

YEAR 7

CURRICULUM INFORMATION FOR TERM 2

CRAMLINGTON 
LEARNING VILLAGE

WHERE THE ART OF TEACHING MEETS THE SCIENCE OF LEARNING

WHAT IS A KNOWLEDGE ORGANISER?

A knowledge organiser sets out the most important facts and ideas that teachers believe pupils need to study in their subject during each term or topic. Pupils will use it to support their learning, memorise information and revise the key ideas for each of their topics before key assessments. For parents they are a simple way to know what is being taught and a handy way to test your child's understanding too!

HOW ARE KNOWLEDGE ORGANISERS USED?

They are used inside and outside of lessons to structure the knowledge that we expect pupils to develop and retain over time.

They are designed to help pupils make sense of what they learn in lessons, allowing them to complete more challenging tasks.

They should give pupils the opportunity to feel more expert or specialist in a subject, and learn more for themselves.

They help to make homework more meaningful and to link it directly to what is learned in lessons.

They help to develop the techniques needed to memorise information, ready for GCSEs.

Knowledge organisers are useful for memorisation techniques and teachers will help pupils to understand ways to use these for revision.

HOW DOES OUR MEMORY WORK?

Your brain stores information in both our long term and short term memories. Our short term memory is our 'working memory'-we use it for day to day thinking and problem solving and only store memories in here for a short amount of time. Our long term memory contains information that we know really well, and our short term memory 'calls it up' when we feel we need to use it. If we don't memorise information, our short term memory soon forgets it. Also, if we try to remember too much information in too short a period we overload our short term memory- this can affect our ability to think clearly and lead us to make mistakes.

If you have any questions about the content of these knowledge organisers then please direct your enquiries to Mr Clark.

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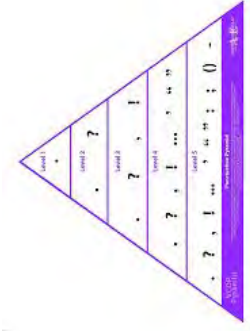


Key terms:

- Protagonist
- Antagonist
- Theme
- Chapter
- Quotation
- Analysis
- Narrative
- Perspective or point of view
- Setting
- Characters
- Plot
- Structure

Explicit: The obvious meaning that is being communicated.

Implicit: The subtle meaning that is being conveyed. 'Reading between the lines' to see what is being suggested or hinted at.



Carefully, she made her way through the forest.

At the bottom of the stairs, he stopped.

At midnight, the rain started.

Feeling intense pain, the explorer trudged on.

Stunned, the man toppled over.

Like a steam train, the hurtled down the path.

In order to save his own life, he cut the rope.

Full of confusion, Tom ran off.

Adverb

Where?

When?

-ing Verb

-ed Verb

Simile

Connective

How?

What?

We will be reading a novel, in fact a British Classic, over the next term. During this module, you will learn about plot, characters, settings and themes. We will look at what the author is trying to explain through language techniques and develop our creative writing skills by writing our own short story- you could even enter this into the BBC2 short story competition.

Why?

- A novel study is 20% of GCSE Literature so we are working on the skills needed for GCSE now
- Books give us an escape into another world and let us travel without leaving the classroom

Writing a PEE paragraph.

P- Point. Make your idea or impression clear.

E- Evidence. Select a quotation from the text.

E- Explanation. Explain what the quotation reveals or tells us. How does it support your point?

L/K- Language or Key word. Are there any important words in the quotation? Are there any language techniques?

Assessments you may complete:

Reading Assessment:

You will be given an extract of the novel to analyse in detail.

You will have to write PEE paragraphs exploring things like: character, theme or mood and atmosphere.


You will get at grade from 0-9

Writing Assessment:

You will use a section of the novel as inspiration for your own creative piece. This could be: writing in role, continuing the narrative or a descriptive piece.

You will get at grade from 0-9



Key Themes	<ul style="list-style-type: none"> Culture Friendship Folk tales Family New experiences Memories Bravery Adventure
Key skills used in lessons:	<ul style="list-style-type: none"> Skimming and scanning Information retrieval Analysis and Inference Squeezing quotes Zooming in on key words Looking for implicit meaning
What?	 <p><i>The Hobbit</i>, is a children's fantasy novel by British author J. R. R. Tolkien. It was published on 21 September 1937. In this influential story, we meet Bilbo Baggins, a hobbit who enjoys a comfortable, unambitious life, rarely travelling any farther than his pantry or cellar. But his peaceful life is disturbed when the wizard Gandalf and a company of dwarves arrive on his doorstep one day to whisk him away on an adventure. They have launched a plot to raid the treasure hoard guarded by Smaug the Magnificent, a large and very dangerous dragon. Bilbo reluctantly joins their quest, unaware that on his journey to the Lonely Mountain he will encounter both a magic ring and a frightening creature known as Gollum.</p>

Key Characters	<ul style="list-style-type: none"> Bilbo Baggins Gandalf Thorin Balin/ Dwalin/ Oin/ Gloin/ Feeli/ Keeli Gollum Legolas
Key Settings	<ul style="list-style-type: none"> The Shire The Misty Mountains Mirkwood Rivendell Lonely Mountain



Key Quotations: The Hobbit	<ul style="list-style-type: none"> 'In a hole in the ground, lived a Hobbit.' 'Far over the Misty Mountains' 'Deep down here by the dark water lived old Gollum, a small slimy creature.' 'He just throttled them from behind' 'I kill where I wish and none dare resist' 'You could tell what a Baggins would say on any question without the bother of asking him'
How will I be assessed?	<p>Reading Assessment: You will be given an extract of the novel to analyse in detail. You will have to write PEE paragraphs exploring things like: character, theme or mood and atmosphere.</p> <p>Writing Assessment: You will use a section of the novel as inspiration for your own creative piece. This could be: writing in role, continuing the narrative or a descriptive piece.</p>

Why?

- A novel study is 20% of GCSE Literature so we are working on the skills needed for GCSE now
- The Hobbit is one of the most influential stories in British fantasy fiction and teaches us about teamwork, resilience and bravery.



