



WOOTTON PARK

'Ipsam quod faciendum est diutius'

Knowledge Maps

Term 2

Overview

In this term, learners will be studying up to three units which will include statistical data analysis, expressions and equations and real-life graphs.

Key Terms:

Unit 3: Correlation
Pie Chart
Sector
Radius
Stem & Leaf

Line of Best Fit
Two-Way Table

Unit 4: Indices
Factorising
Function
Equation

Unit 5: Conversion
Gradient
Trend
Interpret
Linear

Key skills

Unit 3 Statistics, graphs and charts

- 3.1 Pie charts
- 3.2 Using tables
- 3.3 Stem and leaf diagrams
- 3.4 Comparing data
- 3.5 Scatter graphs
- 3.6 FINANCE: Misleading graphs
- 3 Check up
- 3 Strengthen
- 3 Extend
- 3 Unit test

Unit 4 Expressions and equations

- 4.1 Algebraic powers
- 4.2 Expressions and brackets
- 4.3 Factorising expressions
- 4.4 One-step equations
- 4.5 Two-step equations
- 4.6 The balancing method
- 4 Check up
- 4 Strengthen
- 4 Extend
- 4 Unit test

Unit 5 Real-life graphs

- 5.1 Conversion graphs
- 5.2 Distance-time graphs
- 5.3 Line graphs
- 5.4 Complex line graphs
- 5.5 STEM: Graphs of functions
- 5.6 More real-life graphs
- 5 Check up
- 5 Strengthen
- 5 Extend
- 5 Unit test

Unit 3:

Worked example

Draw a pie chart to show this data on students' lunch choices.

Lunch choice	Frequency
sandwiches	35
salad bar	15
hot meal	22

Total number of students = $35 + 15 + 22 = 72$

$\div 72$ \rightarrow 72 students is 360°
1 student is $360^\circ \div 72 = 5^\circ$

Sandwiches $35 \times 5 = 175^\circ$

Salad bar $15 \times 5 = 75^\circ$

Hot meal $22 \times 5 = 110^\circ$

Check: $175 + 75 + 110 = 360$

Students' lunch choices



Worked example

Jack asked students in his class how many pets they had. Here are his results. Work out the mean.

Number of pets	Frequency	Total number of pets
0	7	$0 \times 7 = 0$
1	8	$1 \times 8 = 8$
2	6	$2 \times 6 = 12$
3	3	$3 \times 3 = 9$
4	1	$4 \times 1 = 4$
Total	25	33

mean = $33 \div 25 = 1.32$

mean = total number of pets \div number of people

Add a column to the table to work out the total numbers of pets.

Work out the total frequency (number of people in the survey) and the total number of pets.

The total number of students is the total frequency.

Work out the angle for one student.

Work out the angle for each lunch choice.

Check that the angles add up to 360° .

Draw the pie chart. Label each section or make a key (you do not have to label the angles). Give your pie chart a title.

Worked example

Work out the mean of 102, 105, 95, 100, 92 using an assumed mean.

102 105 95 100 92
differences from 100 $+2 +5 -5 0 -8 = -6$

$100 + -1.2 = 98.8$

Add the mean difference to the assumed mean.

The values are all close to 100, so assume the mean is 100. Work out the differences from 100.

Add up the 5 differences and divide by 5 to find the mean difference.

Unit 4:

Worked example

Find the common factor of the terms 6 and $3a$.

$6 = 3 \times 2$, so **3** and **2** are factors of 6.

$3a = 3 \times a$, so **3** and **a** are factors of $3a$.

The common factor is **3**.



Worked example

Solve the equation $x + 3 = 7$. Check your solution.

$x \rightarrow \boxed{+3} \rightarrow 7$ Draw a function machine for the equation.

$4 \leftarrow \boxed{-3} \leftarrow 7$ Work out x using the inverse function.

$x = 4$ Check: $x + 3 = 4 + 3 = 7$ ✓ Replace x in the equation with your solution.

Worked example

Solve the equation $x + 3 = 8$.

$\boxed{x + 3} = \boxed{8}$ Visualise the equation as balanced scales.

$\boxed{x + 3 - 3} = \boxed{8 - 3}$ The inverse of $+3$ is -3 . Do this to both sides.

$$x = 8 - 3$$

$x = 5$ Simplify both sides to find x .

