

# Revision Booklet

## Grade 6 June 2018

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For an electronic version of this booklet scan:



## What to revise

Students should follow the CIE syllabus guidelines which is a skill needed for iGCSE and A levels, which are also run by the CIE exam board, which is itself a department of the University of Cambridge.

The textbooks are endorsed by CIE and written specifically for this one science syllabus which is designed for English as a Second Language learners. The Secondary 1 syllabus is itself closely matched to the National Curriculum of England which required by law to be taught in all schools in England.

For each topic listed here there are details from the CIE syllabus page numbers from the textbooks the students have been issued.

**Your child should have filled in the end of topic score for each of the topics.**

In this revision pack there are revision sheets summarising each topic, as well as keyword sheets for each topic.

**EVERYTHING HERE, AND MUCH MORE, IS AVAILABLE ON MY WEBSITE BY CLICKING HERE.**

Or scan this code to be taken to my Secondary 1 Science webpage:



对于我父母网页的中文翻译，请扫描以下内容



对于本手册的一个版本，自动翻译成中文扫描此代码



### C7s States of matter (UK KS3: 7G),

Syllabus code	<b>C7s</b>
Chemistry Textbook:	Pages 8-25 & p80-93
Review questions:	Pages 24,25 &92,93
End of Topic Test score	%
Review Test Score	%

- **7Cs1** Show in outline how the particle theory of matter can be used to explain the properties of solids, liquids and gases, including changes of state.
- **8Cs1** Show how the particle theory of matter can be used to explain the properties of solids, liquids and gases, including changes of state, gas pressure and diffusion.

### C7e The Earth (UK KS3: 8G and 8H)

Syllabus code	<b>C7e</b>
Chemistry Textbook:	Pages 52-79
Review questions:	Pages 78,79
End of Topic Test score	%
Review Test Score	%

- **7Ce1** Observe and classify different types of rocks and soils.
- **7Ce2** Research simple models of the internal structure of the Earth.
- **7Ce3** Examine fossils and research the fossil record.
- **7Ce4** Discuss the fossil record as a guide to estimating the age of the Earth.
- **7Ce5** Learn about most recent estimates of the age of the Earth.

### C7c Material changes (UK KS3: 7E, 7F)

Syllabus code	<b>C7c</b>
Chemistry Textbook:	Pages 42-51 &132-145
Review questions:	Pages 50,51 & 144,145
End of Topic Test score	%
Review Test Score	%

- **7Cc1** Use a pH scale.
- **7Cc2** Understand neutralisation and some of its applications.
- **7Cc3** Use indicators to distinguish acid and alkaline solutions.
- **8Cc1** Use a word equation to describe a common reaction. Secondary sources can be used.
- **8Cc2** Describe chemical reactions which are not useful, e.g. rusting.



## C7p Material properties (UK KS3: 8E, 8F)

Syllabus code	<b>C7p</b>
Chemistry Textbook:	Pages 26-41 & 94-133
Review questions:	Pages 40,41 & 132,133
End of Topic Test score	%
Review Test Score	%

- **7Cp1** Distinguish between metals and non-metals.
- **7Cp2** Describe everyday materials and their physical properties.
- **8Cp1** Describe and explain the differences between metals and non-metals.
- **8Cp2** Give chemical symbols for the first twenty elements of the Periodic Table.
- **8Cp3** Understand that elements are made of atoms.
- **8Cp4** Explain the idea of compounds.
- **8Cp5** Name some common compounds including oxides, hydroxides, chlorides, sulfates and carbonates.
- **8Cp6** Distinguish between elements, compounds and mixtures.

## Syllabus details (CIE Secondary 1 Science) - Physics (P)

### P7b The Earth and beyond (UK KS3: 7L and 9J)

Syllabus code	<b>P7b</b>
Physics Textbook:	Pages 52-79
Review questions:	Pages 78,79
End of Topic Test score	%
Review Test Score	%

- **7Pb1** Describe how the movement of the Earth causes the *apparent* daily and annual movement of the sun and the stars.
- **7Pb2** Describe the relative position and movement of the planets and the sun in the solar system.
- **7Pb3** Discuss the impact of the ideas and discoveries of Copernicus, Galileo and more recent scientists.
- **7Pb4** Understand that the sun and other stars are sources of light and that planets and other bodies are seen by reflected light.



## P7e Energy (UK KS3: 7i)

Syllabus code	<b>P7e</b>
Physics Textbook:	Pages 30-51 & 214-225
Review questions:	Pages 50,51
End of Topic Test score	%
Review Test Score	%

- **7Pe1** Understand that energy cannot be created or destroyed and that energy is always conserved.
- **7Pe2** Recognise different energy types and energy transfers.
- **9Pe1** Use knowledge of energy sources including fossil fuels and renewable energy resources to consider the world's energy needs, including research from secondary sources.
- 

## P7f Forces and motion (UK KS3:7K, 9K & 9L)

Syllabus code	<b>P7f</b>
Physics Textbook:	Pages 8-29 & 80-93
Review questions:	Pages 28,29 & 92,93
End of Topic Test score	%
Review Test Score	%

- **7Pf1** Describe the effects of forces on motion, including friction and air resistance.
- **7Pf2** Describe the effect of gravity on objects. Secondary sources can be used.
- **8Pf1** Calculate average speeds, including through the use of timing gates.
- **8Pf2** Interpret simple distance/time graphs.

## How to revise

There are a variety of ways to revise. The best way is the one that allows you to score the highest in the kind of test you will eventually have to take. If you are getting 90 or 95% in every test, then Congratulations! what you are doing works. You should however, then think about how can you get the same grade, but with less time spent studying, which would allow you to read and find out more beyond what we learn in class, which is what the very best students in the world do.

You should put your end of topic test scores in the spaces provided in the section detailing the syllabus above.

If you are not scoring well in tests, then these techniques are usually what the most successful students do when they study:

1. Completing past exam question revision worksheets. For every topic I have given you many, many exam questions to practice on. You should be working with them.
2. Look at previous end of topic test papers you have, the questions you got wrong contain the parts of the topic you need to concentrate on.



3. Answering end of chapter review questions from the textbook. Remember to answer in complete sentences in your exercise book and to show your teacher. If you are completing these then you are obviously putting yourself ahead of many others. **These are highlighted in the syllabus details section.**
4. [Making mind maps](#) - Word lists are also given here, you could make sure your mind map of each topic includes every word on the topic's word list. You could also use the word list tests included here after you have completed your mind maps and revised to see how much you have learnt.
5. Quizlet – All of the keywords for each of the topics we have studied so far have been uploaded into the Quizlet program. It is free to use and anyone can make any kind of revision or learning resource using it. The folder with all of the CIE Secondary 1 Science keywords is here:  
[https://quizlet.com/Patrick\\_Brannac4/folders/secondary-1-science-cie-glossary-english-and-chinese-translations/sets](https://quizlet.com/Patrick_Brannac4/folders/secondary-1-science-cie-glossary-english-and-chinese-translations/sets)

Alternatively, you can scan this code and it will take you directly to the webpage with all of my keyword word sets:



## Quizlet games and activities

### Sec1 Sci P7b WL The Earth and Beyond 28words Core (UK KS3 7L & 9J)



The "Learn" option is very interactive and, like most of these games and tests, will give you a score at the end.



 LEARN

 0/7

ROUND

 0%

PROGRESS

Any very large body that orbits a star in a solar system

① JUPITER

② EQUATOR

③ URANUS

④ PLANET

"Spell" - Typing the word that you hear

Quizlet

 Search

 Create

Upgrade to Teacher

 Back

 SPELL

PROGRESS 0%

THIS ROUND 0/7

 Type what you hear

ANSWER



Used to be regarded as the ninth and last planet from the Sun; now called a dwarf planet together with others of the same size that are beyond its orbit

Matching words to meanings

Quizlet

 Search

 Create

Upgrade to Teacher

 Patrick\_Br... ▾

 Back

 MATCH

TIME  
4.9

A moon is a large lump of rock orbiting around a planet. The Moon is the moon that orbits the Earth.

Used to be regarded as the ninth and last planet from the Sun; now called a dwarf planet together with others of the same size that are beyond its orbit

The largest outer planet made of gas, fifth from the Sun

PLUTO

YEAR

The length of time it takes a planet to go around the Sun. One year on Earth is 365.25 days.

STAR

JUPITER

ECLIPSE

The Sun or Moon is blocked from view on Earth

MOON

A huge ball of gas that gives out heat and light energy.

 Options

Creating tests using the keywords



**8 Written questions**

1. The largest outer planet made of gas, fifth from the Sun

---

TYPE THE ANSWER

2. The galaxy that our Solar System is in.

---

TYPE THE ANSWER

3. All the galaxies and the space between them make up the Universe.

---

TYPE THE ANSWER

4. 24 hours, the time it takes the Earth to spin once on its axis.

---

TYPE THE ANSWER

## The “Options” menu

Print test

Options

Using the Options menu to create your own tests for each set of words

**Options****Create new test****QUESTION TYPES**

- Written      29 of 29 questions
- Matching
- Multiple choice
- True/False

**QUESTION LIMIT**

- 
- Show images

**STUDY STARRED**

All	Starred
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**ANSWER WITH**

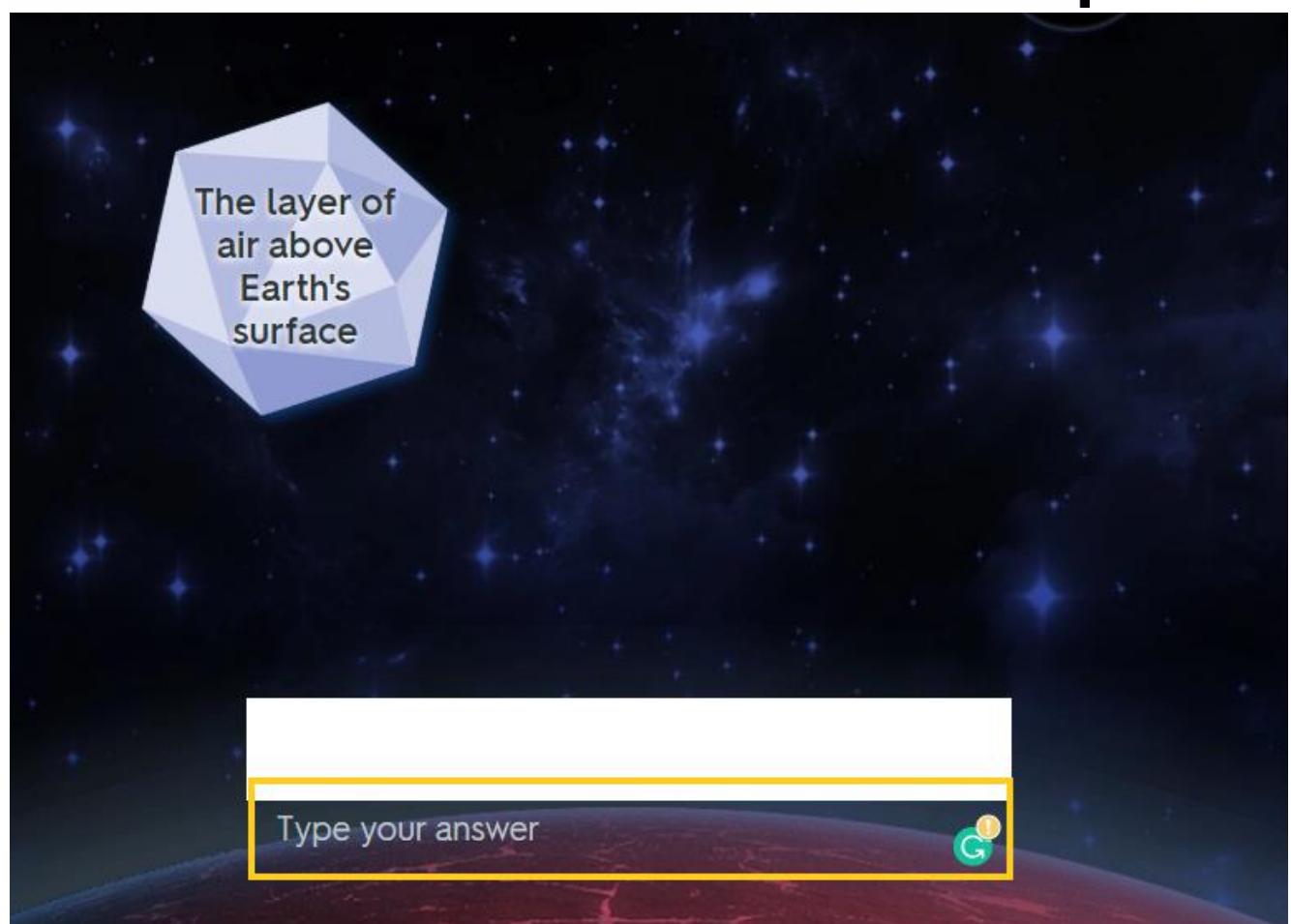
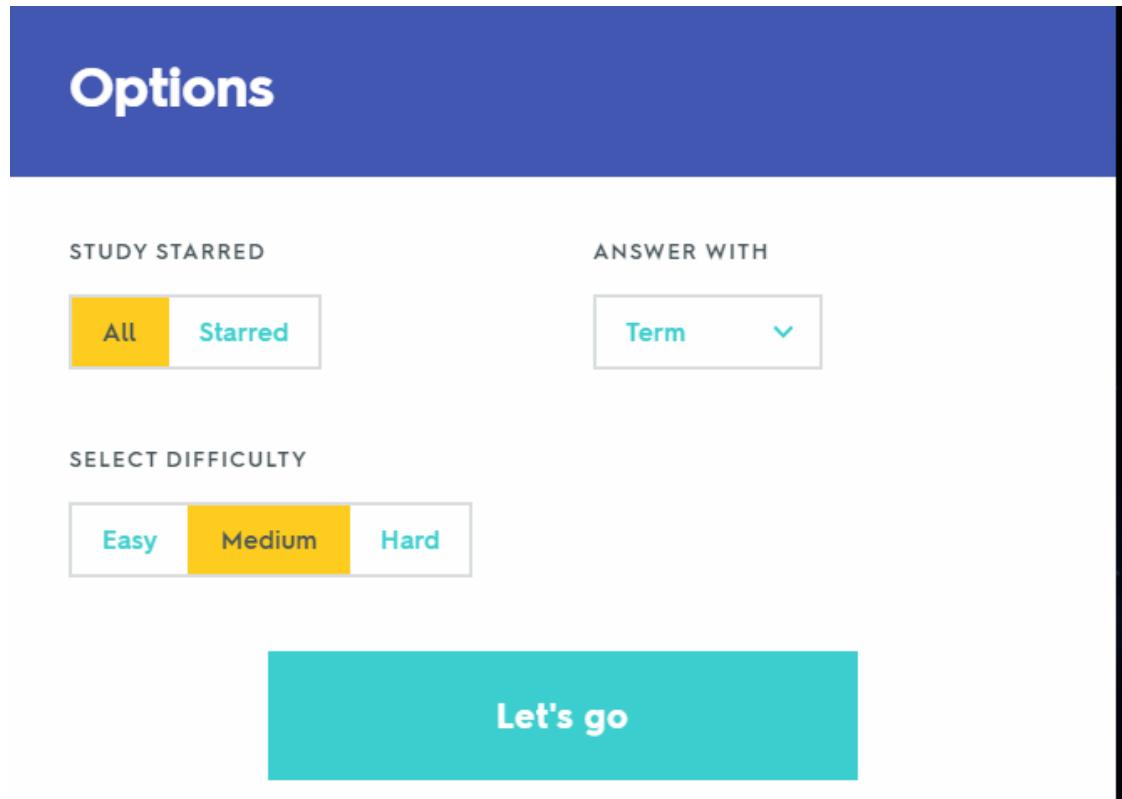
- Term
- Definition

You will be asked to recall the term.



## Playing the game “Gravity”

Make sure you set the “Options” at the beginning to “Answer with Term” or it will not really work



You need to type the answer before the meaning falls off the screen:





seasons



Changes in the climate during the year as the Earth moves around its

If you get the answer wrong you need to copy it

PROMPT

The path that a planet takes around the Sun, or the path that a moon or satellite takes around a planet.