Key Themes	<p>Dreams and Fantasy Friendship Rhymes and Riddles Family New experiences Memories Bravery Adventure</p>
Key skills used in lessons:	<p>Skimming and scanning Information retrieval Analysis and Inference Squeezing quotes Zooming in on key words Looking for implicit meaning</p>

Key Characters	<p>Alice The White Rabbit The Cheshire Cat The Caterpillar The Queen of Hearts</p>
Key Settings	<p>Alice's garden Down the rabbit hole The Queen of Hearts' garden</p>



Key Quotations:	<p><i>"Why, sometimes I've believed as many as six impossible things before breakfast."</i></p> <p><i>"Curiouser and curiouser!"</i></p> <p><i>"If you drink much from a bottle marked 'poison' it is certain to disagree with you sooner or later."</i></p> <p><i>"I knew who I was this morning, but I've changed a few times since then."</i></p>
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What?	<p>Alice's Adventures in Wonderland (commonly shortened to Alice in Wonderland) is an 1865 novel written by British author Charles Lutwidge Dodgson under the <u>pseudonym</u> Lewis Carroll.</p> <p>The plot tells of a young girl named <u>Alice</u> falling through a rabbit hole into a fantasy world populated by peculiar, <u>anthropomorphic</u> creatures. We will see Alice shrink to the size of a mouse and grow large enough to fill a whole house but will Alice be able to figure out how to get back home or will she be lost in the nonsense of Wonderland forever?</p>
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Why?	<ul style="list-style-type: none"> A novel study is 20% of GCSE Literature so we are working on the skills needed for GCSE now Alice in Wonderland is a timeless classic that has kept a powerful grip on the public imagination for over 150 years. This story is considered to be one of the best examples of the <u>literary nonsense</u> genre. This book helps us explore our magical, nonsensical side and teaches us how to structure a complicated plot.
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Key Themes	Fairytale Good vs evil Friendship Community Danger Myths Betrayal / Reconciliation
Key skills used in lessons:	Skimming and scanning Information retrieval Analysis and Inference Squeezing quotes Zooming in on key words Looking for implicit meaning

Key Characters	The Iron Man Hogarth Space-Bat-Angel-Dragon
Key Settings	The Beach Hogarth's village Space



What?

Originally created as a bedtime story for his own children in 1968, *The Iron Man* is among Ted Hughes's best known books for children. *The Iron Man* tells the story of a gigantic metal robot who appears out of nowhere, crashing onto the beach and shattering into many parts. He is discovered by Hogarth, a young boy. The Iron Man proceeds to devour farm machinery, until the farmers rise up against him. Will they destroy him or will The Iron Man become a friend?

Key Quotations:

- "Where had he come from? Nobody knows."
- "The Iron Man's in the trap!" And "We've caught the Iron Giant."
- "Now the Iron Man's eyes were constantly a happy blue. He was no longer rusty."
- "A struggling black speck in the centre of that giant, red, gloomy star."
- "please," he asked, "please can't you think of some way of getting rid of it? If you can't, then it's the end of us all."
- "Meanwhile the Iron Man was the world's hero."

Assessments you will complete:

Reading Assessment:

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Writing Assessment:

You will use a section of the novel as inspiration for your own creative piece. This could be: writing in role, continuing the narrative or a descriptive piece.

Why?

- A novel study is 20% of GCSE Literature so we are working on the skills needed for GCSE now
- The Iron Man: A Story in Five Nights*, is reflected in the book's structure of five chapters and helps us understand plot and structure of fictional writing
- Using lots of ONOMATOPOEIA, Hughes helps us explore sound through writing

Year 7 French Ht3 - Chez moi!

Les chambres

Le salon- living room

La salle a manger- dining room

La cuisine- the kitchen

Le WC- the toilet

Le garage- the garage

Les escaliers- the stairs

Ma chambre- my bedroom

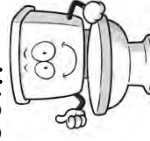
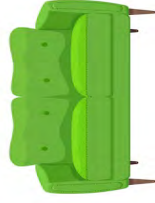
La chambre de...- the bedroom of...

La salle de bains- the bathroom

Le bureau- the office

La cave- the cellar

Le grenier- the attic



J'habite- I live

En ville- in town

À la campagne- in the country

À la montagne- in the mountains

Au bord de la mer- by the sea

Dans un village- in a village

Dans un appartement- in a flat

Dans une maison- in a house



I can...

Say where I live and in what type of house

Say what rooms there are in my house

Describe different settings

Give an opinion on my house/bedroom

Le nord-ouest

Le nord

Le nord-est

L'ouest

L'est

Le sud-ouest

Le sud-est

Le sud

Dans ma chambre- in my bed

Il y a - there is/are
un lit- a bed

Une télé- a TV/ une console- an Xbox

Une armoire- a wardrobe des rideaux- curtains

Une table/bureau-a desk une étagère- a bookshelf



J'adore ma maison parce que...

Year 7 French Htt4 - Le présent

I can...

understand the six subject pronouns (R- G1)

find an infinitive in the dictionary (R- G1)

conjugate regular er, ir and re verbs (W- G1)

learn key irregular verbs in the present tense (W- G2)

Assessment : Grammar Test

1. ER verbs

To form an 'er' verb first take off the 'er' then add the following endings:

Je	e	Je joue - I play
Tu	es	Tu joues - You play (singular)
Il/Elle/On	e	Il/Elle/On joue - He/she/one sells
Nous	ons	Nous jouons - We play
Vous	ez	Vous jouez - You play (plural/polite)
Ils/Elles	ent	Ils/Elles jouent - They play

Regular ER verbs

Manger (to eat)
je mange
Jouer (to play)
je joue
Regarder (to watch)
je regarde

2. RE verbs

To form an 're' verb first take off the 're' then add the following endings:

Je	s	Je vends - I sell
Tu	s	Tu vends - You sell (singular)
Il/Elle/On	- (nothing)	Il/Elle/On vend - He/she/one sells
Nous	ons	Nous vendons - We sell
Vous	ez	Vous vendez - You sell(plural/polite)
Ils/Elles	ent	Ils/Elles vendent - They sell

Example: Vendre - to sell

3. IR verbs

To form an 'ir' verb first take off the 'ir' then add the following endings:

Je	is	Je finis - I finish
Tu	is	Tu finis - You finish (singular)
Il/Elle/On	it	Il/Elle/On finit - He/she/one finishes
Nous	issons	Nous finissons - We finish
Vous	issez	Vous finissez - You finish (plural/polite)
Ils/Elles	issent	Ils/Elles finissent - They finish

Example: Finir - to finish

Year 7 Half Term 4

VOCABULARY

- Locations of houses
- Rooms of the house
- Furniture
- Compass points
- Justifying opinions

GRAMMAR

- Il y a
- Negatives
- Basic connectives and intensifiers
- Je voudrais + infinitive
- Revision of gender concepts and adjective agreement

CULTURE

- knowing French names and names of cities
- Using a French website (immo.fr or similar) to look at houses and vocabulary in context

SPEAKING

- Use simple sentences to describe where you live
- Use basic adjectives and verbs to describe your bedroom
- Use je voudrais + infinitive to say where you would like to live

READING

- understanding short sentences with familiar language
- understanding longer sentences with basic connectives
- understanding basic opinions and reasons

LISTENING

- understanding short sentences with familiar language and opinions
- understanding sentences basic connectives
- familiar words from authentic sources

WRITING

- producing short sentences with familiar language (some without support)
- producing longer sentences with connectives
- giving basic opinions and reasons

ASSESSMENT

- **Reading:** text from a French person
- **Writing:** translation French English

HOME LEARNING

- **Learning:** key vocabulary 1/cycle
- **Activities:** language nut

Year 7 French Htt4- les verbes!