Check: $x + 3 = 5 + 3 = 8$ ✓

Worked example

Solve the equation $\frac{2a + 1}{3} = 5$.

$(2a + 1) \div 3 = 5$ $\frac{2a + 1}{3}$ can be written $\frac{(2a + 1)}{3}$ or $(2a + 1) \div 3$.

$(2a + 1) \div 3 \times 3 = 5 \times 3$ $\times 3$ is the inverse of $\div 3$.

$$2a + 1 = 15$$

$$2a + 1 - 1 = 15 - 1$$

$$2a = 14$$

$$2 \times a \div 2 = 14 \div 2$$

$$a = 7$$

Websites and further reading

- Pearson Active Learn: <http://pearsonactivelearn.com>
- Maths Watch: <http://mathswatch.co.uk/>
- BBC Bitesize: <http://www.bbc.co.uk/education/subjects/zqhs34j>
- Numeracy and Foundation level practice questions and answers: <https://corbettmaths.com/5-a-day/gcse1/>
- Maths quiz: <http://www.educationquizzes.com/ks3/maths/>
- KS3 online tests: <http://www.romsey.hants.sch.uk/maths/ks3onlinetests.htm>

Unit 5:

Key point

Graph axes do not have to start at zero. A zigzag line  shows values have been missed out.

Key point

Some graphs are more accurate and realistic when the points are joined with a smooth curve rather than straight lines.

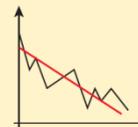
Key point

Line graphs can help you identify **trends** in the data. The trend is the general direction of change, ignoring individual ups and downs.

The graph shows an increasing trend



The graph shows an decreasing trend



Key point

A **distance–time graph** represents a journey. The vertical axis represents the **distance** from the starting point. The horizontal axis represents the **time** taken.

Key point

On a distance–time graph the **gradient** (steepness) of the line represents the **speed** of the journey.

Key point

A **linear graph** is a graph that is made up of a straight line.

Subject: Maths – 8D (Delta Scheme)

Term: 2

Topic: Units 3-5

Overview

In this term, learners will be studying up to three units which will include shapes and solids, interpreting real-life graphs and transformations.

Key Terms:

Unit 3:

Plans & Elevations
Cross-section
Surface Area
Volume

Capacity

Radius & Diameter

Circumference

Sector

Pythagoras' Theorem

Unit 4:

Proportion

Trend

Compound Measure

Linear

Gradient

Unit 5:

Transformations

Congruent

Corresponding

Vector

Scale Factor

Symmetry

Key skills

Unit 3 2D shapes and 3D solids

- 3.1 Plans and elevations
- 3.2 Surface area of prisms
- 3.3 Volume of prisms
- 3.4 Circumference of a circle
- 3.5 Area of a circle
- 3.6 Cylinders
- 3.7 Pythagoras' theorem
- 3 Check up
- 3 Strengthen
- 3 Extend
- 3 Unit test

Unit 4 Real life graphs

- 4.1 Direct proportion
- 4.2 FINANCE: Interpreting financial graphs
- 4.3 Distance-time graphs
- 4.4 Rates of change
- 4.5 Misleading graphs
- 4 Check up
- 4 Strengthen
- 4 Extend
- 4 Unit test

Unit 5 Transformations

- 5.1 Reflection and translation
- 5.2 Rotation
- 5.3 Enlargement
- 5.4 More enlargement
- 5.5 STEM: Combining transformations
- 5.6 2D shapes and 3D solids
- 5 Check up
- 5 Strengthen
- 5 Extend
- 5 Unit test

Unit 3:

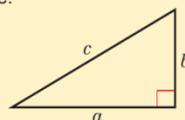
Key point

The formula for the area, A , of a circle with radius r is $A = \pi r^2$

Worked example
Draw the **plan**, the **front elevation** and the **side elevation** of this cuboid on squared paper.

Key point

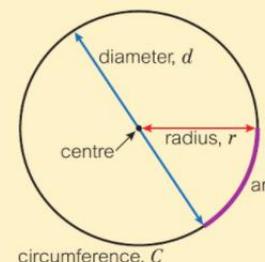
Pythagoras' theorem shows the relationship between the lengths of the three sides of a right-angled triangle.



$$c^2 = a^2 + b^2$$

Key point

The **circumference** (C) is the perimeter of a circle. The centre of a circle is marked using a dot.
The **radius** (r) is the distance from the centre to the circumference.
The **diameter** (d) is a line from one edge to another through the centre.
An **arc** is part of the circumference.