CORRECT ANSWER

ORBIT

Copy answer



# Sec1 Sci ALL Glossary words used to make Quizlet resources

## LIBRARY

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Topic Code	Title, URL and QR Code
C7p & C8p	<p>Sec1 Sci C7p Material properties 24words (UK KS3 8e&amp; 8f)  <a href="https://quizlet.com/_4ptst5">https://quizlet.com/_4ptst5</a></p> 
C8p	<p>Sec1 Sci C8p Material properties 1st 24 elements (UK KS3 8e&amp; 8f)  <a href="https://quizlet.com/_4tqxye">https://quizlet.com/_4tqxye</a></p> 
P8I	<p>Sec1 Sci P8I Light Core words 27 (UK KS3 8k)</p>

Topic Code	Title, URL and QR Code
	<p><a href="https://quizlet.com/_4vh5qc">https://quizlet.com/_4vh5qc</a></p> 
C7p	<p>Sec1 Sci C7p Test 8 words  <a href="https://quizlet.com/_4xwlk9">https://quizlet.com/_4xwlk9</a></p>
C7s	<p>Sec1 Sci C7s States of matter 25words (UK KS3 7G)  <a href="https://quizlet.com/_4ycab9">https://quizlet.com/_4ycab9</a></p> 
C7e	<p>Sec1 Sci C7e The Earth and Rock Cycles 28words Core (UK KS3 8G &amp; 8H)</p>

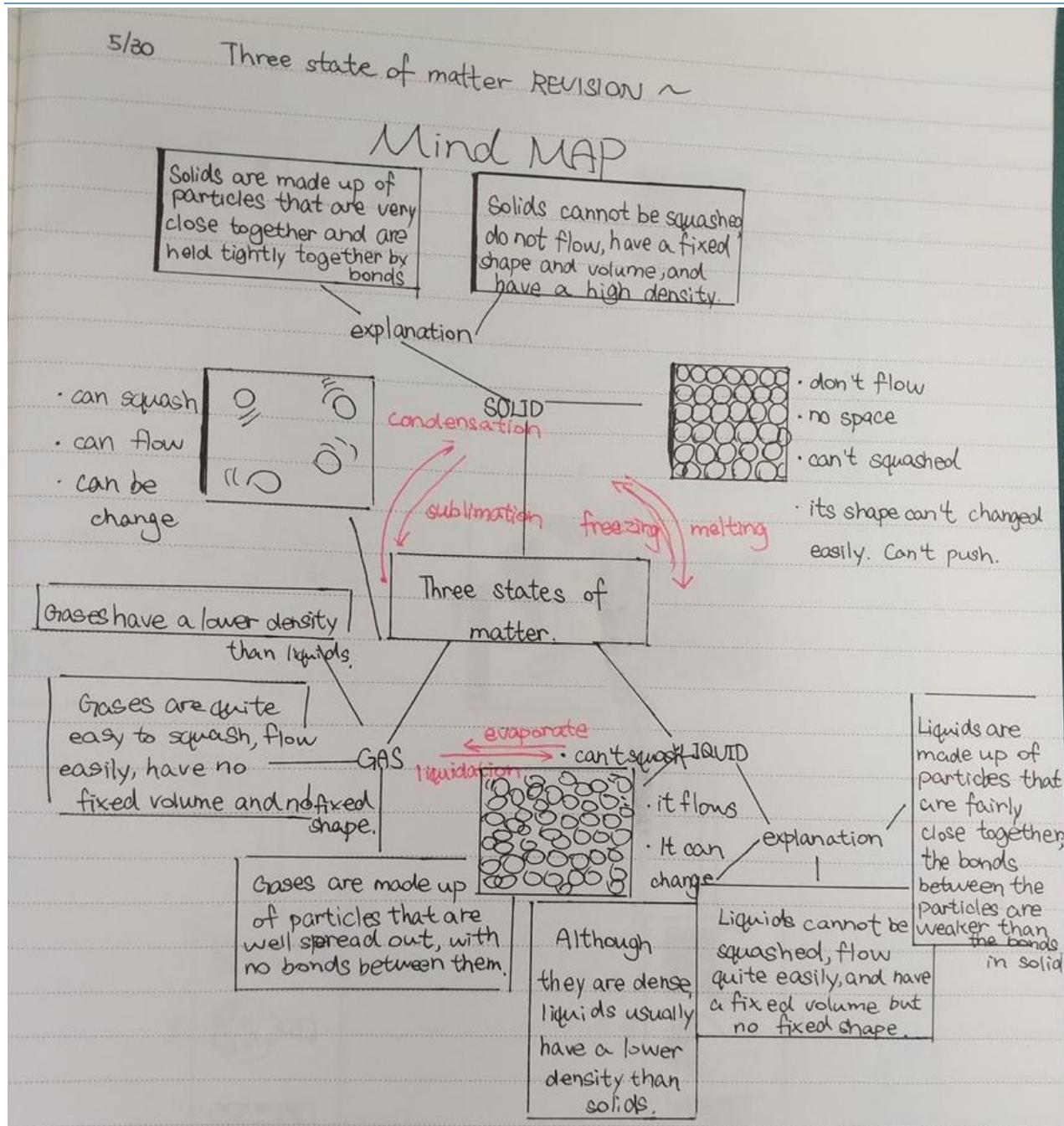


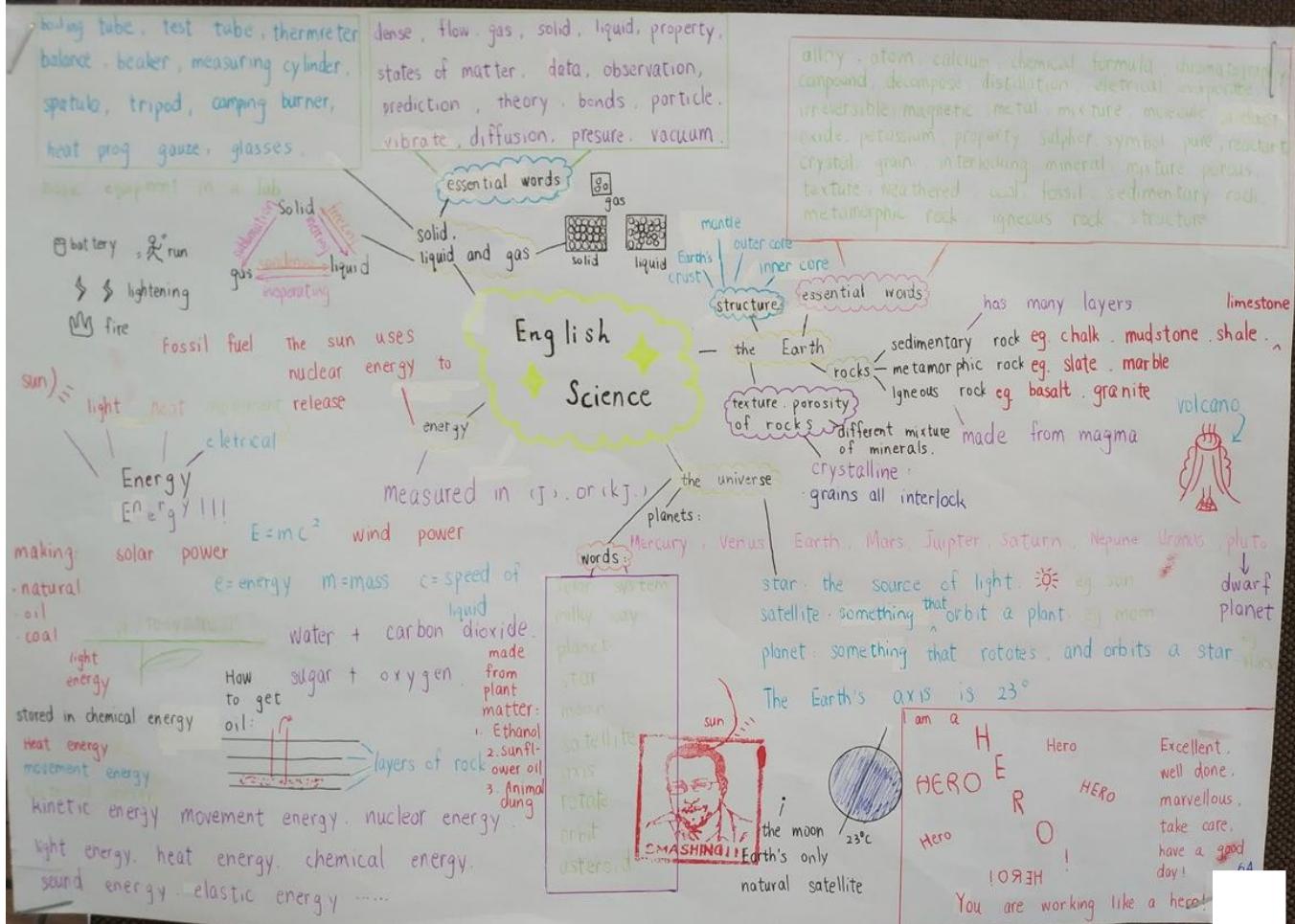
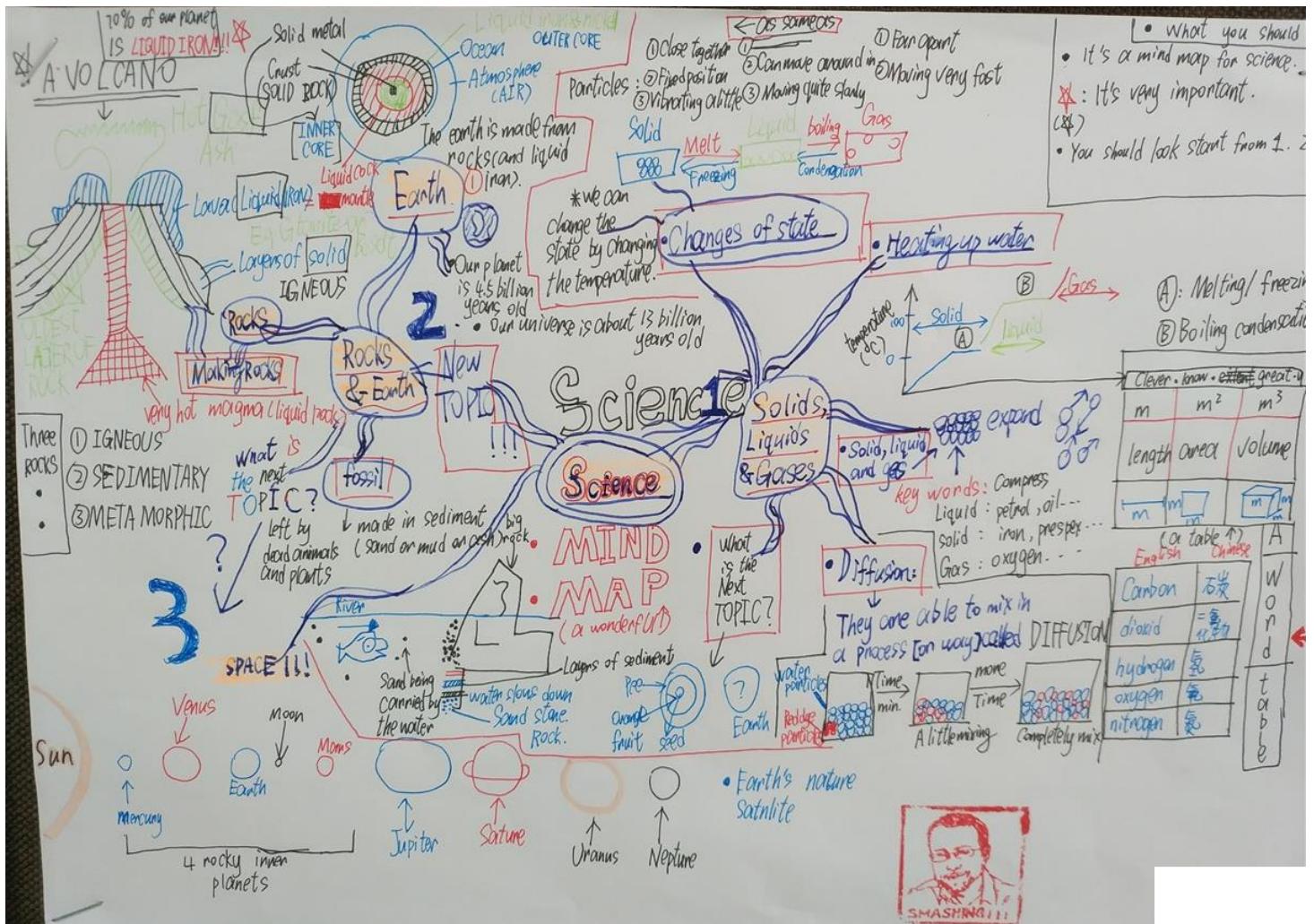
Topic Code	Title, URL and QR Code
	<a href="https://quizlet.com/_4yg8yz">https://quizlet.com/_4yg8yz</a> 
C7c	Sec1 Sci C7c WL Chemical Changes (UK KS3 7E) 23words Core <a href="https://quizlet.com/_4yqlcj">https://quizlet.com/_4yqlcj</a> 
P7b	Sec1 Sci P7b The Earth and Beyond 28words Core (UK KS3 7L & 9J) <a href="https://quizlet.com/_4yv17k">https://quizlet.com/_4yv17k</a> 
P7e	Sec1 Sci P7e WL Energy 24words Core (UK KS3 7i) 

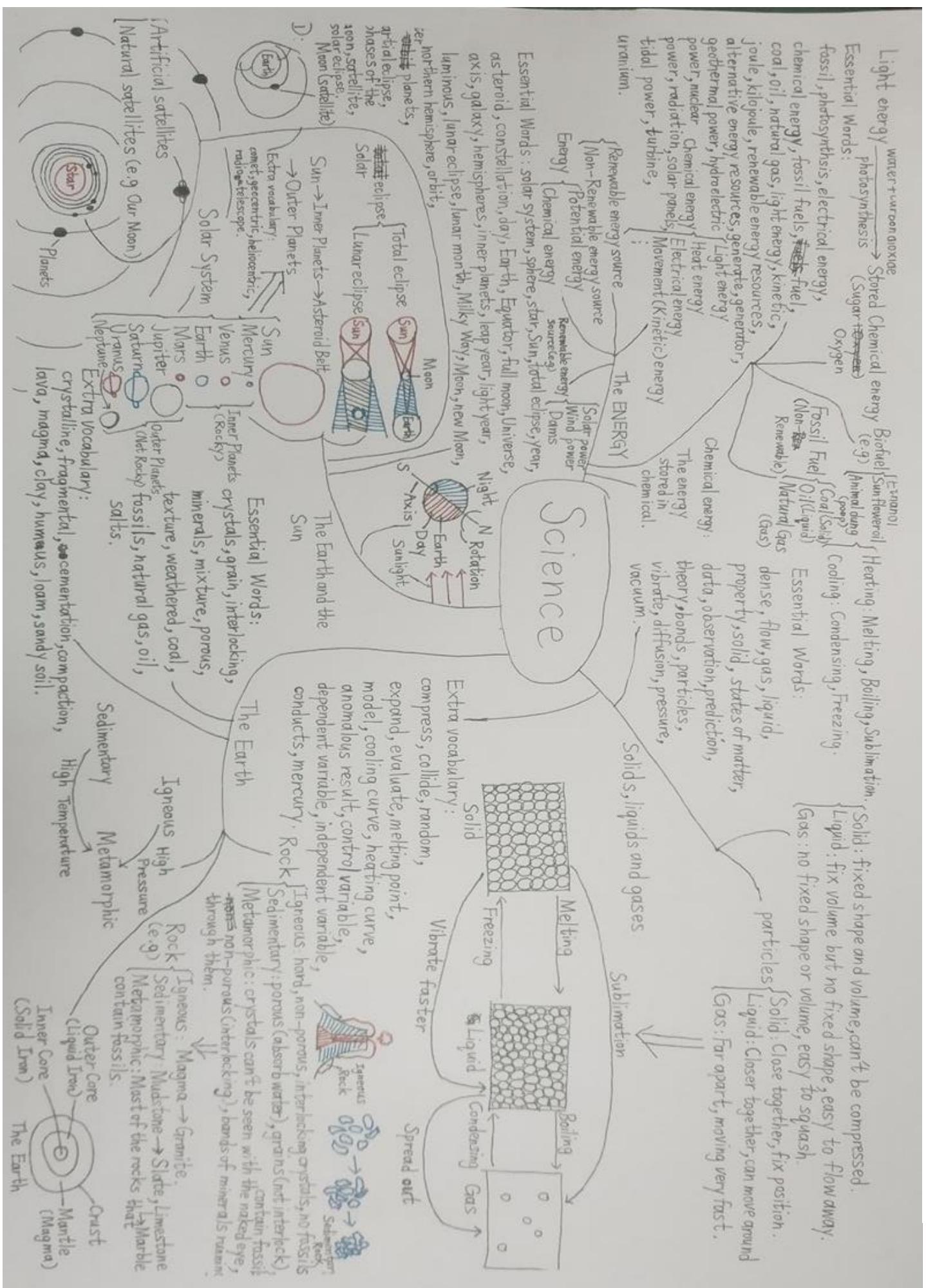
Topic Code	Title, URL and QR Code
	<a href="https://quizlet.com/_4yvy8u">https://quizlet.com/_4yvy8u</a> 
P7f	Sec1 Sci P7f WL Forces and speed 29words (UK KS3 7k & 9k) <a href="https://quizlet.com/_4yw2wh">https://quizlet.com/_4yw2wh</a> 