Key words

Conjugate - to change an infinitive depending on the subject pronoun and the tense e.g. bring a verb to life

Subject pronoun - the person doing the verb
Infinitive - the verb without a person/ the 'dead' verb/ the verb that starts with 'to' in English. There are 3 types in French- er, ir, re

STEP 1: Choose your infinitive

STEP 2: remove the infinitive ending

STEP 3: put the correct ending back on, according to the subject pronoun

I PLAY

- To play = jouer
- Remove ending = **jou**
- Add correct ending and pronoun back on =

JE JOUE

AVOIR - TO HAVE

J'ai- have Nous avons- we have
 Tu as- you have Vous avez- you (pl) have
 Il/elle a- he/she has ils/elles ont- they have



I can...

understand the six subject pronouns
 conjugate regular er, ir and re verbs in the first person
 learn key irregular verbs in the present tense

ÊTRE - TO BE

je suis- I am nous sommes- we are
 tu es- you are vous êtes- you (pl) are
 il/elle est- he/she is ils/elles sont- they are

Subject pronouns	ER	IR	RE
Je	E	IS	S
Tu	ES	IS	S
Il/elle	E	IT	/
Nous	ONS	ISSONS	ONS
Vous	EZ (pl)	ISSEZ	EZ
Ils/elles	ENT	ISSENT	ENT



Key Idea 1

Accurately draw, measure, and identify types of angles.

Key Idea 2

Use facts to solve problems involving unknown angles on a line and at a point.

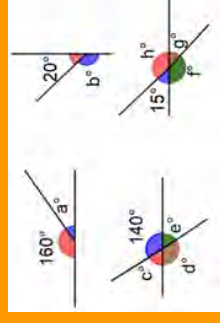
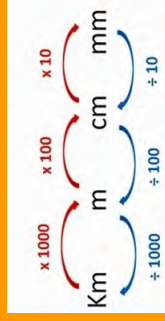
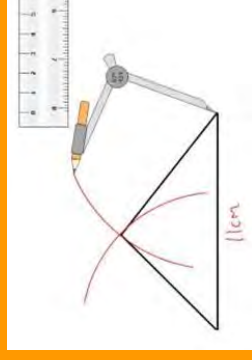
Key Idea 3

Understand and use properties of triangles and quadrilaterals.

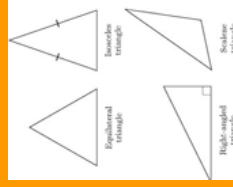
Key Vocabulary

- measure** - determine size or quantity
- estimate**, make an approximate calculation
- distance**: measured in metres, centimetres, millimetres, kilometres,
- weight**: measured in grams ,milligrams, kilograms,
- volume**: measured in litres, millilitres,
- angle**,the amount of turn between two lines
- Acute** - an angle less than 90 degrees.,
- obtuse, an angle between 90 and 180 degrees.
- reflex, an angle more than 180 degrees
- Triangles**: Shapes with 3 sides: isosceles, scalene,equilateral,
- Symmetry** - when two or more parts are identical after a flip, slide or turn.
- reflection**, a transformation resulting in a mirror image
- perpendicular** lines meet at 90°.
- Quadrilaterals**: Shapes with four sides; rhombus,parallelogram, trapezium, square, rectangle, kite, arrowhead,
- Parallel** lines stay the same distance apart.
- diagonal** a line that joins two corners that is not an edge.
- rotation** - to turn an object around a centre point
- order of symmetry**, how many times an outline matches its original in one full rotation.
- a **regular** shape is one with equal sides and angles.
- vertex**, a corner where two sides meet.

Key Methods



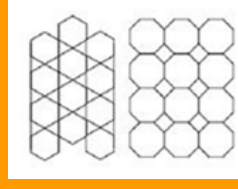
Converting Units of Measure



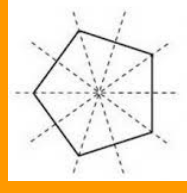
Properties of Triangles

Properties of Quadrilaterals

Tessellation



Calculating Missing Angles



Line and Rotational Symmetry



Key Idea 1

Understand and use equivalent fractions.

Key Vocabulary

fraction - any part of a group, number or whole.

improper A fraction where the top number is greater than or equal to the bottom number.

denominator - that number below the line of the fraction, showing the number of equal parts into which the unit is divided,

numerator - the number above the line of a fraction,

showing the number of parts of the whole.

equal - have the same amount or value.

whole - the full amount.

equivalent - fractions with the same value.

decimal - a number written in base 10.

percentage - a fraction expressed as a

number out of 100 followed by the % symbol.

Reciprocal - also called the multiplicative inverse. To get the reciprocal of a number,

divide 1 by the number

estimate - to make an approximate calculation,

often based on rounding.

operation - mathematical procedures or processes used to work something out.

inverse operation - opposite, reverse operations

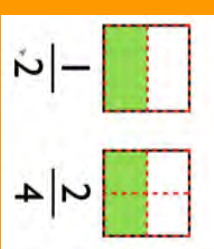
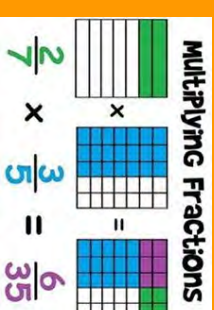
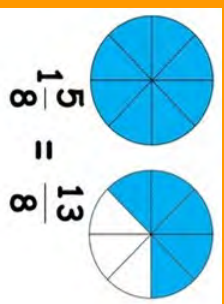
Key Idea 2

Working with fractions of amounts.

Key Idea 3

Multiplying and dividing fractions

Key Methods



Mixed and Improper Fractions

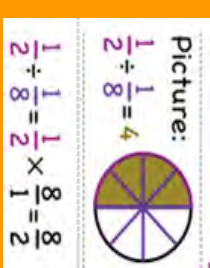
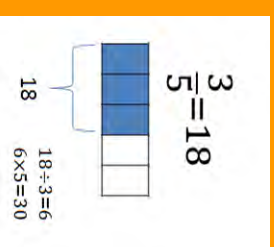
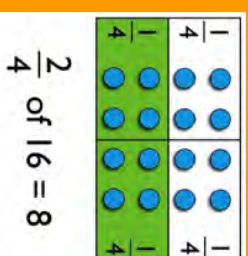
Simplify Fractions

Multiplying fractions

Equivalent Fractions

percentage	fraction	decimal
30%	3/10	0.3

To go from a fraction to a percentage we can convert to a decimal first.
3/5 → 0.6 → 60%



Fractions, Decimals and Percentages

Fractions of Amounts

Find the whole, given a fraction

Dividing fractions



Key Idea 1

Understand and use equivalent fractions.

Key Idea 2

Working with fractions of amounts.

Key Idea 3

Multiplying and dividing fractions

Key Methods

$1\frac{5}{8} = \frac{13}{8}$

Mixed and Improper Fractions

$\frac{6}{27} = \frac{2}{9}$

$\div 3$

Simplify Fractions

Multiplying Fractions

$\frac{2}{7} \times \frac{3}{5} = \frac{6}{35}$

Multiplying fractions

$\frac{1}{2} \times \frac{2}{4} = \frac{2}{4}$

Equivalent Fractions

percentage	fraction	decimal
30%	$\frac{3}{10}$	0.3

to go from a fraction to a percentage we can convert to a decimal first

$\frac{3}{5} \rightarrow 0.6 \rightarrow 60\%$

Fractions, Decimals and Percentages

$\frac{2}{4}$ of 16 = 8

Fractions of Amounts

$\frac{3}{5} = 18$

$18 \div 3 = 6$
 $6 \times 5 = 30$

Find the whole, given a fraction

Picture:

$\frac{1}{2} \div \frac{8}{8} = 4$

$\frac{1}{2} \div \frac{8}{8} = \frac{8}{8} \times \frac{1}{2} = 2$

Dividing fractions

Spring 2

Key Vocabulary

fraction - any part of a group, number or whole.

