



Science: States of Matter

Lesson One: Solids, Liquids and Gases

Watch these videos:

<https://youtu.be/nbfl0BQnpK8>

<https://youtu.be/MrTxRn9MNWM>

Record in your book the facts about solids, liquids and gases. What makes a liquid a liquid? What is special about a solid?

Read the sheet attached. Have you missed out any details? Write up your learning.

List 20 different solids found in your kitchen.

Lesson Two: Properties of materials

<https://www.bbc.co.uk/bitesize/topics/z4339j6/articles/zx8hhv4>

<https://youtu.be/TzR9jXL-Ob0>

Different materials have different properties. These can include absorbency, or waterproofness, transparency, flexibility etc.

Design and carry out an investigation to compare one property of three different materials- eg. Plastic bag, a tea towel, a canvas bag.

Begin a recycling and upcycling project:

Keep a daily diary of the waste your family produces. Is everything recycled that can be? Plan a project where you can use some of these materials to make something new: for example, can you make a new, stronger bag using old carrier bags? Could you make a bird feeder from that plastic bottle? Could you decorate something to make it a nice plant pot?....

Read: [190919-ks2-recycle-week](#)

Watch: <https://www.sciencebuddies.org/stem-activities/build-bird-feeder>



Week 3 Y4 Discovery Tasks



Marvellous Materials

For the next few weeks our Discovery learning is going to be based on our science topic

States of Matter

Cooking:

Flapjack is a traditional snack made from rolled oats (porridge oats). It contains lots of butter, sugar and syrup so it is not all that good for you. It is very solid and filling however, so good for a midmorning snack if it can be made in a healthier way.

Can you design and make a 'healthy' flapjack?



Art and design;

1. Using all the clues from the reading we have done, design a WANTED poster for The Iron Man
2. Make a silhouette picture of the Iron Man as he rises up above the cliff.

If you have paint, draw the picture first then paint the sky all shades of red and yellow and orange like a sunset. Paint the land and the Iron Man black except for his eyes.

You could do this with coloured crayons too- the sky could be shades of blue, purple and pink if you wanted it to be. If you only have a pencil, make a monochrome silhouette (black and white).

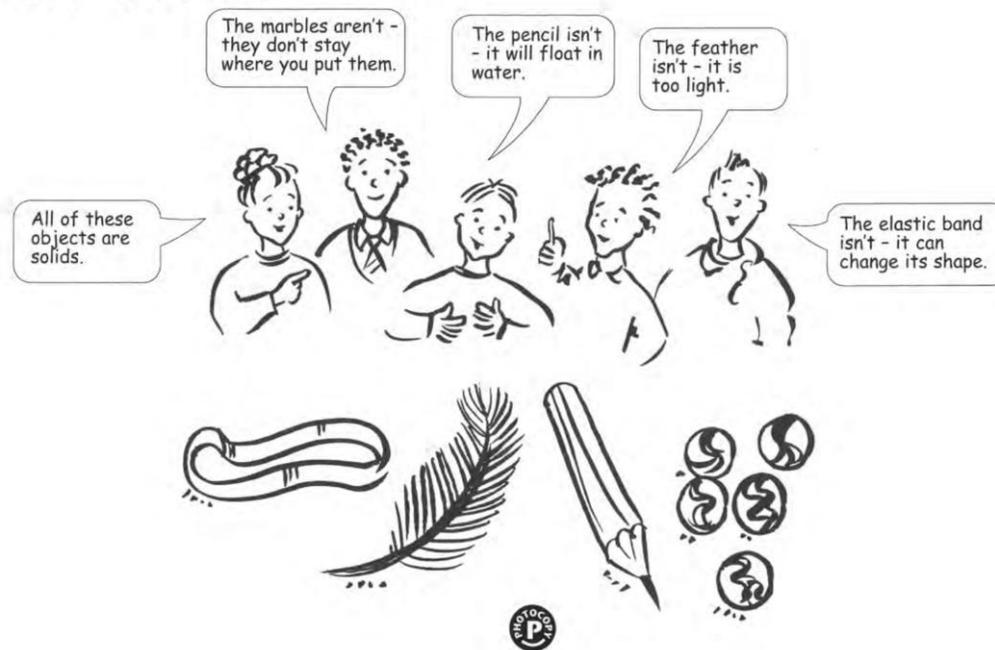
Don't forget to take a picture of your work!

A solid has a definite shape that remains the same unless a force is acting upon it. The particles in a solid are rotating, vibrating or moving about a fixed position, close to each other. A solid normally occupies a slightly smaller space than the liquid, (except for ice, which takes up more space than liquid water). Some solids are made up of small particles eg sand. They can be poured like a liquid but the shape can be changed within the container, for example, when flour is put into a bowl, a well can be made in the middle.

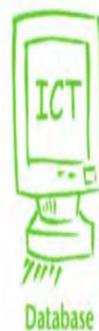
A liquid has no fixed shape but a fixed volume and takes on the shape of its container. The molecules in a liquid move more and have more energy than particles in a solid but still remain in close contact with each other. Children often only think of water when talking about liquids, so it is worth beginning by brainstorming all the liquids that they know. Different liquids behave in different ways, some move more easily than others – they are less viscous.

A gas has no fixed shape or volume and will always spread out to fill the container it is in. The particles have a lot of energy, moving around in a random way, hitting other particles and the walls of the container.

IS IT A SOLID?



- SOLIDS** (a) **Looking at solids** Make a collection of a variety of solids to draw and discuss. Use this as an opportunity to develop descriptive language. Include solids of different 'hardness' such as a piece of wood and a sponge and pouring solids such as salt.
- (b) **Some solids have similar properties to liquids, they can be poured** Using salt, sand, rice, lentils, etc, let the children explore the flowing behaviour of solids which are finely divided. Discuss the similarities and differences with liquids.



Year 4/ P5 lessons

Monday 20 April - Friday 24 April

Try some of these lessons too- they are almost all revision!

Bitesize
Daily lessons

Monday	Tuesday	Wednesday	Thursday	Friday
English Identifying when to use pronouns	English Writing expanded noun phrases	English Past tense verbs and verb families	English Adding description using adverbs and adverbial phrases	English Reading lesson: Please Mrs Butler by Allan Ahlberg
Maths Place value for four-digit numbers	Maths Finding 1000 more or less	Maths Round numbers to the nearest 10, 100 or 1000	Maths Negative numbers	Maths Challenge of the week
History How can I be a Historian?	Geography Introduction to maps	Science Introduction to light and dark	Music Start singing	Wellbeing The importance of developing teamwork

Find all this content and more at: bbc.co.uk/bitesize/dailylessons