## Examples of mind maps drawn by students

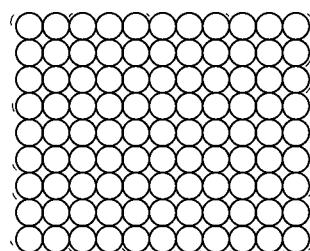




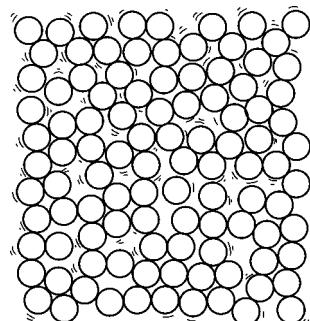


# Sec1 Sci C7s Review Pages States of matter

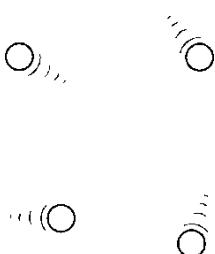
## Solids, liquids and gases



SOLID



LIQUID

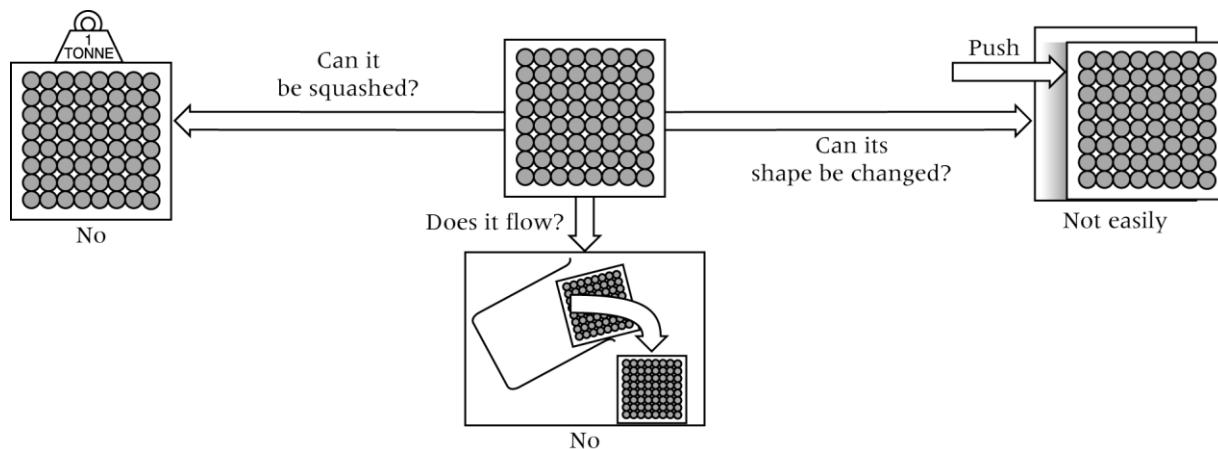


GAS

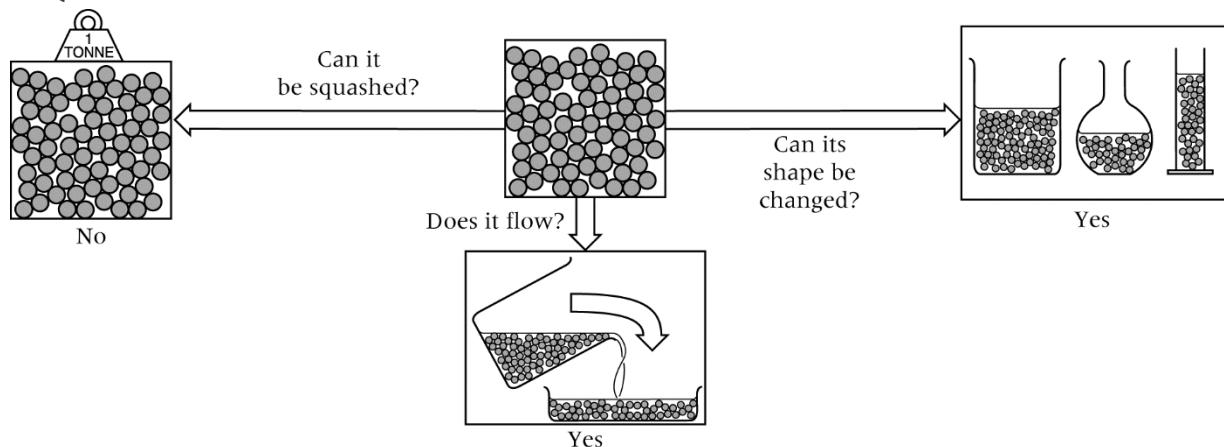
- Solids are made up of particles that are very close together and are held tightly together by strong **bonds**.
- Solids cannot be squashed, do not flow, have a fixed shape and volume, and have a high density.

- Liquids are made up of particles that are fairly close together; the bonds between the particles are weaker than the bonds in solids.
  - Liquids cannot be squashed, flow quite easily, and have a fixed volume but no fixed shape.
  - Although they are dense, liquids usually have a lower density than solids.
- 
- Gases are made up of particles that are well spread out, with no bonds between them.
  - Gases are quite easy to squash, flow easily, have no fixed volume and no fixed shape.
  - Gases have a lower density than liquids.

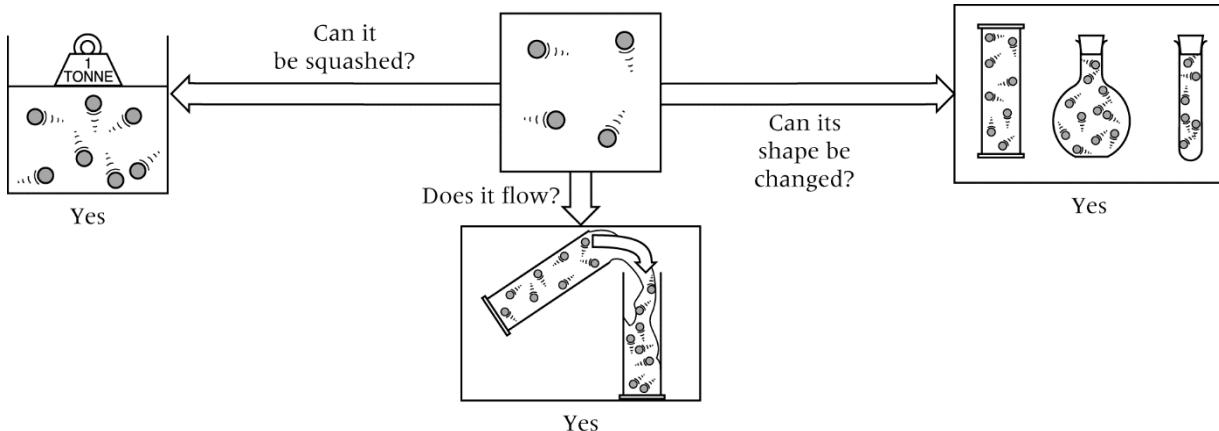
SOLID



LIQUID



## GAS



## Diffusion

The natural mixing of substances is called **diffusion**. Diffusion occurs because particles in a substance are always **moving** around. Diffusion is fastest in **gases**, and slower in liquids. Diffusion in solids is extremely slow.

## Pressure in gases

Pressure is caused by particles hitting the walls of the container they are in. If the pressure becomes too great for a fixed container to hold, it will burst.

The pressure may increase because:

- the container has been squashed, making the volume smaller; this means that the particles will be hitting the walls more often.
- the number of particles has been increased, which means there are more particles moving around to hit the walls.
- the temperature of the particles has increased, so they will move around faster and hit the walls harder and more often.

If the particles are in a container which is flexible, like a balloon or a syringe, an increase in pressure will make the volume increase.

The idea of particles is a **theory** that scientists use to explain **observations**. Scientists use theories to make **predictions**, and test the predictions to find out if they are correct. If the predictions are not correct, then the theory may have to be changed to help to explain the new evidence.

## Sec1 Sci C7e Info Review Pages The rock cycle

Rocks are made from a mixture of **minerals**. The shape of rocks can be changed by **weathering** and **erosion**.

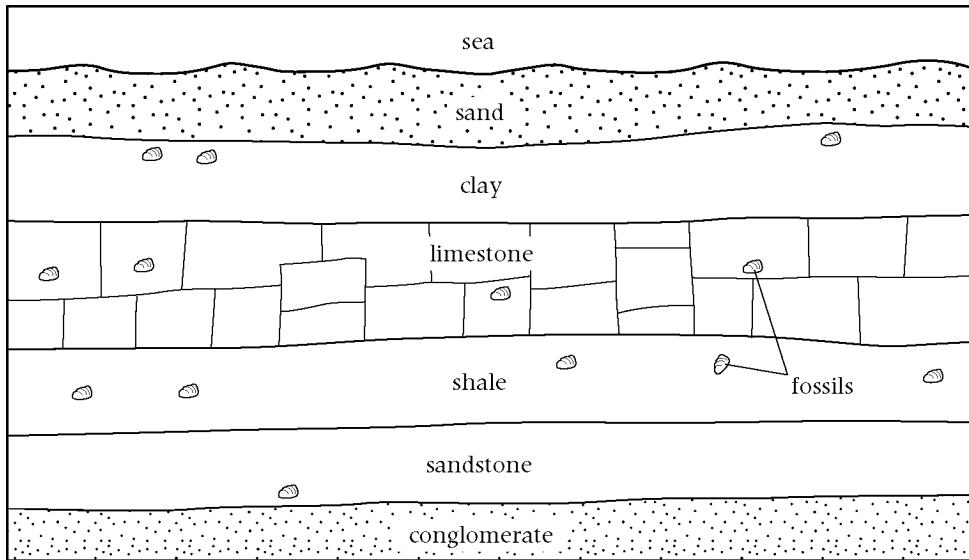
Weathering can occur because of chemical, physical or biological processes.

### Sedimentary rocks

**Rock fragments**, formed as a result of weathering and erosion, are **transported** by rivers, and the fragments get worn down. Small rock fragments are called **grains**. When the water slows down, some of the grains are **deposited** at the bottom of rivers, lakes or seas, and form **sediment**.

Layers of sediment collect on the sea bed, and the bottom layers get squashed. The grains of sediment are forced closer together (**compacted**) and the water is squeezed out from between the grains. Minerals in the sediment 'glue' the grains of rock together (**cementation**). Eventually, **sedimentary rock** is formed. The composition of sedimentary rocks varies and depends on the way they were formed. For example, there are different types of **limestone** – chalk is formed from the shells of microscopic animals, coquina is formed from larger shell fragments and oolite is formed from sediments deposited when sea water evaporated.



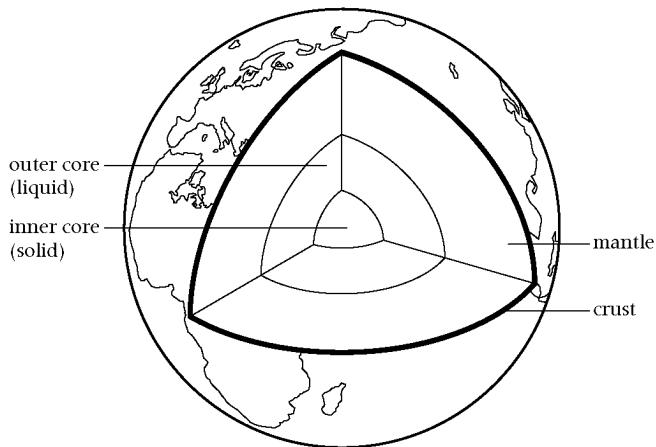


If any animals or plants get trapped in the sediment, they may form **fossils**.

Molten rock is called **magma**. If the molten rock flows out of volcanoes it is called **lava**.

**Igneous rocks** are formed when magma cools down.

Lava cools down quite quickly, and forms igneous rocks with small crystals (like **basalt**). Magma underground cools down much more slowly and forms rocks, like **granite**, with bigger crystals.



## Metamorphic rocks

Sedimentary or igneous rocks can be changed by heat or pressure into new kinds of rock, called **metamorphic rocks**. Metamorphic rocks have different properties from the sedimentary or igneous rocks they were made from.

Type of rock	sedimentary	igneous	metamorphic
Examples	limestone, sandstone, mudstone, chalk	basalt, granite	marble, quartzite, slate, gneiss
Grains or crystals?	separate grains	crystals	crystals – often in bands of different colour
Hard or soft?	often soft or crumbly	hard	hard
Porous?	often	not usually	not usually

## The rock cycle

The Earth is continually changing. Rocks are weathered and eroded and new rocks are being formed. The processes which make rocks, weather them and change them are linked together in the **rock cycle**.



Rocks get weathered by chemical, biological and physical weathering.

Lava cools quickly on the surface to form igneous rocks with small crystals.

Some magma gets trapped, and cools underground to form igneous rocks with large crystals.

Some igneous rocks are changed into metamorphic rocks.

Magma rises to the surface of the Earth.

If the rock is heated enough, it melts and forms magma.

Small fragments of rock get transported away from rock faces by rain, streams and rivers.

When the river slows down, the bits of rock are deposited at the bottom of the river. Over many years, these bits of rock build up to form layers.

The layers of sediment gradually get squashed and eventually form sedimentary rock.

Some sedimentary rocks get heated and squashed under the surface of the Earth. This changes the rock into metamorphic rock.

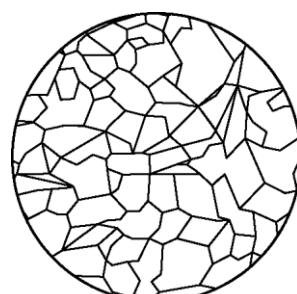
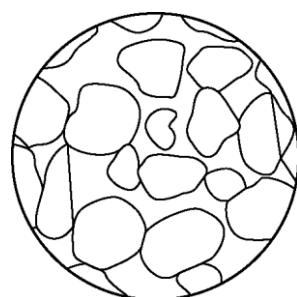
## Sec1 Sci C8e Info Review Pages Rocks and weathering edited

### Rock textures

Rocks are made of **grains**. Each grain is made of a chemical called a **mineral**. The **texture** of a rock depends on the size and shape of the grains.

Sandstone has rounded grains.

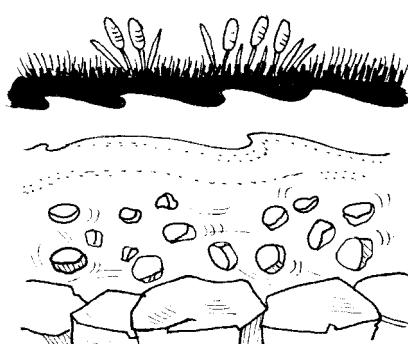
Sandstone is **porous**, because water can get into gaps between the grains.