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reciprocal - also called the multiplicative inverse. To get the reciprocal of a number, divide 1 by the number

estimate - to make an approximate calculation, often based on rounding.

operation - mathematical procedures or processes used to work something out.

inverse operation - opposite, reverse operations

Spring 2

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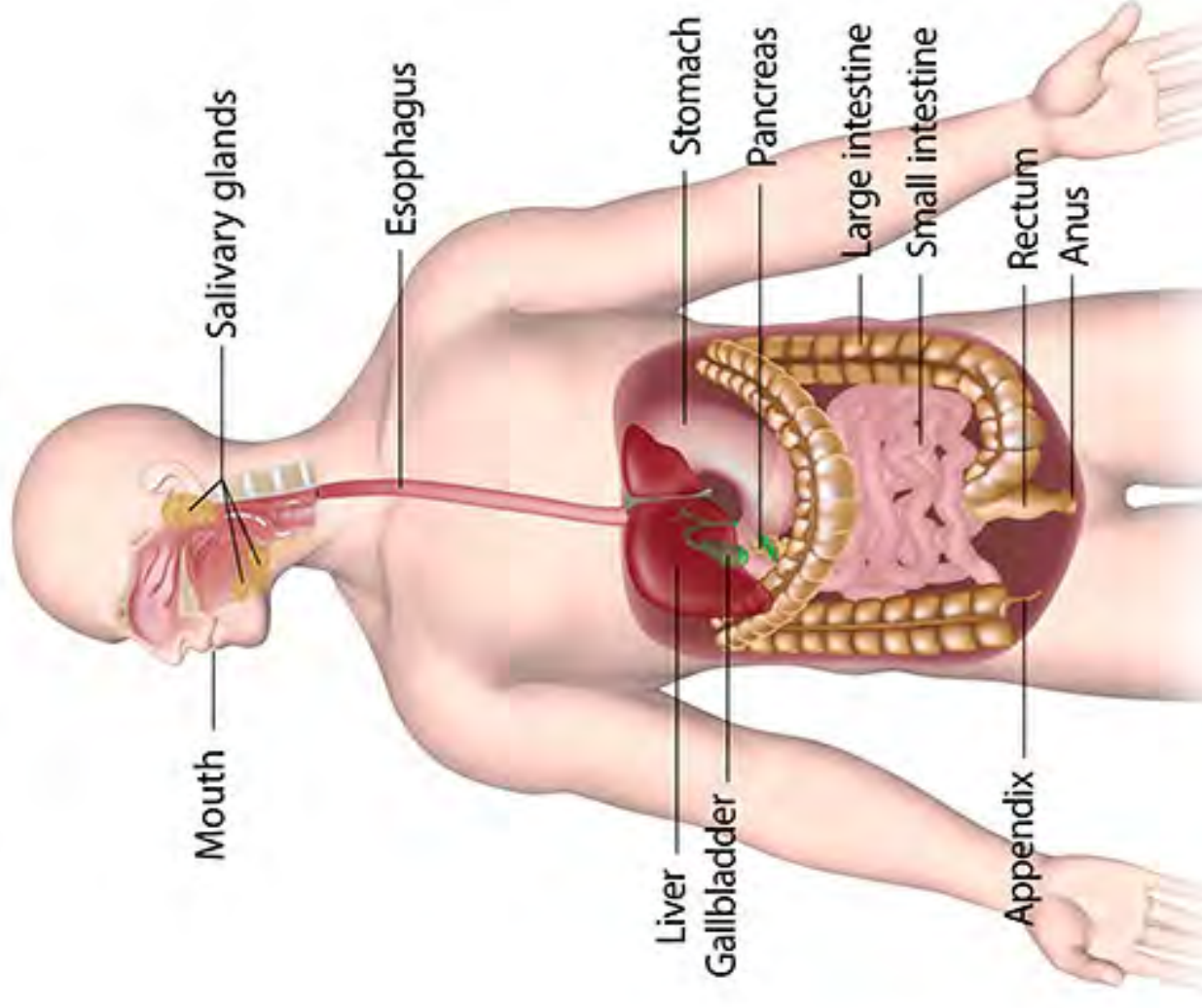
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7Bio2

The Digestive System



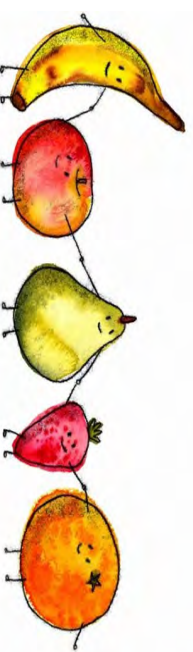
Organ	Function (job)
Mouth and teeth	Chew up food to be swallowed.
Salivary glands	Makes saliva which contains enzymes.
Oesophagus	Muscular tube where food travels down to the stomach.
Stomach	Contains acid to kill bacteria and enzymes to break down food.
Small Intestine	Contains more enzymes. MOST DIGESTION HAPPENS HERE.
Large Intestine	Absorbs water to leave solid waste.
Liver	Produces bile that breaks down fats
Gallbladder	Stores the bile produced by the liver.
Pancreas	Produces enzymes.