Key point

Surface area of a cylinder
 $= 2\pi r^2 + 2\pi r h$

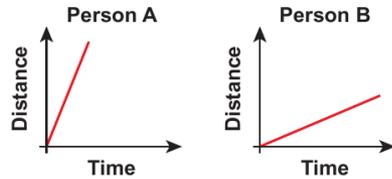
Key point

Volume of a cylinder $= \pi r^2 h$

Unit 4:

Fluency

Which person is travelling faster?



Key point

For a **linear relationship** the points on a graph form a straight line. When the points are not in a straight line, the relationship is **non-linear**.

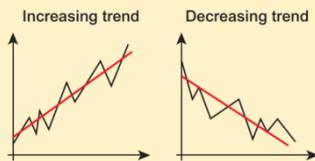
Key point

You can calculate **average speed** if you know the **distance** and the **time**.

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}} \text{ or } S = \frac{D}{T}$$

Key point

Line graphs can help you identify **trends** in the data. The trend is the general direction of the change, ignoring the individual ups and downs.



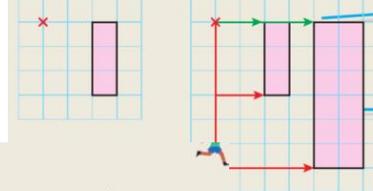
Websites and further reading

- Pearson Active Learn: <http://pearsonactivelearn.com>
- Maths Watch: <http://mathswatch.co.uk/>
- BBC Bitesize: <http://www.bbc.co.uk/education/subjects/zqhs34j>
- Numeracy and Foundation level practice questions and answers: <https://corbettmaths.com/5-a-day/gcse1/>
- Maths quiz: <http://www.educationquizzes.com/ks3/maths/>
- KS3 online tests: <http://www.romsey.hants.sch.uk/maths/ks3onlinetests.htm>

Unit 5:

Worked example

Enlarge this rectangle using a scale factor 2 and the marked centre of enlargement.

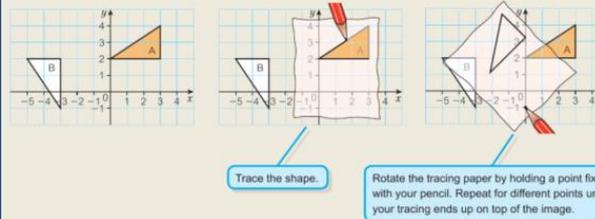


Multiply all the distances from the centre by the scale factor. Count the squares from the centre of enlargement.

The top left vertex of the rectangle changes from 2 right to 4 right. The bottom left vertex changes from 3 down and 2 right to 6 down and 4 right.

Worked example

Describe the rotation that takes shape A to shape B.



Trace the shapes.

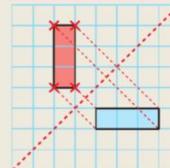
Rotate the tracing paper by holding a point fixed with your pencil. Repeat for different points until your tracing ends up on top of the image.

Rotation anticlockwise 90° about $(0, -1)$.

Give the direction, angle and centre of rotation.

Worked example

Reflect the blue shape in the mirror line.



Draw a line from each vertex to cross the mirror line at right angles. Extend the line the same distance on the opposite side of the mirror line to find the vertex of the image. It might help to turn your paper so the mirror line is vertical.

The top number in the column vector gives the horizontal movement. The bottom number gives the vertical movement.

Key point

You can describe a translation using a **column vector**.

The column vector for a translation 3 squares right, 2 squares down

$$\text{is } \begin{pmatrix} 3 \\ -2 \end{pmatrix}.$$

Subject: English

Term: 2

Topic: Shakespeare – *A Midsummer Night's Dream*

Plot Summary: What happens in the play?