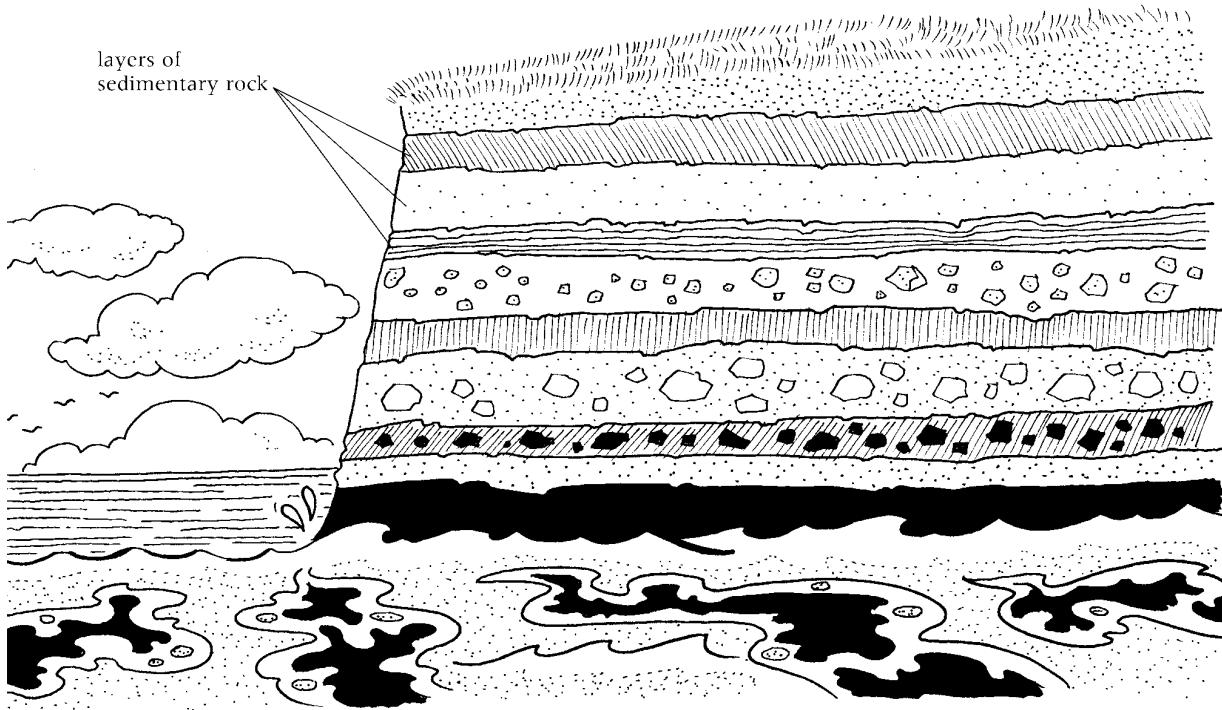
Granite has **interlocking** grains. The interlocking grains are sometimes called **crystals**. Rocks with interlocking grains are not porous.

### Erosion and transport

Weathered pieces of rock fall to the bottom of cliffs. This movement of bits of rock is called **erosion**. The bits of rock can be **transported** away by streams and rivers. Pieces of rock bump into each other while they are being transported, and bits get knocked off them. This is called **abrasion**. The bits of rock carried by a river are called **sediment**.



Fast moving water can move larger pieces of rock than slow moving water. Rivers slow down when they flow into a lake or the sea. The slow moving water cannot carry all of the sediment, so some of it is **deposited** on the bottom. Sediments often form layers. Layers of sediment can also form when sea water evaporates and leaves salts behind.



Sometimes dead plants or animals fall to the bottom of the sea. If their remains get covered by other sediments they may form **fossils**. When a dead organism forms a fossil, its form can still be seen because either it has not rotted away or its hard parts have been turned into stone. Fossils can help geologists find out how rocks were formed.

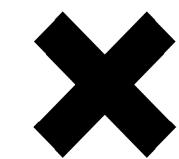
If a lot of plant material is buried at once, it may turn into **coal**. When tiny sea plants and animals get buried they sometimes turn into **oil** or **natural gas**. These are all **fossil fuels**.

## Sec1 Sci C7c Review Pagess Acids and alkalis

**Indicators** are coloured dyes which often come from plants such as red cabbage and beetroot. **Acids** make indicators change colour. **Litmus** is an indicator which turns red in acids. Common acids include vinegar and lemon juice. Fizzy drinks, pickles and spicy sauces also contain acids. Stronger acids such as sulphuric and nitric acids can be more dangerous. Often they are **corrosive**.

**Alkalis** have a different effect on indicators to acids. Litmus turns blue in alkalis. Alkalies can also be corrosive. Weak alkalies include soap and toothpaste.

Bottles in the laboratory and tankers carrying chemicals on the road all have to carry hazard warning labels to show when there is a chemical hazard. Some of the common warning signs are:



The strengths of acids and alkalis can be measured on the **pH scale**, which runs from 1 to 14. pH numbers **1 to 6** are acids, **7** is neutral, and **8 to 14** are alkalis. You can find out the pH number using a **universal indicator**, or by using a pH meter.



strong acid			weak acid			neutral	weak alkali			strong alkali			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
stomach acid	vinegar	skin	pure water	indigestion powders	washing powder	oven cleaner	lemon juice	fizzy drinks	milk	blood	toothpaste		

Alkalies can cancel out acids, making them **neutral**.

Neutralising reactions can be important:

- in gardening and agriculture, to make sure the soil is the correct pH
- when dealing with insect stings and bites
- to control indigestion caused by excess acid in the stomach
- to keep foods such as jam at the correct pH.

## Sec1 Sci C7c Review Pagess Chemical reactions

### Chemical reactions

In a **chemical reaction** a new substance is always formed. Most chemical changes are not easily reversed; they are **irreversible**. In a **physical change** no new substance is formed. Melting and evaporation are examples of physical changes. Physical changes are usually reversible.

You can tell that a reaction has occurred if there is a **colour change** or when a **gas** is given off. Most chemical reactions also involve an **energy change**. This is usually in the form of heat, but can also involve light being given off (for example, when something burns).

### Reactions of acids

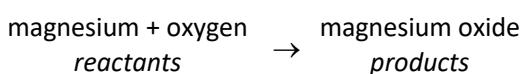
Some metals react with acids, and hydrogen gas is produced. When acids react with chemicals called carbonates, carbon dioxide gas is given off. Carbonates are found in rocks such as limestone or marble, and in some cooking ingredients and indigestion tablets.

You can test the gas made in a reaction to find out what it is:

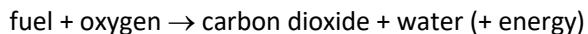
- Hydrogen** burns with a squeaky pop if a lighted splint is held near the test tube.
- Carbon dioxide** will put out a lighted splint, and it makes limewater turn milky.
- Oxygen** makes flames burn more brightly, and will relight a glowing splint.

### Burning

When a metal burns, the metal combines with oxygen from the air to form a chemical called an **oxide**. We can show this using a **word equation**. The chemicals that you start with are called the **reactants**. The chemicals at the end are called the **products**.



Fossil fuels contain a lot of carbon and hydrogen. When they burn they use up oxygen from the air and produce water and carbon dioxide. We can show the reaction using a word equation. Energy is in brackets in this equation because it is not a chemical substance.



## Fire

A fire needs three things to keep burning: fuel, oxygen and heat. We show these three things on the **Fire Triangle**.



If any one of these three things runs out, the fire will go out.

**Fire extinguishers** are used for putting out fires. There are different types of fire extinguisher, and it is important always to use the correct sort for a particular fire. Sand or fire blankets can also be used to put out fires.

Water is often used to put out fires, because it takes away the heat. However, water should *never* be used on oil or petrol fires, because it makes the burning fuel spread out.

Foam, powder or carbon dioxide ( $\text{CO}_2$ ) extinguishers work by stopping oxygen getting to the flames.

## Sec1 Sci C7p Info Review Pages of atoms and elements

### Elements

An **element** is a simple substance that cannot be split into anything simpler by chemical reactions. Atoms are the smallest particles of an element that can exist. **Atoms** of one element are all the same, and are different from atoms of all the other elements.

There are over 100 different elements. All the elements are shown in the **Periodic Table**. Each element has a **chemical symbol**, which is usually one or two letters. A symbol is written with the first letter as a capital, and the second letter is small.

carbon	C	oxygen	O
nitrogen	N	hydrogen	H
gold	Au	silver	Ag
copper	Cu	aluminium	Al

### Metals and non-metals

The **properties** of a substance are the words that we use to describe it, or measurements that we can make on it. **Metals** and **non-metals** have different properties.

Metals	Non-metals
good <b>conductors</b> of heat and electricity	poor <b>conductors</b> of heat and electricity
shiny	dull
solids with a <b>high melting point</b> (except for mercury)	most are solids or gases
found on the left-hand side of the <b>Periodic Table</b>	found on the right-hand side of the <b>Periodic Table</b>
three metals are <b>magnetic</b>	no non-metals are magnetic
metals can burn to form alkaline oxides	non-metals can burn to form acidic oxides
flexible	brittle



## Compounds

Elements can join together to make compounds. The name of the compound tells you the elements that are in it. Compounds made from two elements always have a name which ends in '-ide'.

These elements join together ...	... to make these compounds
carbon, oxygen	carbon dioxide
sodium, chlorine	sodium chloride
magnesium, oxygen	magnesium oxide

A chemical formula tells you the name and number of atoms in a compound. The smallest particle of many compounds is called a **molecule**. Molecules are made up of atoms. Some elements are also made of molecules. For example, a molecule of oxygen contains two oxygen atoms joined together. The formula is O<sub>2</sub>.

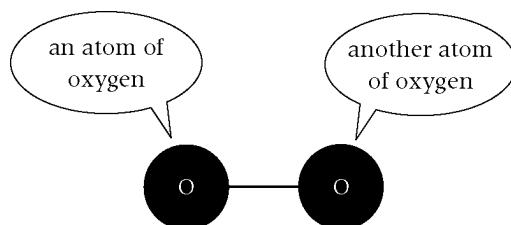
Elements	Compounds	Mixtures
atoms of helium (He) 	molecules of carbon dioxide (CO <sub>2</sub> ) 	a mixture of helium and oxygen 
molecules of oxygen (O <sub>2</sub> ) 	molecules of water (H <sub>2</sub> O) 	a mixture of carbon dioxide and oxygen 
a lump of carbon (C) 	a lump of sodium chloride (NaCl) 	a lump of bronze (an alloy of copper and tin) 

## Sec1 Sci C7p Info Review Pages Compounds and mixtures

**Elements** are simple substances which cannot be split up in chemical reactions. **Atoms** are the smallest particles of an element that can exist. Atoms of an element are all the same.

Each element has its own chemical symbol. For example, the **chemical symbol** for oxygen is O.

Some elements have their atoms joined to each other in small groups called **molecules**. Oxygen is an example.



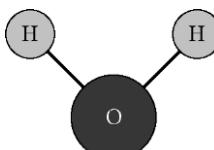
*A molecule of oxygen consists of two oxygen atoms joined together.*

## Compounds

Elements can join together to make **compounds**. A compound contains two or more elements joined together. The name of the compound tells you the elements that are in it. Compounds made from two elements always have a name which ends in '-ide'.

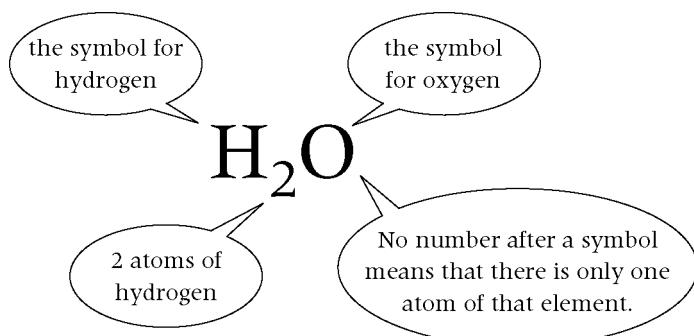


Many compounds exist as atoms attached to each other in small groups – molecules.



*A molecule of water.*

The **chemical formula** tells you the numbers of atoms of each element in a compound. Each element in the chemical formula is shown by its chemical symbol. For example:



A compound always contains the same elements in the same ratio.

The properties of a compound are different from the elements that make it up. For example, hydrogen is an explosive gas and oxygen will relight a glowing splint but water is a liquid which will put fires out.

## Chemical reactions

Compounds can react chemically by mixing them with other chemicals, or by using heat or electricity. You can tell that a **chemical reaction** has occurred if there is a colour change or when a gas is given off.

Most chemical reactions also involve an energy change. This is usually in the form of heat, but can also involve light being given off, for example, in burning (**combustion**).

In a chemical reaction a new substance is always formed. Most chemical reactions are not easily reversed (they are **irreversible**).

Some chemical reactions take place just by mixing. When you make a solid by mixing two liquids, the solid is called a **precipitate**.

Other chemical reactions need energy to start them off. This energy can be in the form of heat, light or electricity. When you use energy to split up compounds they are **decomposed**.

We can write **word equations** to show a chemical reaction. The chemicals that you start with are called the **reactants**. The chemicals at the end are called the **products**. For example:

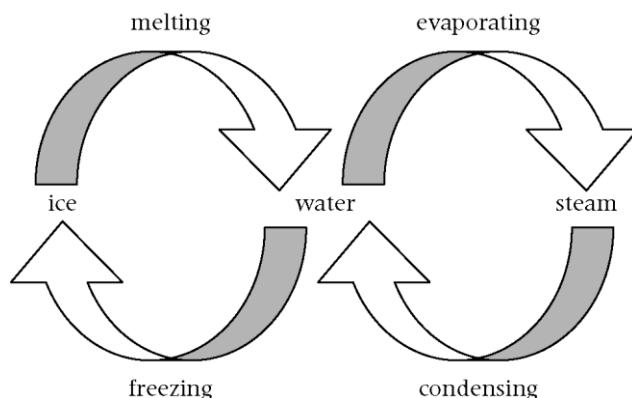


## Physical changes

In a **physical change** no new substance is formed.

**Melting, evaporating, condensing and freezing** are all examples of physical changes.

For example:



## Mixtures

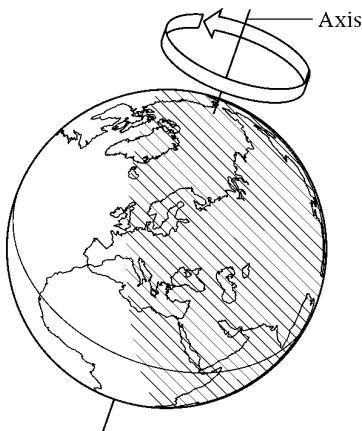
Elements and compounds can also be mixed together. A **mixture** is easier to separate than the elements in a compound. Soil, river water and sea water are examples of mixtures that occur naturally.

Elements and compounds melt and boil at a fixed temperature. Mixtures do not have definite **melting points** and **boiling points**.

Air is a mixture of gases – most of the air is nitrogen and oxygen. The gases in the air can be separated by **fractional distillation**.

## Sec1 Sci P7b Info Review Pages Earth and beyond

We live on a planet called the **Earth**. The Earth gets heat and light from the Sun. The Earth spins on its axis once every 24 hours. The side of the Earth facing the Sun has daylight, and it is night on the side facing away from the Sun.

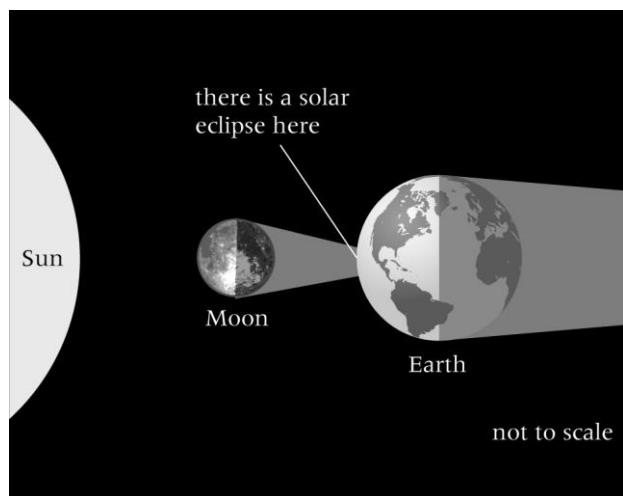


The Earth **orbits** around the Sun. It takes one year to go around once. A year is actually 365.25 days long, so every four years we have a leap year, when an extra day is added.