Y7 Science Nutrition

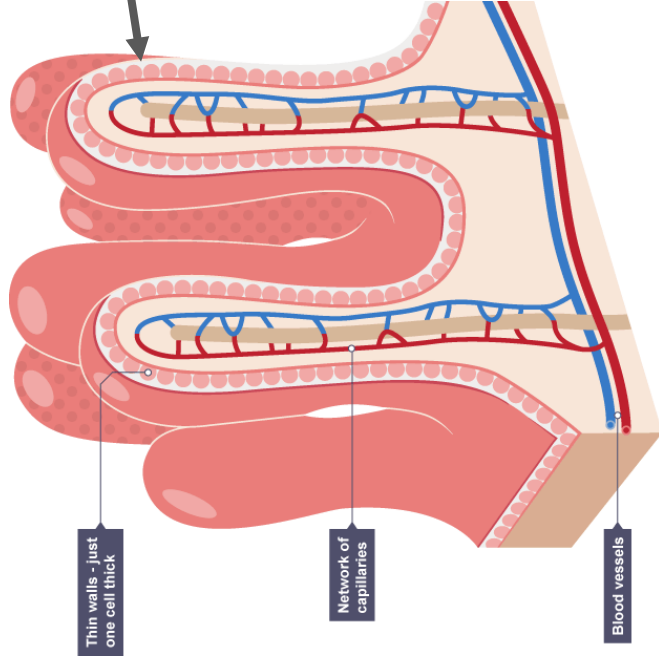
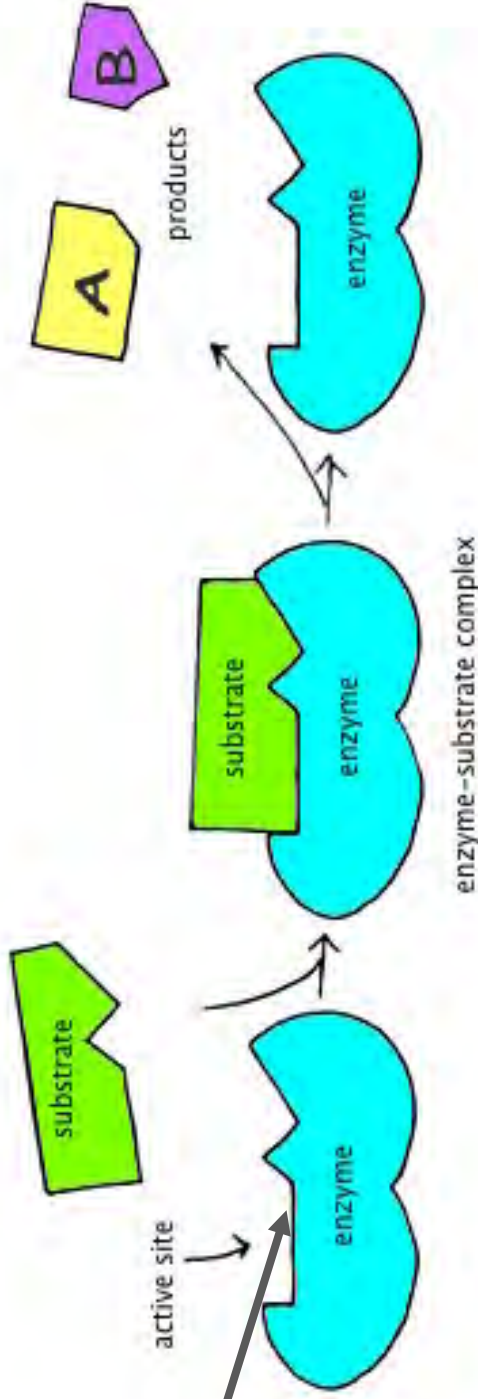
Food	Test
Starch	Turns iodine solution brown to blue/black
Glucose	Turns Benedict's solution blue to orange (in the water bath)
Protein	Turns Biuret solution blue to purple.
Fat	Leaves a greasy mark on filter paper.
Vitamin C	Decolourises blue DCPPIP

Mineral	Health Effect	Food Sources
Calcium	strong bones and teeth, blood clotting, muscle and nerve activity	dairy products, eggs, green leafy vegetables, soy
Phosphorus	strong bones and teeth, muscle contraction, stores energy	cheese, meat, cereal
Iron	oxygen is transported in hemoglobin by red blood cells	red meat, raisins, beans, spinach, eggs

Food group	Foods	Needed for
Carbohydrates	Pasta Fruits and vegetables Bread	Energy
Proteins	Meat, fish, eggs, nuts, cheese	Growth and repair of tissues
Fats	Butter, cheese, crisps	Energy
Water	Fruit and vegetables	Keeping body temperature right.
Vitamins	Fruits and vegetables	Healthy immune system and bones.
Minerals	Fruit and vegetables, milk	Healthy teeth, bones and blood.
Fibre	Fruit and vegetables, wholemeal bread/pasta	Healthy intestines



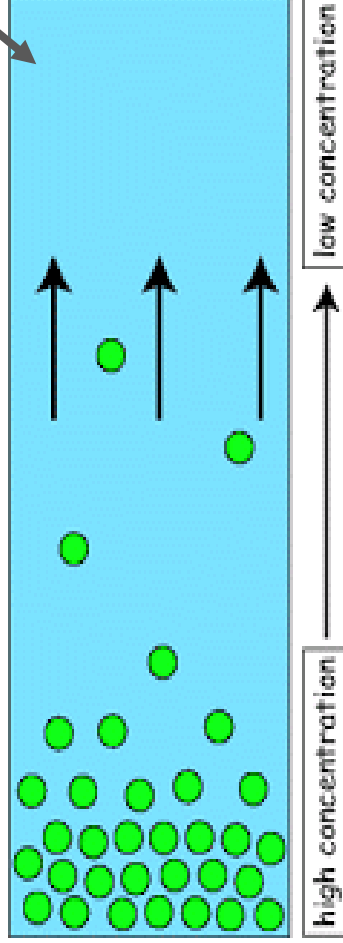
ENZYMES BREAK DOWN FOOD IN DIGESTION. THEY ARE SPECIFIC TO THE FOOD THEY BREAK DOWN BECAUSE OF THE SHAPE OF THE ACTIVE SITE. THIS IS CALLED THE 'LOCK AND KEY MODEL'



The small intestine is lined with villi. These give the small intestine a LARGE SURFACE AREA.

The walls of the villi are thin to allow nutrients to pass easily into the blood stream in the middle

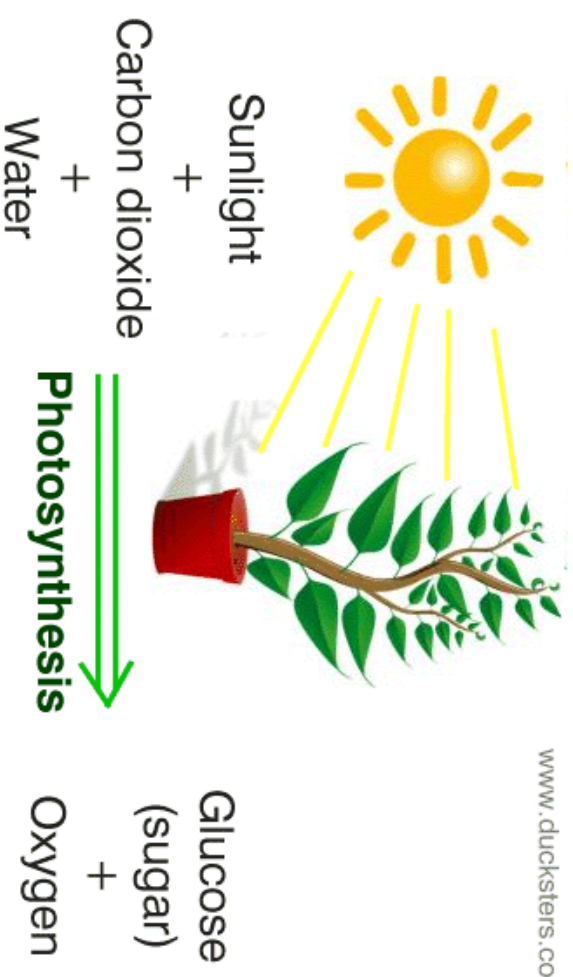
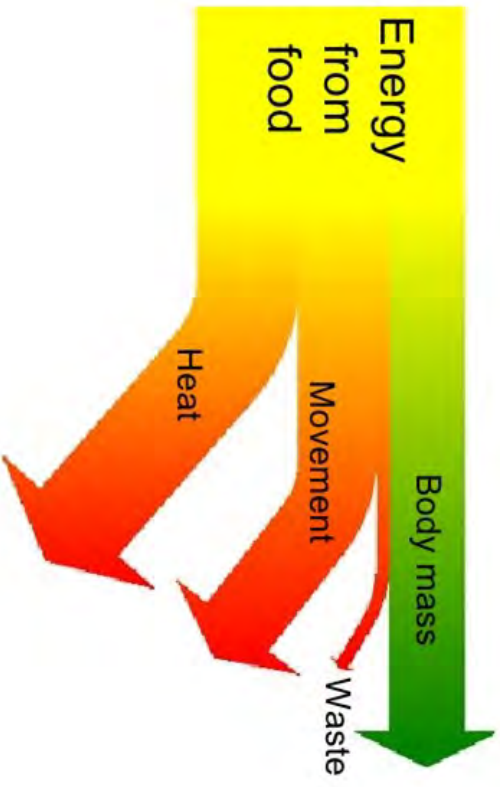
Diffusion



