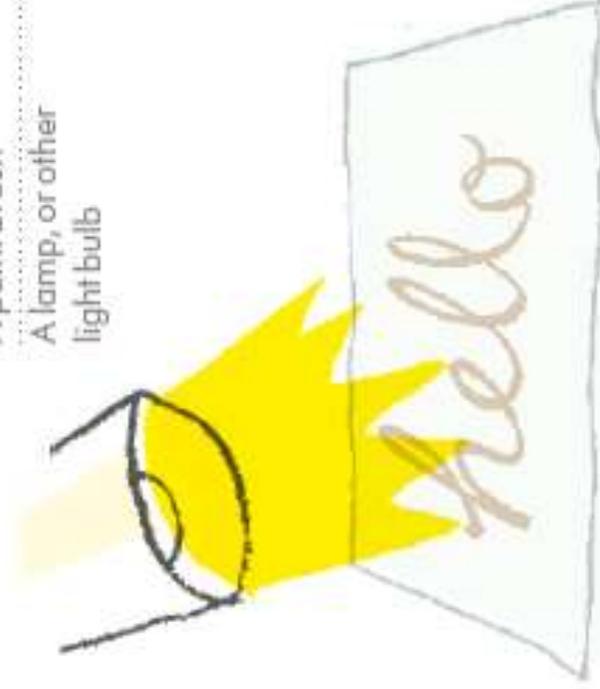
Write your own secret message in an invisible ink solution.

## The method

1. Squeeze lemon juice into the bowl and add a few drops of water. Stir with the spoon.
2. Dip the paint brush into the juice mixture and write a message on the paper.
3. Allow the paper to dry completely. Your message should become invisible.
4. Hold the paper very close to the light bulb to heat up the message area (adult supervision required). Watch your message appear.

## Materials

- ..... A lemon
- ..... A bowl
- ..... Water
- ..... A spoon
- ..... A paint brush
- ..... A lamp, or other light bulb



## How does it work?

The lemon juice is an organic substance which reacts with oxygen in the surrounding air, oxidises and turns brown. The oxidation process. The heat from the lamp causes the chemical bonds to break down.

## Did you know?

Oxidation affects lots of different surfaces, from metal to living tissue. A freshly-cut apple that turns brown, a bicycle that becomes rusty or a copper penny that turns green. Not all oxidation is bad – but think about choosing the right materials when designing a product for a particular use.