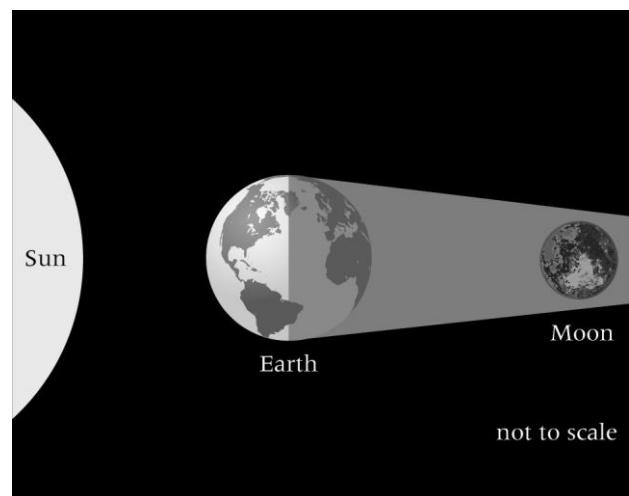
The **Moon** is a **satellite** of the Earth. It orbits the Earth once every 28 days. This is called a **lunar month**.

We can see the Moon because it reflects light from the Sun. The Moon seems to change shape during the month. The different shapes are called **phases of the Moon**. The phases happen because we cannot always see all of the part that is lit by the Sun.

Sometimes the Moon blocks the light from the Sun. When this happens we get a solar eclipse. If the Moon goes into the shadow of the Earth we get a lunar eclipse.



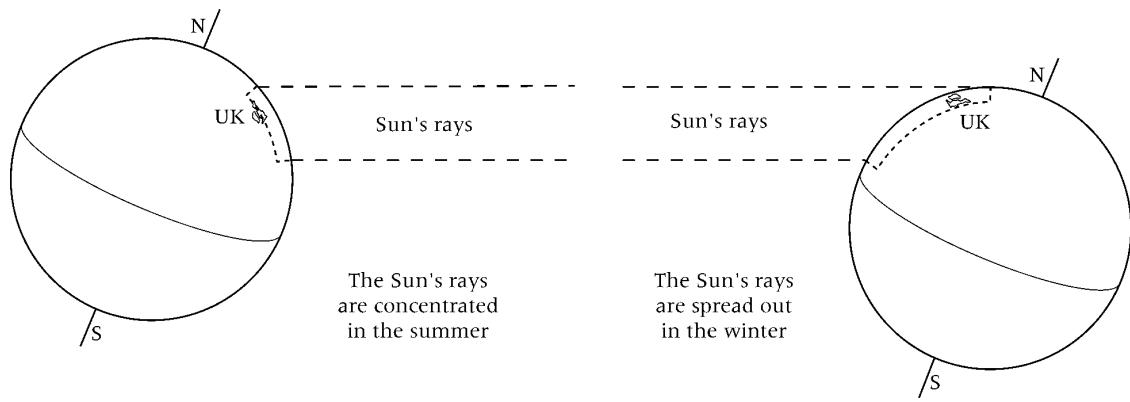
A solar eclipse.



A lunar eclipse.

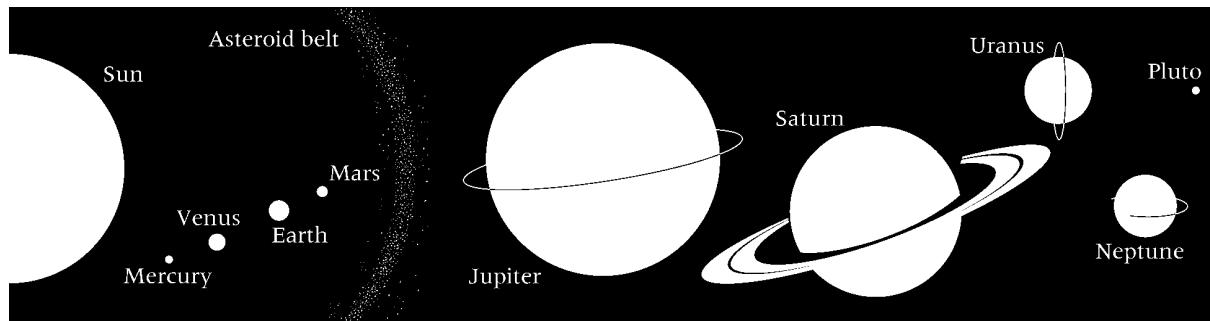
The Earth's axis is **tilted**. When the **northern hemisphere** is tilted towards the Sun it is **summer** in the UK. Days are longer than nights, and the Sun is higher in the sky. The Sun's rays are more **concentrated**, so it feels hotter.





There are nine planets orbiting the Sun, and lots of **asteroids**. Most of the planets have moons orbiting around them. The Sun, the planets and their moons, and the asteroids make up the **Solar System**.

The nine planets are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto. You can remember the order of the planets using this sentence 'My Very Easy Method Just Sums Up Nine Planets'.



**Planets** do not make their own light. We can sometimes see the planets because they reflect light from the Sun.

The Sun is a **star**. It is a ball of gas that gives out large amounts of heat and light energy. The Sun is like the stars you can see in the sky at night. The stars do not look very bright because they are a lot further away than the Sun. People often group stars into patterns called **constellations**.

The Sun is one of millions of stars in our **galaxy**, which is called the **Milky Way**. There are millions of galaxies in the **Universe**.

The stars are a very long way from Earth. Scientists measure distances to the stars using **light years**. A light year is the distance that light can travel in one year.

## Sec1 Sci P7e Review Pagess Energy resources 7i

Energy is needed to make things happen. There are different kinds of energy, such as **light energy** and **heat energy** that we get from the Sun, and **electrical energy**.

We need **fuels** to provide energy in our homes, factories and for transport. A fuel is something which can release heat energy.

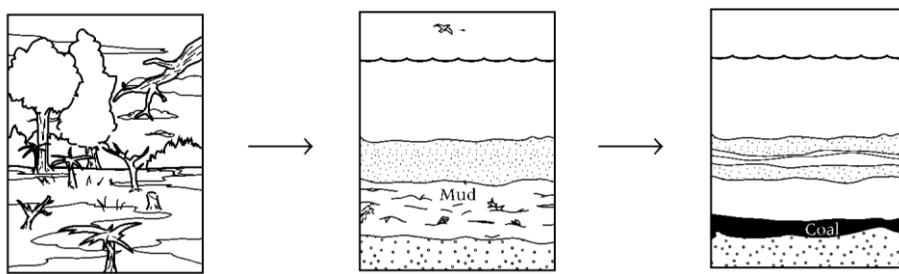
### Fossil fuels

Fossil fuels:

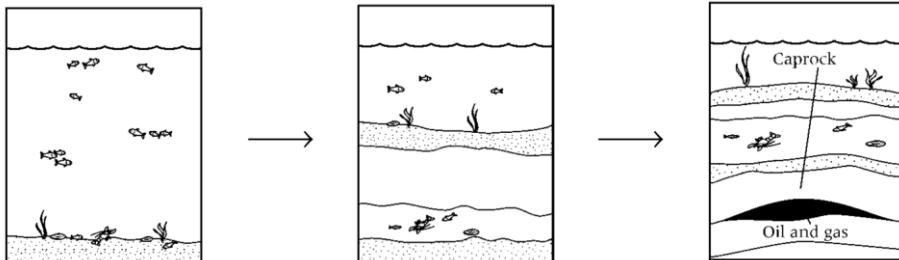
- are made from plants and animals which were trapped in mud and rocks millions of years ago
- include coal, oil and natural gas
- are **non-renewable** (they take millions of years to form, and so our supplies will run out)
- produce gases which cause pollution when they are burnt
- are relatively cheap to obtain
- contain **chemical energy** which changes to heat energy when they are burnt
- originally got their energy from the Sun. The plants that became coal got their energy from the Sun, and the animals that became oil got their energy from plants which got their energy from the Sun.



Electricity is not a fuel. It has to be generated using other energy resources.



How coal is formed.



How oil and natural gas are formed.

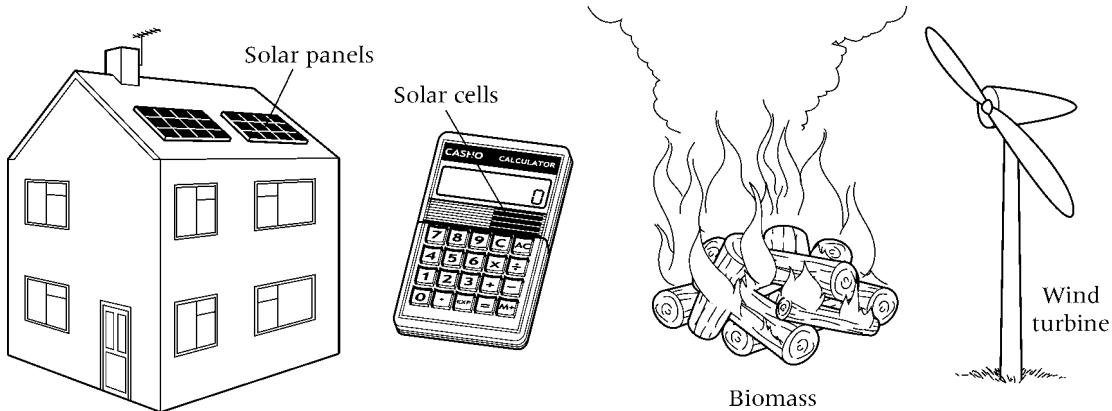
## Making fossil fuels last longer

We can make fossil fuels last longer by using less energy. We could walk or cycle whenever we can, or use a bus instead of using a car. Walking and cycling would make us fitter and healthier, and there would be less pollution if there were not as many cars on the roads. We could also save energy by keeping our houses cooler and wearing more clothes.

## Renewable energy resources

Renewable energy resources:

- include solar, wind, tidal, wave, biomass, geothermal and hydroelectricity
- do not produce harmful gases
- can be expensive
- will not run out.



## Energy in food

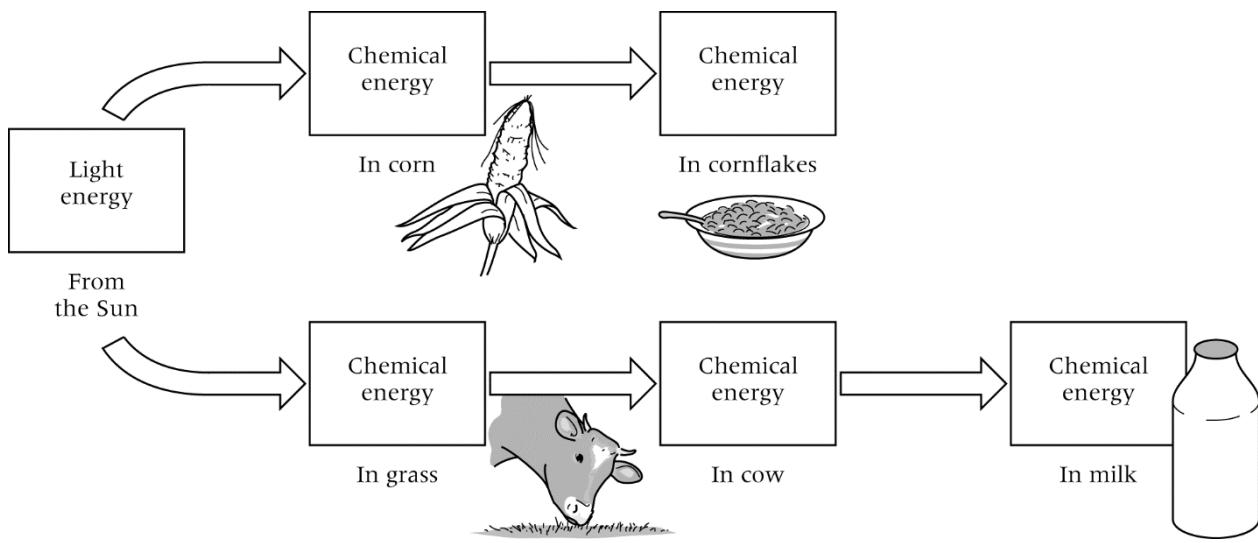
Humans and other animals need energy to live. We get our energy from chemical energy stored in food. We need to choose our food so that we get the right amount of energy. If we eat too much we could get fat and become unhealthy. If we do not eat enough we will get thinner and may become ill.

The unit for measuring energy is the **joule (J)**. There is a lot of energy stored in food, so we usually measure the energy in food using **kilojoules (kJ)**.  $1\text{kJ} = 1000\text{J}$ .

## Energy from the Sun

Most of the energy resources we use originally came from the Sun. Only geothermal energy, nuclear power and tidal power do not depend on energy from the Sun.





## Sec1 Sci P7f Info Review Page Forces and motion

Forces are pushes or pulls. Forces can:

- change the shape or size of an object
- change the speed things are moving (make them move faster or slower)
- change the direction of a moving object.

The units for measuring force are **newtons (N)**.

**Friction** is a force caused by two things rubbing together. **Air resistance** and **water resistance** are kinds of friction. They are sometimes called **drag**.

**Upthrust** pushes things up. Solid things, like your chair, give you upthrust. Things float in water because of upthrust.

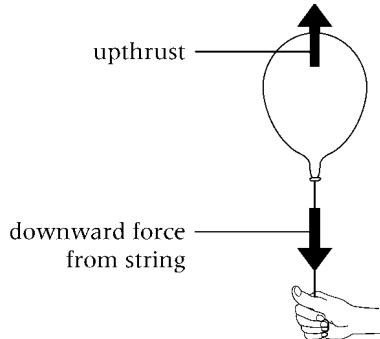
**Contact forces** need to touch the thing that they are affecting. Examples of contact forces are:

- friction
- air resistance
- water resistance
- upthrust.

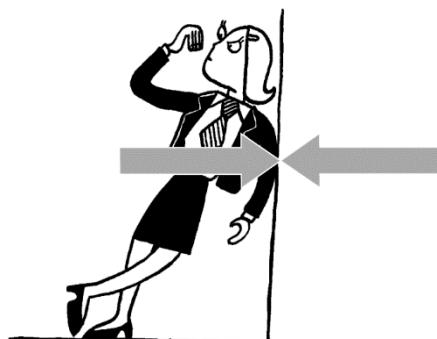
Some forces do not need to touch the thing that they are affecting. They are called **non-contact** forces. There are three non-contact forces:

- magnetism
- gravity
- static electricity.

### Balanced forces



The upwards and downwards forces on this balloon are **balanced**. The balloon will not move.

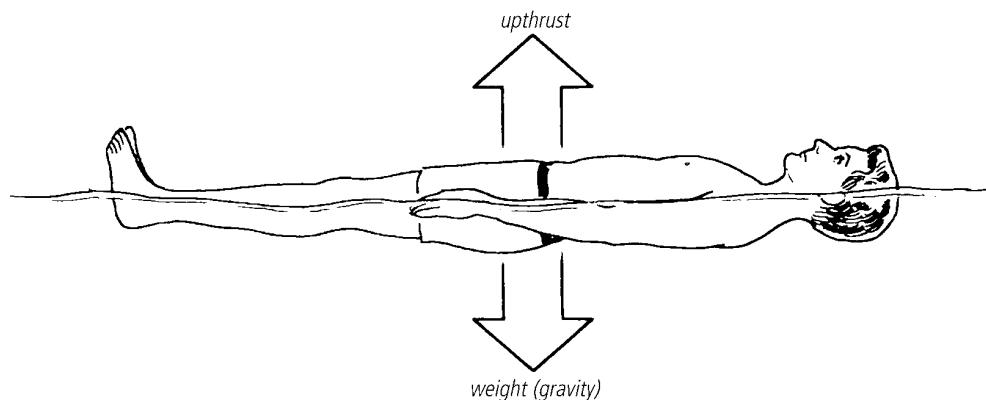


The forces here are balanced. The girl will not move, and neither will the wall!



A rocket in space does not need to use its engine to keep moving. There is no air in space, so there is no air resistance to slow it down.