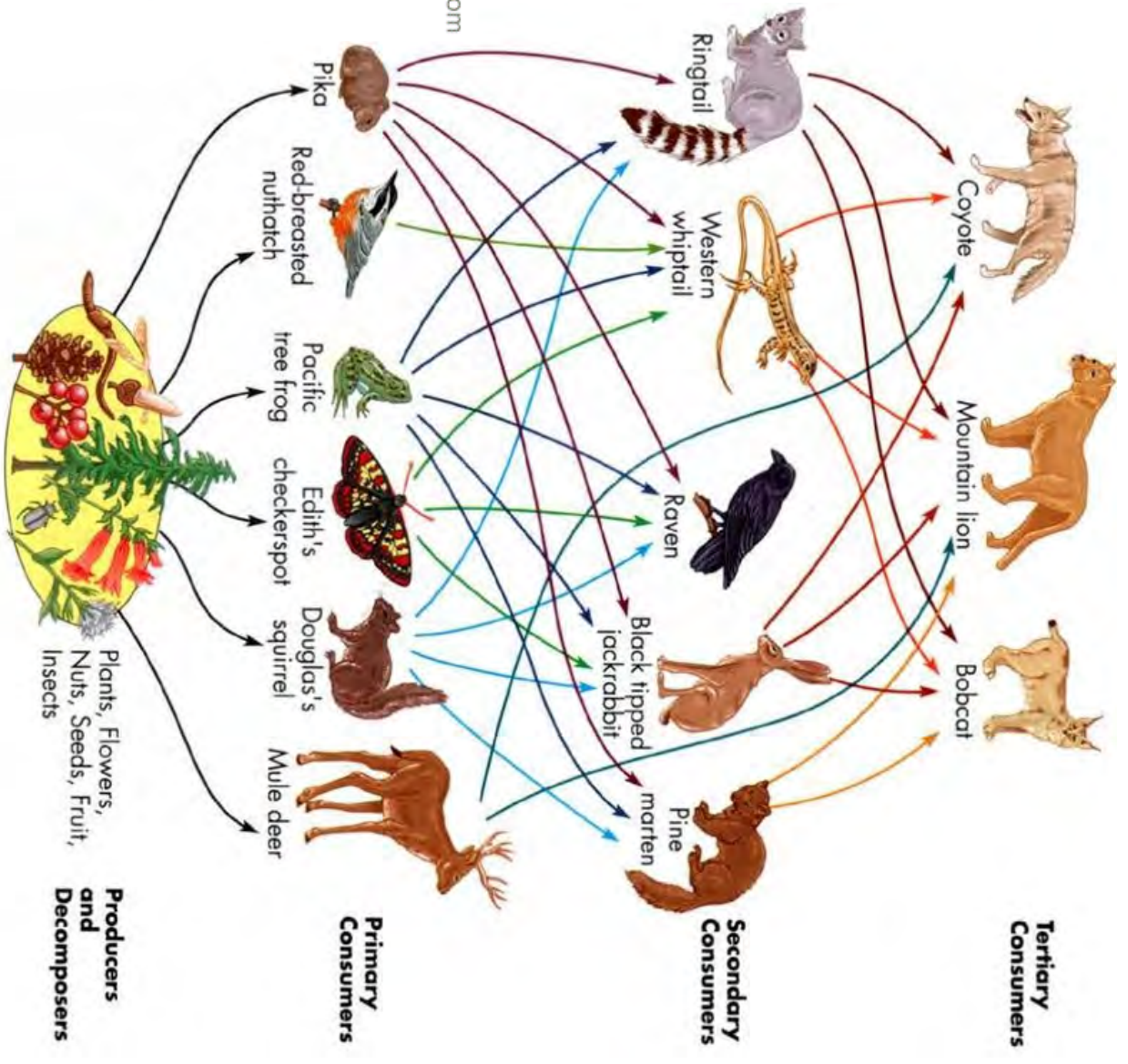
Nutrients use a special form of movement to travel into the blood from the villi of the small intestine.. This movement is called DIFFUSION.

Nutrients DIFFUSION from a high concentration in the small intestine to a low concentration in the blood.

Y7 Science Nutrition



www.ducksters.com

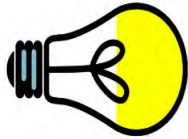


7Phys1 - Energy

9 Stores of Energy

- Heat (thermal)
- Kinetic
- Nuclear
- Sound
- Light
- Chemical
- Electrical
- Gravitational potential
- Elastic potential

Energy is measured in Joules (J) or kilojoules (kJ)

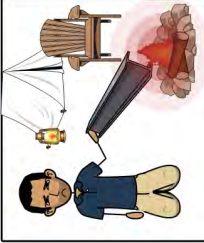
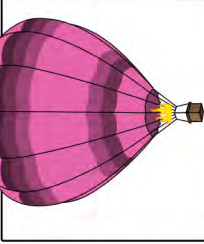
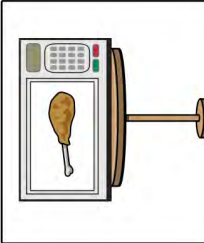


$$\text{Total ENERGY} = \text{Joules (J)}$$

Joules (J)

kilo - thousand

kilojoule (kJ) - 1000 J

<p>Conduction</p> <p>The transfer of thermal energy from one material to another by direct contact.</p> <p>If you use a metal stick for fire your hand will get hot because the heat transfers from the fire to the metal to your hand.</p> 	<p>Convection</p> <p>The transfer of thermal energy by the circulation or movement of a liquid or gas</p> <p>In a hot air balloon, the hot gas from the fire raises the balloon.</p> 	<p>Radiation</p> <p>When energy is absorbed by the surface it heats the surface</p> <p>Using a microwave creates radiation to heat up food in your microwave.</p> 
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Wasted output energy