If you are floating in a swimming pool, your weight and the upthrust are balanced.



## Density and floating

You can decide if something will float by working out its **density**. Density is the mass of a certain volume of something, and it can be calculated using this formula:

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

The units for density are g/cm<sup>3</sup>.

The density of water is 1g/cm<sup>3</sup>. If an object has a density less than 1g/cm<sup>3</sup> it will float. If its density is greater it will sink.

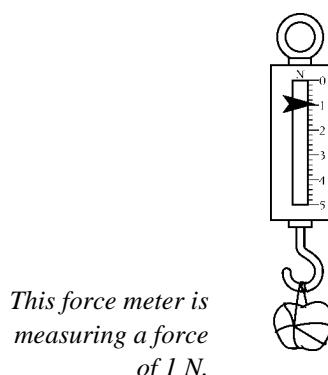
## Measuring forces

**Elastic** materials will stretch with a force and then return to their original shape when the force is taken away.

Materials like Plasticine will stretch with a force but they will not return to their original shape afterwards.

Plasticine is not elastic.

Springs are used to measure the size of a force because they are elastic. A big force stretches a spring further than a small force. **Force meters** have springs inside them.



## Weight and mass

Your **mass** is the amount of substance in your body. Your mass is measured in **kilograms (kg)**.

Your weight is a force caused by gravity pulling on your body. The **newton (N)** is the scientific unit used to measure forces, and so it is also used as the unit for weight.

Wherever you take an object, its mass will not change but its weight depends on the force of gravity. An object on the Moon would have a smaller weight than on Earth, because the Moon's gravity is not as strong as Earth's.

On Earth, gravity pulls on every kilogram of mass with a force of 10 N.



## Friction

Friction is a contact force. Friction can:

- slow things down
- wear things away
- produce heat
- make a noise.

### Friction is sometimes helpful, for instance:

- your shoes grip the floor because of friction
- tyres and brakes use friction
- pencils write because of friction.

### Friction is not always helpful:

- parts of engines wear away because of friction
- friction makes bicycles harder to pedal.

Friction can be increased by using rough surfaces, or by using materials like rubber that have a lot of friction.

Friction can be reduced by using smooth surfaces, or by **lubrication**. Things like oil or grease are **lubricants**, and help things to move past each other easily.

## Speed

To measure how fast something is travelling you need to measure the distance it travels and the time taken. Units of speed are km/h or m/s or mph. The units for speed depend on the units you have used to measure the distance and the time.

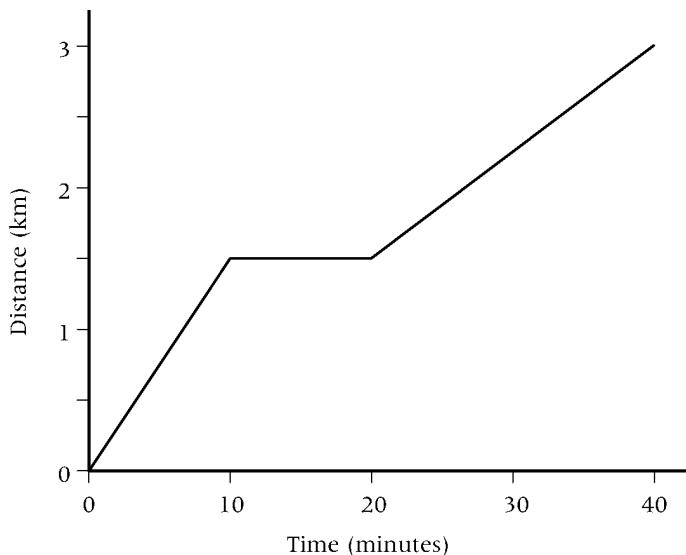
## Stopping distances

A moving car takes some time to stop. The distance it travels while the driver is deciding whether to stop is called the **thinking distance**, and the distance it travels while it is slowing down is called the **braking distance**. If you add the two distances together you get the **stopping distance**.

Stopping distances are longer if the road is wet or icy, if the car has worn tyres, or if the driver is tired or has been drinking alcohol.

## Distance/time graphs

A journey can be shown on a distance/time graph. This graph shows a person running, then stopping for a rest, then walking slowly. The steeper the line on the graph, the faster they are moving.



## C7s States of Matter Word list

#	English	Chinese	Meaning in English	Meaning in Chinese
1	Boil	熬	When a substance changes from the liquid state to the gas state at a certain temperature.	当某种物质在某一温度下从液态变为气态时。
2	Bonds	债券	Forces holding particles together.	把粒子连在一起的力量。
3	Change of state	状态改变	This happens when, for instance a liquid turns into a solid, or when a gas turns into a liquid	例如，当液体变成固体时·或者当气体变成液体时·会发生这种情况
4	Condense	凝结	When a gas turns into a liquid.	当气体变成液体时。
5	Data	数据	Results of an experiment.	实验结果。
6	Dense	稠密	Something which is heavy for its volume.	它的音量很重。
7	Flow	流	When something like a fluid flows.	当像流体一样流动时。
8	Freeze	冻结	When a substance changes from the liquid state to the solid state	当一种物质从液态变为固态时
9	Liquid	液体	Something made of particles that are fairly close together, but attached weakly so that they can move past each other. A liquid has a fixed volume but not a fixed shape.	由相互靠得很近的微粒组成的东西·但是微弱地附着在一起·以便它们可以相互移过。液体具有固定的体积·但不是固定的形状。
10	Melt	熔化	When a solid turns into a liquid.	当一个固体变成液体时。
11	Observation	意见	Looking carefully at things and recording what you see or measure.	仔细观察事物并记录你看到或测量的内容。
12	Particle	粒子	Theory a theory that uses ideas about particles to explain how matter behaves	理论上使用关于粒子的想法来解释物质如何表现的理论
13	Particles	粒子	The tiny pieces that everything is made out of.	所有东西都被制成的小碎片。
14	Prediction	预测	What you think will happen in an experiment when you change something.	当你改变某些东西时·你认为在实验中会发什么。
15	Pressure	压力	The force caused by particles hitting a certain area.	粒子撞击某个区域造成的力量。
16	Property	属性	A description of how a material behaves and what it is like. Hardness is a property of some solids.	描述材料如何表现以及它是什么样子。硬度是一些固体的属性。
17	Solid	固体	Something made of particles that are very close together and attached so that they cannot move past each other. A solid has a fixed shape and volume.	由粒子组成的物体·它们非常靠近并且连接在一起·因此它们不能彼此移过。固体具有固定的形状和体积。
18	States of matter	物态	There are three different forms which a substance can be in; solid, liquid or gas.	有一种物质可能存在三种不同的形式;固体,液体或气体。
19	Temperature	温度	How hot something is, measured in °C.	以°C为单位测量的东西有多热。
20	Theory	理论	An idea about why things work the way they do. Scientists use their imaginations to come up with a theory that can be tested by an experiment.	关于为什么事情按照他们的方式工作的想法·科学家利用他们的想象力提出一个可以通过实验进行测试的理论。
21	Vibrate	颤动	Move backwards and forwards.	前后移动。
22	Fluid	流体	A gas or a liquid, they are able to flow.	气体或液体,他们能够流动。
23	Gas pressure	气体压力	The force exerted by gas particles when they collide with 1m square of a surface	气体粒子碰撞 1 平方米表面时所受的力
24	Sublimation	升华	When a substance changes from the solid state directly to the gas state	当一种物质从固态直接转变为气态时
25	Sublime	升华	When a substance changes from the solid state directly to the gas state	当一种物质从固态直接转变为气态时



# C7e WL The Earth and rock cycle 28words Extravaganza!

#	English	Chinese	Meaning in English	Meaning in Chinese
1	Cemented	凝成	Something that has been stuck together.	一直困在一起的东西。
2	Chalk	粉笔	Soft white or grey rock formed from the shells of small sea animals.	柔软的白色或灰色岩石由小型海洋动物的壳形成。
3	Contract	合同	Get smaller.	变小。
4	Crude oil	原油	A thick black liquid formed underground from the remains of living things that died millions of years ago. It is used to make fuels and plastics.	从数百万年前死亡的生物遗体中形成的浓厚的黑色液体。它用于制造燃料和塑料。
5	Crust	脆皮	The solid rocks at the surface of the Earth.	地球表面的固体岩石。
6	Crystal	水晶	Piece of mineral with sharp edges.	一块矿物与锋利的边缘。
7	Geologist	地质学家	A scientist who studies the origin, structure, and composition of the Earth	一位研究地球起源，结构和组成的科学家
8	Grain	粮食	Tiny, rounded piece of rock.	小小的圆形的岩石。
9	Granite	花岗岩	An igneous rock with large crystals.	大晶体的火成岩。
10	Igneous rock	火成岩	A rock formed when magma or lava cooled down and solidified.	岩浆或熔岩冷却凝固时形成的岩石。
11	Inner core	内核	The solid iron and nickel at the centre of Earth	地球中心的固体铁和镍
12	Lava	岩浆	Molten rock that runs out of volcanoes.	火山运行的熔岩。
13	Limestone	石灰石	A sedimentary rock made from the shells of dead sea creatures consisting mainly of calcium carbonate.	一种由主要由碳酸钙组成的死海生物壳制成的沉积岩。
14	Magma	岩浆	Molten rock beneath the surface of the Earth.	地球表面下的熔岩。
15	Marble	大理石	A metamorphic rock formed from limestone.	由石灰石形成的变质岩。
16	Metamorphic	变质	A word meaning 'changed'.	一个词的意思是“改变”。
17	Metamorphic rock	变质岩	A type of rock formed by the action of heat and/or pressure on sedimentary or igneous rock	一种由沉积岩或火成岩上的热和/或压力作用而形成的岩石
18	Minerals	矿产	The chemicals that rocks are made from.	岩石制成的化学物质。
19	Outer core	外芯	The liquid iron and nickel between the Earth's mantle and inner core	地幔和内核之间的液态铁和镍
20	Physical change	物理变化	A change that does not involve new chemicals. Melting and freezing are examples of physical changes.	不涉及新化学品的变化。融化和冻结是物理变化的例子。
21	Porous	多孔	Porous rocks can soak up water.	多孔岩石可以吸收水分。
22	Rock cycle	摇滚周期	All the processes which form sedimentary, igneous and metamorphic rocks, linked together.	所有形成沉积·火成岩和变质岩的过程连接在一起。
23	Sandstone	砂岩	A sedimentary rock made from rounded grains of sand.	由圆形砂粒制成的沉积岩。
24	Sediment	沉淀	Rock grains and fragments dropped on the bottom of a river, lake or sea.	岩石颗粒和碎片掉落在河流·湖泊或海洋的底部。



#	English	Chinese	Meaning in English	Meaning in Chinese
25	Sedimentary (rock)	沉积岩)	Rock made from sediments joined together by pressure or chemicals	由沉积物制成的岩石通过压力或化学物质连接在一起
26	Sediments	沉积物	Pieces of matter which have settled to the bottom of a liquid	已经沉淀到液体底部的物质碎片
27	Transport	运输	The movement of rock grains and fragments by wind or water.	由风或水引起的岩石碎片和碎片的运动。
28	Volcano	火山	A place where lava flows out of the Earth.	熔岩流出地球的地方。

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# C7c WL Acids & alkalis 23words Extravaganza

#	English	Chinese	Meaning in English	Meaning in Chinese
1	Acid	酸	A substance that turns litmus red. It has a pH of less than 7.	一种石蕊变红的物质。它的 pH 值小于 7。
2	Acidic	酸性	A substance that has a pH of less than 7	一种 pH 值小于 7 的物质
3	Alkali	强碱	Substance that turns litmus blue. Has a pH of more than 7.	石蕊蓝色的物质。 pH 值超过 7。
4	Alkaline	碱性	A solution with a pH that is more than 7	pH 值超过 7 的溶液
5	Common salt	食盐	A chemical we use to make things taste 'salty'.	我们使用的一种化学物质使食物的味道变得“咸”。
6	Concentrated	集中	A solution that contains a lot of solute dissolved in very little solvent	包含很多溶质溶解在很少溶剂中的溶液
7	Dilute	稀	This means the liquid is mostly water with only a small amount of acid or alkali	这意味着液体主要是水，只有少量的酸或碱
8	Ethanoic acid	乙酸	The acid in vinegar.	醋中的酸。
9	Harmful	有害	Another word for irritant.	另一个刺激的词。
10	Hazard	冒险	A possible source of danger	可能的危险源
11	Hazard symbols	危险符号	They show you with pictures how you could be hurt by the chemicals inside	他们向你展示你如何受到里面化学物质的伤害
12	Hydrochloric acid	盐酸	A common strong acid that is also found in your stomach.	胃里也有一种常见的强酸。
13	Indicator	指示符	A dye that will change colour in acids and alkalis.	一种会改变酸和碱中的颜色的染料。
14	Irritant	刺激	A chemical that can hurt your skin and your eyes.	可能伤害你的皮肤和眼睛的化学物质。
15	Litmus	石蕊	An indicator which tells you if a substance is acidic or alkaline. If a substance is alkaline it turns blue. If a substance is acidic, it turns red.	一个指标，告诉你如果一种物质是酸性或碱性。如果一种物质是碱性的，它会变成蓝色。如果某种物质呈酸性，则会变红。
16	Neutral	中性	Substance that is not an acid or an alkali. Has a pH of 7.	不是酸或碱的物质。有一个 7 的 pH 值。
17	Neutralise	抵消	This is what happens when an acid and an alkali are added together in the right amount.	当酸和碱以合适的量加在一起时会发生这种情况。
18	Nitric acid	硝酸	A common acid it is used to make fertilisers to help farmers grow food	它被用来制造肥料以帮助农民种植食物
19	Ph scale	Ph 量表	A numbered scale from 1–14 showing the strengths of acids and alkalis. Numbers below 7 are acids. Numbers above 7 are alkalis. pH 7 is neutral.	从 1-14 的编号标度显示酸和碱的强度。低于 7 的数字是酸。7 以上的数字是碱。pH 7 是中性的。
20	Risk	风险	The chance of damage or injury from a hazard	危险造成损坏或受伤的可能性
21	Sulphuric acid	硫酸	A common acid. Used in car batteries.	一种普通的酸。用于汽车电池。
22	Universal indicator	通用指标	A mixture of chemicals which change colour depending on how acidic or alkali a liquid is	化学物质的混合物，根据液体的酸性或碱性而变化
23	Variable	变量	A factor in an experiment that can change.	可以改变的实验中的一个因素。



# C7p WS Chemical properties 24word list extravaganza

Use this word list to help you with the tasks and questions that follow

#	English	Chinese	Meaning in English	Meaning in Chinese
1	alloy	合金	A mixture of different metals.	不同金属的混合物。
2	atom	原子	The smallest part of an element you can get.	您可以获得的元素的最小部分。
3	boiling point	沸点	When a liquid is at its boiling point it is as hot as it can get. It is evaporating as fast as it can.	当液体处于沸点时，它就像它可以得到的那样热。它正在蒸发尽可能快。
4	bond	键	Force holding atoms together.	强制把原子放在一起。
5	chemical formula	化学式	A combination of symbols and numbers that show how many atoms of different kinds there are in a particular compound.	符号和数字的组合，显示特定化合物中有多少种不同的原子。
6	compounds	化合物	Substances that can be split up into simpler substances.	可以分解成更简单物质的物质。
7	decompose	分解	Break down into simpler parts.	分解成更简单的部分。
8	distillation	蒸馏	Separating a liquid from a solution by evaporating the liquid and then condensing it.	通过蒸发液体然后冷凝液体从溶液中分离液体。
9	electrical conductor	导电器	Something which allows electricity to flow through it easily.	可以让电力轻松流过的东西。
10	element	元件	A substance that cannot be split up into anything simpler by chemical reactions.	一种物质不能通过化学反应分解成任何更简单的物质。
11	evaporate	蒸发	When a liquid turns into a gas.	当液体变成气体时。
12	freezing point	冰点	The temperature at which a liquid turns into a solid.	液体变成固体的温度。
13	heat conductor	热导管	Something which allows heat to flow through it easily.	容易让热量流过的东西。
14	high melting point	高熔点	Something with a high melting point has to be at a very high temperature before it melts. It is a solid at room temperature.	高熔点物质在融化之前必须处于非常高的温度。它在室温下是固体。
15	low boiling point	低沸点	Something with a low boiling point will turn into a gas at a relatively low temperature. It can be a solid, liquid or gas at room temperature.	具有低沸点的物质会在相对较低的温度下变成气体。它可以是室温下的固体、液体或气体。
16	magnetic	磁性	A metal (iron, nickel or cobalt) that can be magnetised or attracted to a magnet.	金属（铁、镍或钴）可以被磁化或吸引到磁铁上的金属。
17	melting point	熔点	The temperature at which a solid turns into a liquid.	固体变成液体的温度。
18	molecule	分子	Two or more atoms joined together.	两个或更多个原子连接在一起。
19	precipitate	沉淀	Insoluble solid produced by mixing two solutions.	混合两种溶液产生的不溶性固体。
20	shiny	亮面	Reflects light well.	很好地反射光线。
21	sodium chloride	氯化钠	Chemical name for common salt.	食盐的化学名称。
22	sulphur	硫	A yellow, non-metal element. Solid at room temperature	黄色的非金属元素。室温下为固体
23	symbol	符号	The letter or letters that represent an element.	表示元素的字母或字母。
24	symbol equation	符号公式	A way of writing out what happens in a chemical reaction using the symbols that represent the substances involved.	使用代表所涉及物质的符号来写出化学反应中发生的情况的一种方法。



## P7b WL The Earth & beyond 28word Core

#	English	Chinese	Meaning in English	Meaning in Chinese
1	Atmosphere	大气层	The layer of air above Earth's surface	地球表面以上的空气层
2	Big bang	大爆炸	The expansion of space which we believe started the Universe	我们相信宇宙开始扩张的空间
3	Billions	数十亿	A thousand million (1 000 000 000)	十亿 (1 000 000 000)
4	Day	天	24 hours, the time it takes the Earth to spin once on its axis.	24 小时，地球旋转一圈的时间。
5	Earth	地球	The planet we live on.	我们居住的星球。
6	Eclipse	蚀	The Sun or Moon is blocked from view on Earth	太阳或月球从地球上看不到
7	Equator	赤道	An imaginary line around the middle of the Earth.	围绕地球中部的一条想象线。
8	Galaxy	星系	Billions of stars grouped together.	数十亿颗恒星组合在一起。
9	Jupiter	木星	The largest outer planet made of gas, fifth from the Sun	最大的外星球是由太阳制成的第五颗行星
10	Light sources	光源	Objects that emit visible light, also called luminous objects	发射可见光的物体，也称为发光物体
11	Milky way	银河	The galaxy that our Solar System is in.	我们的太阳系所在的星系。
12	Million	百万	A thousand thousand (1 000 000)	一千一百 (1 000 000)
13	Moon	月亮	A moon is a large lump of rock orbiting around a planet. The Moon is the moon that orbits the Earth.	月亮是围绕着一颗行星环绕的大块岩石。月亮是绕地球运行的月球。
14	Orbit	轨道	The path that a planet takes around the Sun, or the path that a moon or satellite takes around a planet.	行星在太阳附近的路径，或月球或卫星在行星周围的路径。
15	Planet	行星	Any very large body that orbits a star in a solar system	任何在太阳系中绕着恒星运行的非常大的物体
16	Pluto	冥王星	Used to be regarded as the ninth and last planet from the Sun; now called a dwarf planet together with others of the same size that are beyond its orbit	曾经被视为来自太阳的第九颗也是最后一颗行星；现在被称为一颗矮行星，以及超出其轨道的其他同样大小的行星
17	Poles, of earth	波兰人 · 地球	The north and south points of the Earth connected by its axis of tilt	地球的南北两点通过其倾斜轴相连
18	Saturn	土星	A large outer planet made of gas, sixth from the Sun	一个大的外星球，由太阳第六个气体组成
19	Seasons	四季	Changes in the climate during the year as the Earth moves around its orbit	随着地球在轨道上移动，一年中气候的变化
20	Solar system	太阳系	A star with planets and other objects orbiting it.	星球上有行星和其他物体的轨道。
21	Star	星	A huge ball of gas that gives out heat and light energy.	一个巨大的气球，发出热量和光能。
22	Sun	太阳	The star that the Earth orbits around.	地球绕行的恒星。
23	Telescope	望远镜	A device made with lenses that allows distant objects to be seen clearly	用透镜制成的装置，可以清楚地看到远处的物体
24	Thousand	千	1 000	1 000



#	English	Chinese	Meaning in English	Meaning in Chinese
25	Universe	宇宙	All the galaxies and the space between them make up the Universe.	所有的星系和它们之间的空间构成了宇宙。
26	Uranus	天王星	A large outer planet made of gas, seventh from the Sun	一个巨大的外层行星 · 由太阳第七个
27	Venus	金星	A rocky inner planet, second from the Sun	一颗岩石般的内在行星 · 距太阳第二
28	Year	年	The length of time it takes a planet to go around the Sun. One year on Earth is 365.25 days.	行星绕太阳行走的时间长度。地球上的 一年 365.25 天。



# P7e WL Energy 24words Core Extravaganza!!!

#	English	Chinese	Meaning in English	Meaning in Chinese
1	Chemical potential energy	化学势能	(Chemical energy) energy stored in fuels, food, and electrical batteries	(化学能) 储存在燃料·食品和电池中的能量
2	Degrees Celsius	摄氏度	(°C) a temperature scale with 0°C fixed at the melting point of ice and 100 °C fixed at the boiling point of water	(°C) 温度标度·0°C固定在冰点，100°C固定在水的沸点
3	Elastic potential energy	弹性势能	(Epee) energy stored in an elastic object that is stretched or squashed	(Epee) 储存在被拉伸或挤压的弹性物体中的能量
4	Electrical energy	电能	The kind of energy carried by electricity.	电力携带的能量。
5	Energy	能源	This is needed to make things happen	这是实现事情所必需的
6	Energy transfer	能量转移	Energy changing from one form to another, such as from chemical to thermal energy	能量从一种形式转变为另一种形式·如从化学能转变为热能
7	Generate	生成	Make electricity by turning a magnet inside coils of wire.	通过转动线圈内的磁铁来发电。
8	Generator	发电机	Large coil of wire with a magnet inside. When the magnet is turned, electricity is produced in the coil of wire.	内部有磁铁的大线圈。当磁体转动时·电线在线圈中产生电力。
9	Gravitational potential energy (GPE)	引力势能	Energy stored in an object because of its height above the ground	由于其高度高于地面而储存在物体中的能量
10	Heat	热	To change the temperature of something; the word 'heat' is sometimes used instead of thermal energy	改变某物的温度;“热”这个词有时用来代替热能
11	Joule (J)	焦耳 (J)	The unit for measuring energy.	能量测量单位。
12	Kinetic energy	动能	The kind of energy in moving things.	移动物体时的能量。
13	Law of conservation of energy	能量守恒定律	The idea that energy can never be created or destroyed, only changed from one form into another.	能源永远不会被创造或破坏的想法·只是从一种形式变为另一种形式。
14	Light energy	光能	The kind of energy given out by the sun, TV screens and candles.	阳光，电视屏幕和蜡烛发出的能量。
15	Non-renewable energy resource	不可再生能源	Any energy resource that will one day run out, like oil.	任何一天都会耗尽的能源，比如石油。
16	Power station	发电厂	A place where fuel is burned to produce electricity	燃烧燃烧产生电力的地方
17	Renewable	可再生	Describes energy resources that are constantly being replaced and are not used up, such as falling water or wind power	描述不断被替换并且未被用完的能源·例如水流或风力不足
18	Solar power	太阳能	Making electricity by using light or heat energy from the Sun.	通过使用来自太阳的光或热能来发电。
19	Sound energy	声能	The kind of energy made by anything that is making a noise.	任何发出噪音的能量。
20	Sunlight	阳光	Light from the Sun	来自太阳的光
21	Transfer (of energy)	转移 (能源)	Shifting energy from one place to another	将能量从一个地方转移到另一个地方
22	Transformation (of energy)	转化 (能源)	A change from one type to another	从一种类型转变为另一种类型
23	Useful energy	有用的能量	The energy that you want from a process	你想从一个过程中获得的能量
24	Vibration	振动	Motion to and fro of the parts of a liquid or solid	来回移动液体或固体的平底锅



# P7f WL Forces and speed 29word Core Extravaganza!!!

#	English	Chinese	Meaning in English	Meaning in Chinese
1	Balanced forces	平衡的力量	When two forces are the same strength, but working in opposite directions.	两支力量相同时，方向相反。
2	Contact force	接触力	A force that needs to touch an object before it can affect it (e.g. friction).	在物体受到影响之前需要接触物体的力（例如摩擦力）。
3	Density	密度	The amount of mass that 1cm <sup>3</sup> of a substance has. Measured in g/cm <sup>3</sup> .	1cm <sup>3</sup> 的物质所具有的质量。以 g / cm <sup>3</sup> 测量。
4	Elastic	弹	Any substance that will return to its original shape and size after it has been stretched or squashed.	任何物质在被拉伸或压扁后都会恢复到原来的形状和大小。
5	Force	力	A push or a pull.	推或拉。
6	Force meter	测力计	Piece of equipment containing a spring, used to measure forces.	装有弹簧的设备，用于测量力量。
7	Friction	摩擦	A force that tries to slow things down when two things rub against each other.	两种东西互相摩擦时试图减慢速度的力量。
8	Gram	公克	A unit for measuring mass (g).	测量质量的单位 (g)。
9	Kilogram	公斤	A unit for measuring mass (kg). There are 1000 g in 1 kg.	测量质量的单位 (kg)。1 公斤有 1000 克。
10	Magnetism	磁性	A non-contact force that attracts objects made out of iron.	吸引铁制物体的非接触力。
11	Mass	块	The amount of matter that something is made of. Measured in grams (g) and kilograms (kg). Your mass does not change if you go into space or to another planet.	事物的构成量。以克 (g) 和千克 (kg) 计量。如果你进入太空或其他星球，你的质量不会改变。
12	Newton (N)	牛顿 (N)	The unit of force (N).	力的单位 (N)。
13	Newton meter	牛顿米	Another name for a force meter.	测力计的另一个名字。
14	Non-contact force	非接触力	A force that can affect something from a distance (e.g. gravity).	一种可以影响远处物体（如重力）的力量。
15	Unbalanced forces	不平衡的力量	When two forces working in opposite directions are not the same strength.	两个相反方向的力量力度不一样时。
16	Upthrust	逆冲	A force that pushes thing up.	推动事物的力量。
17	Weight	重量	The amount of force with which gravity pulls something towards the Earth. It is measured in newtons (N).	重力把东西拉向地球的力量。它以牛顿 (N) 来衡量。
18	Accelerate	加速	Change speed.	改变速度。
19	Air resistance	空气阻力	A force that tries to slow down things that are moving through the air. It is a type of friction.	试图减缓在空中移动的事物的力量。这是一种摩擦。
20	Distance/time graph	距离/时间图	A graph that shows how far and how fast something travels during a journey.	一张图表显示旅途中旅行的速度有多快和多快。
21	Kilometres per hour (km/h)	公里/小时 ( km / h )	Units for speed when the distance is measured in kilometres and the time is measured in hours.	以千米为单位测量距离时的速度单位，时间以小时为单位。
22	Mean speed	平均速度	The total distance something travels divided by the total time taken allows you to calculate the thing's mean or average speed.	事物总行程除以总时间可以计算出事物的平均速度或平均速度。



#	English	Chinese	Meaning in English	Meaning in Chinese
23	Metres per second (m/s)	米/秒 (m / s)	Units for speed when the distance is measured in metres and the time is measured in seconds.	以米为单位测量距离时的速度单位 · 时间以秒为单位。
24	Speed	速度	How fast something is moving. Often measured in metres per second (m/s), miles per hour (mph) or kilometres per hour (km/h).	有些东西在移动。通常以米/秒 (m / s) , 英里/小时 ( mph) 或每小时 ( km / h) 为单位来测量。
25	Drag	拖动	Air resistance and water resistance are both sometimes called drag.	空气阻力和防水性有时被称为阻力。
26	Lubricant	滑润剂	A substance (normally a liquid) used to reduce friction.	用于减少摩擦的物质 (通常为液体)。
27	Lubrication	润滑	Adding a lubricant to something.	给某物添加润滑剂。
28	Static electricity	静电	A force which attracts things with extra electrical charges on them.	这种力量吸引着他们的额外电荷。
29	Stationary	静止的	Not moving.	没有移动。



# C7s States of Matter Keyword List Test

## 7 True/False questions

1. CONDENSE → When a solid turns into a liquid.

- True
- False

2 PROPERTY → A description of how a material behaves and what it is like. Hardness is a property of some solids.

- True
- False

3. CHANGE OF STATE → Forces holding particles together.

- True
- False

4. SUBLIME → When a substance changes from the solid state directly to the gas state

- True
- False

5. FREEZE → When a substance changes from the solid state directly to the gas state

- True
- False

6. PREDICTION → Looking carefully at things and recording what you see or measure.

- True
- False

7. Move backwards and forwards. → VIBRATE

- True
- False

## 7 Written questions

1. For more funbelievable middle and high school science resources (Secondary 1, iGCSE, A Level & IB Diploma) for both teachers and students check out my website. Take things easy and have a marvelous day!

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2. How hot something is, measured in °C.

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3. The force caused by particles hitting a certain area.

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#### 4. BOIL

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#### 5. OBSERVATION

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#### 6. LIQUID

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7. There are three different forms which a substance can be in; solid, liquid or gas.

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### 6 Matching questions

1. \_\_\_\_ FLOW

A. A gas or a liquid, they are able to flow.

2. \_\_\_\_ DENSE

B. Results of an experiment.

3. \_\_\_\_ DATA

C. Something which is heavy for its volume.

4. \_\_\_\_ SOLID

D. Something made of particles that are very close together and attached so that they cannot move past each other. A solid has a fixed shape and volume.

5. \_\_\_\_ MELT

E. When a solid turns into a liquid.

6. \_\_\_\_ FLUID

F. When something like a fluid flows.

### 6 Multiple choice questions

1. An idea about why things work the way they do. Scientists use their imaginations to come up with a theory that can be tested by an experiment.

A. SOLID

B. LIQUID

C. PROPERTY

D. THEORY

2. BONDS

A. This happens when, for instance a liquid turns into a solid, or when a gas turns into a liquid

B. When a substance changes from the solid state directly to the gas state

C. When a substance changes from the liquid state to the gas state at a certain temperature.

D. Forces holding particles together.

3. GAS PRESSURE

A. The force exerted by gas particles when they collide with 1m square of a surface

B. The force caused by particles hitting a certain area.

C. There are three different forms which a substance can be in; solid, liquid or gas.

D. Looking carefully at things and recording what you see or measure.



4. When a substance changes from the solid state directly to the gas state

- A. BOIL
- B. CHANGE OF STATE
- C. FREEZE
- D. SUBLIMATION

5. Theory a theory that uses ideas about particles to explain how matter behaves

- A. PARTICLES
- B. PRESSURE
- C. PARTICLE
- D. PREDICTION

6. The tiny pieces that everything is made out of.

- A. PRESSURE
- B. TEMPERATURE
- C. PARTICLES
- D. PREDICTION



# C7e WL Earth and Rocks 28marks Keyword List Test

## 8 True/False questions

1. A thick black liquid formed underground, or under the sea, from the remains of plants and animals that died millions of years ago. Crude oil is used to make fuels, such as petrol and diesel, and many plastics. → LIMESTONE

- True
- False

2. Rock made from sediments joined together by pressure or chemicals → SEDIMENT

- True
- False

3. The liquid iron and nickel between the Earth's mantle and inner core → OUTER CORE

- True
- False

4. A change that does not involve new chemicals. Melting and freezing are examples of physical changes. → LIMESTONE

- True
- False

5. A place where lava flows out of the Earth. → GRANITE

- True
- False

6. Get smaller. → MINERALS

- True
- False

7. Rock grains and fragments dropped on the bottom of a river, lake or sea. → SEDIMENT

- True
- False

8. For more funbelievable middle and high school science resources (Secondary 1, iGCSE, A Level & IB Diploma) for both teachers and students check out my website. Take things easy and have a marvelous day! → [www.SmashingScience.org](http://www.SmashingScience.org)

- True
- False

## 7 Matching questions

1. \_\_\_\_ GRANITE

A. The solid rocks at the surface of the Earth.

2. \_\_\_\_ GRAIN

B. A metamorphic rock formed from limestone.

3. \_\_\_\_ MAGMA

C. Tiny, rounded piece of rock.



4. \_\_\_\_\_ MARBLE D. An igneous rock with large crystals.