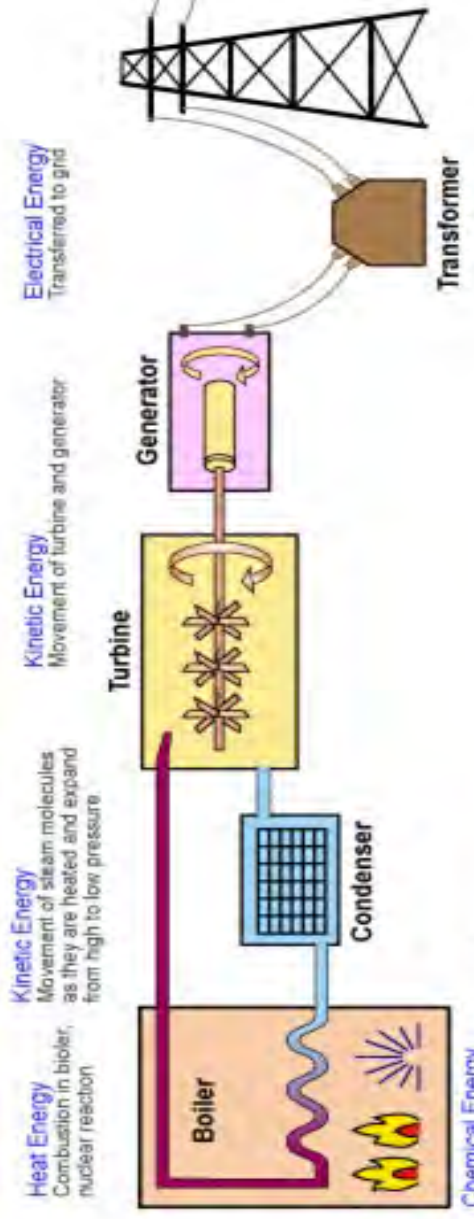
Fossil fuels (coal/oil/gas) release carbon dioxide into the atmosphere when they are burned in cars and power stations.



Energy is neither created nor destroyed.

It can be **transferred** from one **object** to another or transformed from one form to another.

Law of conservation of energy.



How is energy efficiency calculated?



The energy efficiency of a device can be calculated using this formula:

$$\text{energy efficiency} = \frac{\text{useful output energy}}{\text{total input energy}}$$

- Useful energy is measured in Joules (J).
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 - Energy efficiency does not have any units.
- It is a number **between 0 and 1** which can be converted into a percentage by multiplying by 100.

Calculating Work Done (J)

- The equation for power-

A force acting through a distance

Word Equation

$$\text{Power} = \frac{\text{Work Done}}{\text{Time Taken}}$$

Dimensions

$$P = W / t$$

Units

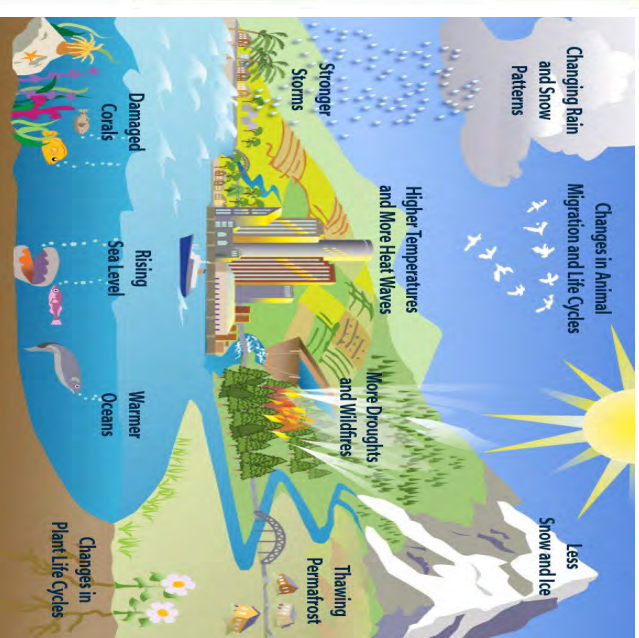
$$\text{Watt} = \text{Joule} / \text{second}$$

Work = Force x Distance

Global Warming



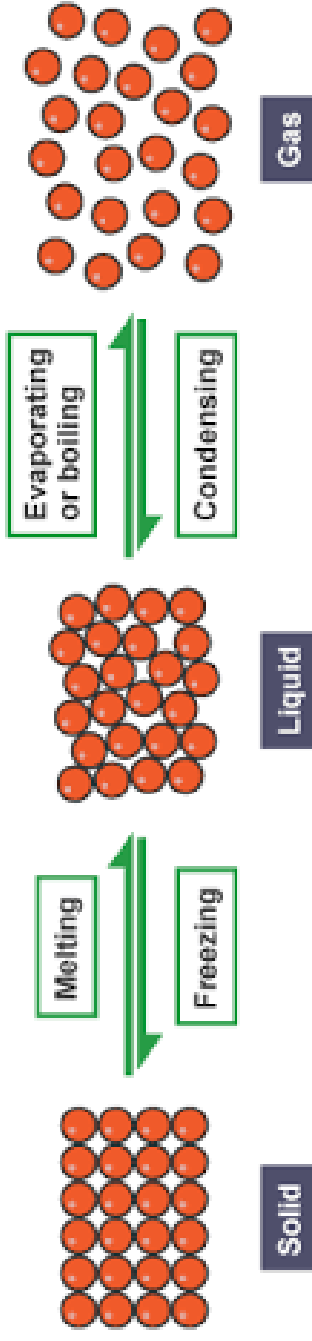
Climate Change



Method	How it works	Advantages	Disadvantages
Solar	- Solar cells turn the sun's energy into electricity	- No fuel costs - Renewable - No Pollution	- High initial costs - Only works in sunlight - Energy must be stored
Tidal Energy	- Waves are constantly moving - Water flows through turbines.	- No fuel costs - Renewable - No Pollution - Generates energy 24/7/365	- Expensive to construct - Needs proper location
Wind	- Wind blows giant fans that generate electricity	- No fuel costs - Renewable - No Pollution	- High cost of construction and maintenance - Needs a windy location
Geothermal	- The earth's core is hot - Heat turns water into steam - Steam turns turbines.	- No fuel costs - No pollution - Generates energy 24/7/365	- Geothermal stations are expensive to build - Needs to be set up in very specific places around the world
Hydro-electric	- Dams are built. - Water flows through turbines.	- No fuel costs (free once in place) - Renewable (infinite supply) - No Pollution - Generates energy 24/7/365	- Expensive to construct - Changes the environment
Biofuels	- Plant matter is broken down and releases bioethanol and biodiesel	- Can replace, or be blended with, petrol - Reduced pollution by 50-90%	- Decreased fuel efficiency - Uses potential food



7 Chem 1



Solid

Liquid

Gas

Property	Solid	Liquid	Gas
Does it flow easily?	X	✓	✓
Can it change shape to fill its container?	X	✓	✓
Does it stay put if left in one place?	✓	X	X
Does it always take up the same volume of space?	✓	✓	X
Can it be compressed to fit into a smaller space?	X	X	✓

Key vocabulary

Compressed - Squeezed or pressed together into a smaller space.

Distillation - Separation of 2 liquids by the process of heating and cooling.

Density - How compact the particles are in a substance.

Dissolve - To become broken up or absorbed by something or to disappear into something else.