5. \_\_\_\_\_ CRUST E. Porous rocks can soak up water.

6. \_\_\_\_\_ MINERALS F. The chemicals that rocks are made from.

7. \_\_\_\_\_ POROUS G. Molten rock beneath the surface of the Earth.

## 7 Written questions

1. Something that has been stuck together.

**2** Pieces of matter which have settled to the bottom of a liquid

### 3. The solid iron and nickel at the centre of Earth

4. The movement of rock grains and fragments by wind or water.

5. Molten rock that runs out of volcanoes.

6. A rock formed when magma or lava cooled down and solidified.

7. A type of rock formed by the action of heat and/or pressure on sedimentary or igneous rock

## 7 Multiple choice questions

1. Soft white or grey rock formed from the shells of small sea animals.

- A. GRAIN
  - B. CHALK
  - C. CRUST
  - D. MAGMA

2. A sedimentary rock made from the shells of dead sea creatures consisting mainly of calcium carbonate.

- A. SANDSTONE
  - B. LIMESTONE
  - C. SEDIMENTS
  - D. OUTER CORE



3. A sedimentary rock made from rounded grains of sand.

- A. SEDIMENTS
- B. INNER CORE
- C. SANDSTONE
- D. LIMESTONE

4. A scientist who studies the origin, structure, and composition of the Earth

- A. TRANSPORT
- B. SEDIMENT
- C. GEOLOGIST
- D. LIMESTONE

5. A word meaning 'changed'.

- A. METAMORPHIC ROCK
- B. SANDSTONE
- C. METAMORPHIC
- D. IGNEOUS ROCK

6. Piece of mineral with sharp edges.

- A. CRUST
- B. GRANITE
- C. MINERALS
- D. CRYSTAL

7. All the processes which form sedimentary, igneous and metamorphic rocks, linked together.

- A. INNER CORE
- B. ROCK CYCLE
- C. OUTER CORE
- D. METAMORPHIC ROCK



# C7c Acids and alkalis 24marks Keyword List Test

## 6 Written questions

1. They show you with pictures how you could be hurt by the chemicals inside

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2. This is what happens when an acid and an alkali are added together in the right amount.

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3. A chemical we use to make things taste 'salty'.

---

4. A numbered scale from 1-14 showing the strengths of acids and alkalis. Numbers below 7 are acids. Numbers above 7 are alkalis. pH 7 is neutral.

---

5. The chance of damage or injury from a hazard

---

6. An indicator which tells you if a substance is acidic or alkaline. If a substance is alkaline it turns blue. If a substance is acidic, it turns red.

---

## 6 Matching questions

1. \_\_\_\_ IRRITANT

A. A substance that has a pH of less than 7

2. \_\_\_\_ ACIDIC

B. A chemical that can hurt your skin and your eyes.

3. \_\_\_\_ CONCENTRATED

C. A factor in an experiment that can change.

4. \_\_\_\_ ALKALINE

D. A solution with a pH that is more than 7

5. \_\_\_\_ VARIABLE

E. Substance that turns litmus blue. Has a pH of more than 7.

6. \_\_\_\_ ALKALI

F. A solution that contains a lot of solute dissolved in very little solvent

## 6 Multiple choice questions

1. A possible source of danger

A. ALKALI

B. HAZARD

C. ACIDIC

D. HARMFUL



2. Another word for irritant.

- A. HAZARD
- B. HARMFUL
- C. VARIABLE
- D. LITMUS

3. For more funbelievable middle and high school science resources (Secondary 1, iGCSE, A Level & IB Diploma) for both teachers and students check out my website. Take things easy and have a marvelous day!

- A. PH SCALE
- B. HYDROCHLORIC ACID
- C. UNIVERSAL INDICATOR
- D. www.SmashingScience.org

4. A dye that will change colour in acids and alkalis.

- A. INDICATOR
- B. NITRIC ACID
- C. COMMON SALT
- D. IRRITANT

5. A common strong acid that is also found in your stomach.

- A. HYDROCHLORIC ACID
- B. SULPHURIC ACID
- C. NITRIC ACID
- D. CONCENTRATED

6. This means the liquid is mostly water with only a small amount of acid or alkali

- A. DILUTE
- B. NEUTRALISE
- C. NEUTRAL
- D. ALKALI

## 6 True/False questions

1. Substance that is not an acid or an alkali. Has a pH of 7. → NEUTRAL

- True
- False

2. A substance that turns litmus red. It has a pH of less than 7. → ACID

- True
- False

3. A common acid it is used to make fertilisers to help farmers grow food → NITRIC ACID

- True
- False



4. A mixture of chemicals which change colour depending on how acidic or alkali a liquid is → UNIVERSAL INDICATOR

- True
- False

5. A common acid. Used in car batteries. → SULPHURIC ACID

- True
- False

6. The acid in vinegar. → SULPHURIC ACID

- True
- False



C7p Chemical properties Keyword List Test

Circle the question numbers you were able to answer without using the word list on the front

## **5 Written questions**

1. Something with a low boiling point will turn into a gas at a relatively low temperature. It can be a solid, liquid or gas at room temperature.

2. Elements that are not shiny, and do not conduct heat and electricity well.

3. A combination of symbols and numbers that show how many atoms of different kinds there are in a particular compound.

**4.** The letter or letters that represent an element.

5. Substances that can be split up into simpler substances.

## 5 Matching questions

- |                    |   |
|--------------------|---|
| 1. _____ BOND      | A. The smallest part of an element you can get. |
| 2. _____ ATOM      | B. Break down into simpler parts.               |
| 3. _____ SHINY     | C. A mixture of different metals.               |
| 4. _____ ALLOY     | D. Force holding atoms together.                |
| 5. _____ DECOMPOSE | E. Reflects light well.                         |

## **5 Multiple choice questions**

1. The temperature at which a liquid turns into a solid.

- A. FREEZING POINT
  - B. PRECIPITATE
  - C. BOILING POINT
  - D. MELTING POINT



2. A yellow, non-metal element. Solid at room temperature

- A. SULPHUR
- B. SYMBOL
- C. CALCIUM
- D. COMPOUNDS

3. For more funbelievable middle and high school science resources (Secondary 1, iGCSE, A Level & IB Diploma) for both teachers and students check out my website. Take things easy and have a marvelous day!

- A. www.SmashingScience.org
- B. LOW BOILING POINT
- C. CHEMICAL FORMULA
- D. HIGH MELTING POINT

4. Something which allows electricity to flow through it easily.

- A. LOW BOILING POINT
- B. HIGH MELTING POINT
- C. ELECTRICAL CONDUCTOR
- D. HEAT CONDUCTOR

5. A metal (iron, nickel or cobalt) that can be magnetised or attracted to a magnet.

- A. ELEMENT
- B. MAGNETIC
- C. NON-METALS
- D. CALCIUM

## 5 True/False questions

1. Chemical name for common salt. → SODIUM CHLORIDE

- True
- False

2. Table that shows all the elements. → SODIUM CHLORIDE

- True
- False

3. Soft, shiny, reactive, silver-coloured metal. → POTASSIUM

- True
- False

4. Something which allows heat to flow through it easily. → HEAT CONDUCTOR

- True
- False

5. A way of writing out what happens in a chemical reaction using the symbols that represent the substances involved. → SYMBOL EQUATION

- True
- False



## P7b The Earth and beyond 28words Core Keyword List Test

### 8 True/False questions

1. The path that a planet takes around the Sun, or the path that a moon or satellite takes around a planet. → ORBIT

- True
- False

2 1 000 → THOUSAND

- True
- False

3. The galaxy that our Solar System is in. → MILKY WAY

- True
- False

4. A huge ball of gas that gives out heat and light energy. → STAR

- True
- False

5. For more funbelievable middle and high school science resources (Secondary 1, iGCSE, A Level & IB Diploma) for both teachers and students check out my website. Take things easy and have a marvelous day! → POLES, OF EARTH

- True
- False

6. Objects that emit visible light, also called luminous objects → POLES, OF EARTH

- True
- False

7. A large outer planet made of gas, seventh from the Sun → SATURN

- True
- False

8. Billions of stars grouped together. → SATURN

- True
- False

### 7 Multiple choice questions

1. A large outer planet made of gas, sixth from the Sun

- A. SATURN
- B. JUPITER
- C. URANUS
- D. STAR



2. A thousand million (1 000 000 000)

- A. BILLIONS
- B. MILLION
- C. BIG BANG
- D. ECLIPSE

3. Changes in the climate during the year as the Earth moves around its orbit

- A. TELESCOPE
- B. SATURN
- C. URANUS
- D. SEASONS

4. A rocky inner planet, second from the Sun

- A. URANUS
- B. VENUS
- C. SATURN
- D. PLANET

5. Any very large body that orbits a star in a solar system

- A. EQUATOR
- B. URANUS
- C. PLANET
- D. JUPITER

6. Used to be regarded as the ninth and last planet from the Sun; now called a dwarf planet together with others of the same size that are beyond its orbit

- A. ORBIT
- B. EARTH
- C. PLUTO
- D. PLANET

7. The length of time it takes a planet to go around the Sun. One year on Earth is 365.25 days.

- A. EARTH
- B. YEAR
- C. STAR
- D. ORBIT

## 7 Matching questions

1. \_\_\_\_ TELESCOPE

A. The layer of air above Earth's surface

2. \_\_\_\_ UNIVERSE

B. The north and south points of the Earth connected by its axis of tilt

3. \_\_\_\_ ECLIPSE



- |                          |   |
|--------------------------|---|
| 4. _____ BIG BANG        | C. All the galaxies and the space between them make up the Universe.        |
| 5. _____ ATMOSPHERE      | D. The Sun or Moon is blocked from view on Earth                            |
| 6. _____ POLES, OF EARTH | E. A device made with lenses that allows distant objects to be seen clearly |
| 7. _____ JUPITER         | F. The largest outer planet made of gas, fifth from the Sun                 |
|                          | G. The expansion of space which we believe started the Universe             |

## 7 Written questions

- ### 1. A thousand thousand (1 000 000)

## 2 The planet we live on.

3. A star with planets and other objects orbiting it.

4. An imaginary line around the middle of the Earth.

5. A moon is a large lump of rock orbiting around a planet. The Moon is the moon that orbits the Earth.

6. 24 hours, the time it takes the Earth to spin once on its axis.

7. The star that the Earth orbits around.



# Sec1 Sci P7e Energy Keyword List Test

## 7 Written questions

1. (Epee) energy stored in an elastic object that is stretched or squashed

2. Shifting energy from one place to another

3. Making electricity by using light or heat energy from the Sun.

4. A place where fuel is burned to produce electricity

5. Motion to and fro of the parts of a liquid or solid

6. This is needed to make things happen

7. Any energy resource that will one day run out, like oil.

## 6 Matching questions

1. \_\_\_\_\_ USEFUL ENERGY

A. (°C) a temperature scale with 0°C fixed at the melting point of ice and 100 °C fixed at the boiling point of water

2. \_\_\_\_\_ GENERATOR

B. The kind of energy carried by electricity.

3. \_\_\_\_\_ DEGREES CELSIUS

C. Large coil of wire with a magnet inside. When the magnet is turned, electricity is produced in the coil of wire.

4. \_\_\_\_\_ ELECTRICAL ENERGY

D. Energy changing from one form to another, such as from chemical to thermal energy

5. \_\_\_\_\_ ENERGY TRANSFER

E. The energy that you want from a process

6. \_\_\_\_\_ LIGHT ENERGY

F. The kind of energy given out by the sun, TV screens and candles.



1. Light from the Sun
- A. USEFUL ENERGY
  - B. ENERGY
  - C. JOULE (J)
  - D. SUNLIGHT
2. (Chemical energy) energy stored in fuels, food, and electrical batteries
- A. TRANSFER (OF ENERGY)
  - B. ELASTIC POTENTIAL ENERGY
  - C. ELECTRICAL ENERGY
  - D. CHEMICAL POTENTIAL ENERGY
3. For more funbelievable middle and high school science resources (Secondary 1, iGCSE, A Level & IB Diploma) for both teachers and students check out my website. Take things easy and have a marvelous day!
- A. TRANSFORMATION (OF ENERGY)
  - B. CHEMICAL POTENTIAL ENERGY
  - C. [www.SmashingScience.org](http://www.SmashingScience.org)
  - D. ELASTIC POTENTIAL ENERGY
4. To change the temperature of something; the word 'heat' is sometimes used instead of thermal energy
- A. HEAT
  - B. GENERATE
  - C. GENERATOR
  - D. RENEWABLE
5. The kind of energy in moving things.
- A. ELECTRICAL ENERGY
  - B. KINETIC ENERGY
  - C. SOUND ENERGY
  - D. LIGHT ENERGY
6. The idea that energy can never be created or destroyed, only changed from one form into another.
- A. LIGHT ENERGY
  - B. ELASTIC POTENTIAL ENERGY
  - C. LAW OF CONSERVATION OF ENERGY
  - D. CHEMICAL POTENTIAL ENERGY

## 6 True/False questions

1. A change from one type to another → TRANSFER (OF ENERGY)

- True
- False



2. Describes energy resources that are constantly being replaced and are not used up, such as falling water or wind power → GENERATOR

- True
- False

3. The kind of energy made by anything that is making a noise. → SOUND ENERGY

- True
- False

4. Make electricity by turning a magnet inside coils of wire. → GENERATOR

- True
- False

5. Energy stored in an object because of its height above the ground → GRAVITATIONAL POTENTIAL ENERGY (GAPE)

- True
- False

6. The unit for measuring energy. → JOULE (J)

- True
- False



# Sec1 Sci P7f WL Test Forces Keyword List Test

1. A graph that shows how far and how fast something travels during a journey.

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2. Air resistance and water resistance are both sometimes called drag.

---

3. When two forces working in opposite directions are not the same strength.

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4. Piece of equipment containing a spring, used to measure forces.

---

5. Not moving.

---

## 5 Matching questions

1.    AIR RESISTANCE

A. A force that tries to slow down things that are moving through the air. It is a type of friction.

2.    www.SmashingScience.org

B. A force which attracts things with extra electrical charges on them.

3.    STATIC ELECTRICITY

C. Units for speed when the distance is measured in metres and the time is measured in seconds.

4.    KILOMETRES PER HOUR (KM/H)

D. Units for speed when the distance is measured in kilometres and the time is measured in hours.

5.    METRES PER SECOND (M/S)

E. For more funbelievable middle and high school science resources (Secondary 1, iGCSE, A Level & IB Diploma) for both teachers and students check out my website. Take things easy and have a marvelous day!

## 5 Multiple choice questions

1. Change speed.

A. ACCELERATE

B. FORCE METER

C. NEWTON METER

D. STATIONARY



2. A unit for measuring mass (g).

- A. FORCE
- B. KILOGRAM
- C. GRAM
- D. DRAG

3. Adding a lubricant to something.

- A. FRICTION
- B. NEWTON METER
- C. LUBRICANT
- D. LUBRICATION

4. The amount of matter that something is made of. Measured in grams (g) and kilograms (kg). Your mass does not change if you go into space or to another planet.

- A. ELASTIC
- B. MASS
- C. MEAN SPEED
- D. DENSITY

5. A force that can affect something from a distance (e.g. gravity).

- A. AIR RESISTANCE
- B. CONTACT FORCE
- C. NON-CONTACT FORCE
- D. STATIC ELECTRICITY

## 5 True/False questions

1. The unit of force (N). → NEWTON (N)

- True
- False

2. A unit for measuring mass (kg). There are 1000 g in 1 kg. → GRAM

- True
- False

3. How fast something is moving. Often measured in metres per second (m/s), miles per hour (mph) or kilometres per hour (km/h). → SPEED

- True
- False

4. A force that pushes thing up. → FRICTION

- True
- False

5. A force that tries to slow things down when two things rub against each other. → FRICTION

- True
- False