Filtering - Separation of a solid from a liquid by passing through filter paper.

Fluid - A substance with no fixed shape (liquid or gas).

Key Vocabulary

Insoluble - Substance that cannot dissolve.

Mixture - A material made up of two or more different substances which are mixed.

Properties - Characteristics of something, its features.

Saturated - A solution that is unable to absorb or dissolve any more of a solute.

Soluble - Something that can be dissolved.

Solute - The solid in the dissolved solution.

Solvent - The liquid in the dissolved solution.

Rate of Dissolving

To increase rate of dissolving of SOLIDS:

- ◆ Heat it 
- ◆ Crush it 
- ◆ Stir it 

SEPARATING MIXTURES

SIEVING

Can separate large particles from small particles.



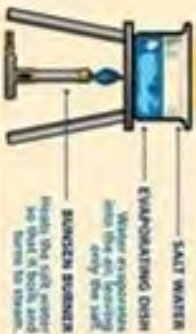
FILTRATION

Can separate solids that are insoluble from a liquid.



EVAPORATION

Can separate solids that are soluble from a liquid.



CONDENSATION

Condensing is when water vapour changes into liquid water.



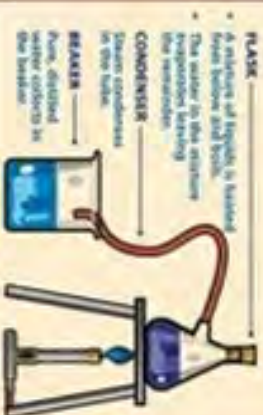
CHROMATOGRAPHY

Can separate different colour dyes.



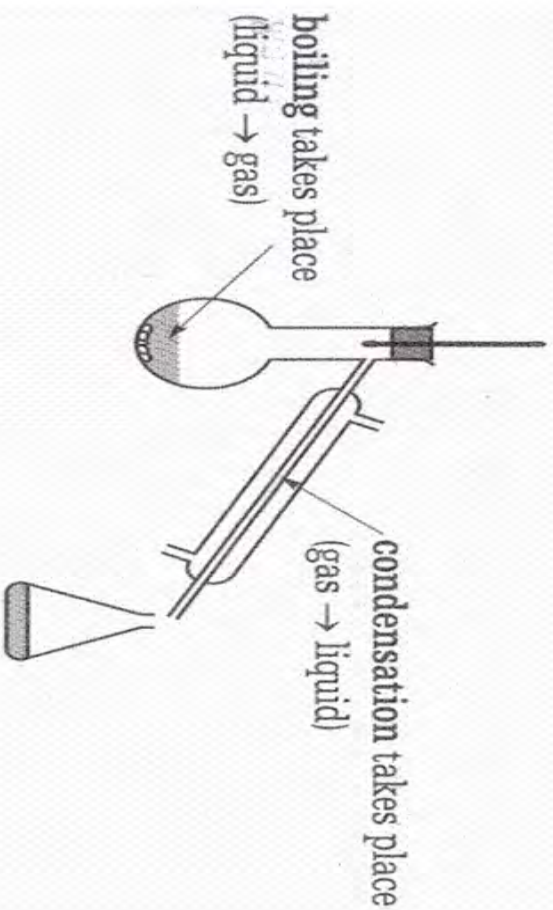
DISTILLATION

Can separate a solvent from a solution.



Distillation

- To separate a liquid from a solution.
- E.g. salt solution, sugar solution
- Involves two physical state changes.

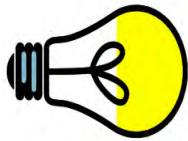


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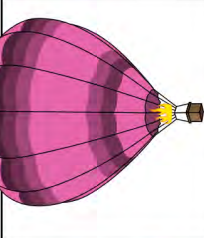
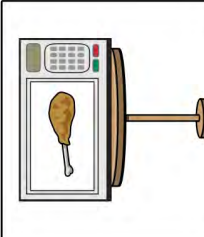


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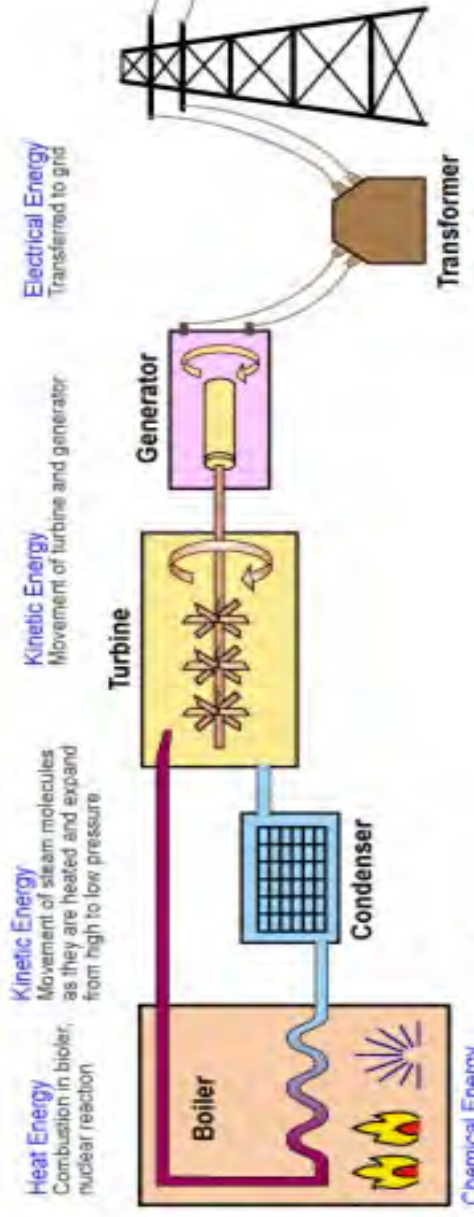
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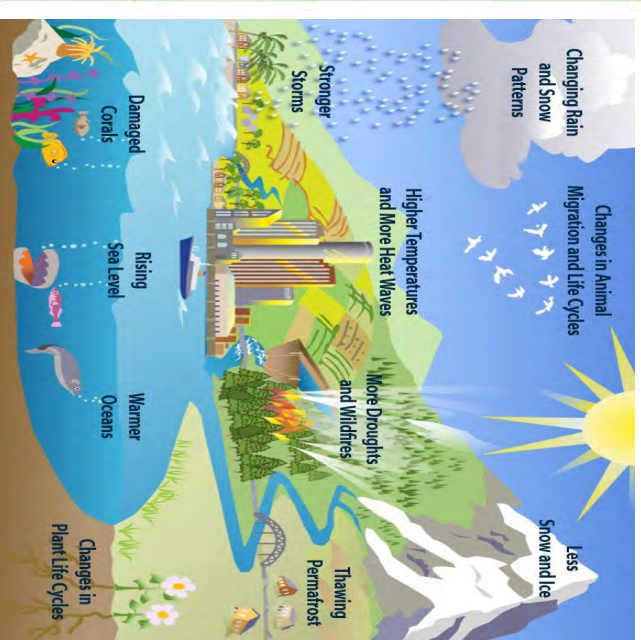
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