Four lovers, having an argument in the **Athenian woods** at midnight are confused by fairies who are only trying to help. Throw in some magic, a custody battle over a little boy, and an amateur actor who unsuspectingly becomes the fairy queen's love interest... oh and a magic set of ass's ears... and there you have it - *A Midsummer Night's Dream*, a **comedy!**

- Hermia runs away with Lysander instead of marrying Demetrius.
- The King and Queen of the fairies fight over a little boy.
- Puck muddles up the lovers and causes havoc with a love potion.
- Bottom gets the ears of an ass and Titania falls in love with him.
- Oberon puts things right and wins the little boy from Titania.
- The lovers get married. Bottom's friends put on a play to celebrate.
- The play is about Pyramus and Thisbe.
- The fairies bless the marriages.

Characters

All of the characters come from Athens, Greece. The main characters in *A Midsummer Night's Dream* can be put into three groups:

- **The Fairies**
- **The Mechanicals**
- **The Mortals**

The Fairies live in the woods and control most of the events in the story through their magic.

The Mechanicals are a group of workers who are trying to rehearse a play in the woods to celebrate Duke Theseus's wedding. They are truly comic characters, a bit like clowns.

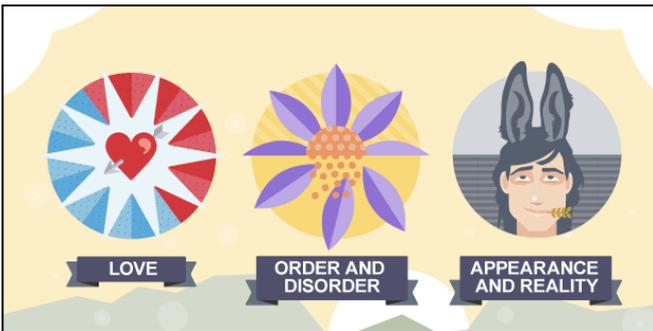
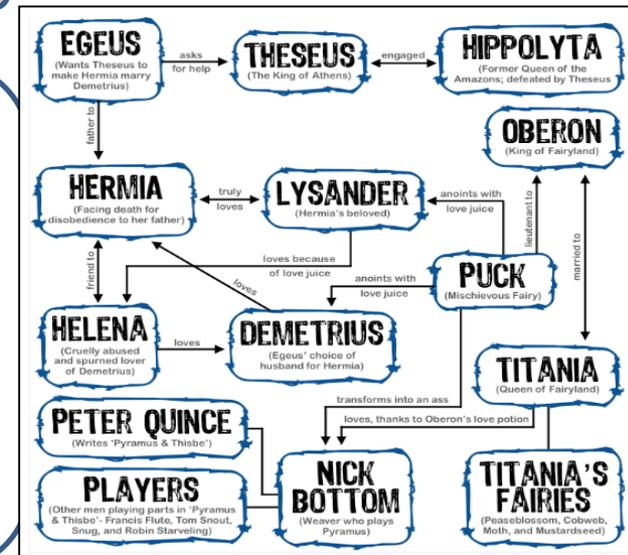
The Mortals are the human characters of the story. Within this group there are four young lovers who find their lives turned upside down by the fairy world in the middle of the night.

The play is one of Shakespeare's 'Comedies'!

Key Themes

Themes are the overarching idea and issues presented by Shakespeare in the play. You might be asked a question such as: "How is the theme of love presented in the play?"

- Love
- Power
- Order & Disorder
- Appearance and Reality
- Magic
- Dreams



Studying Shakespeare's Language: Key Terms

Shakespeare's language can be quite tricky to understand, especially when you start to analyze it. Here are a few important key terms you will need to use when studying Shakespeare's language.

- Alliteration:** A sequence of repeated sounds in a passage of language
- Blank verse:** unrhymed iambic pentameter: a line of five iambs
- Dramatic irony:** This occurs when the audience know more about what is happening than some of the characters themselves know
- Hyperbole:** A figure of speech that relies on exaggeration
- Iamb:** The most common metrical foot in English verse, a weak stress followed by a strong stress E.g. I am I am I am I am I am ('am' being the stressed syllable)
- Iambic pentameter:** A line of five iambic feet. The most common metrical pattern found in English verse
- Metre:** this is the pattern of stressed and unstressed syllables in a line of verse
- Oxymoron:** A figure of speech in which contrasting terms are brought together
E.g. 'sweet sorrow'
- Poetic verse:** A style of speech in Shakespeare's plays using rhyming couplets and a strong rhythmic pulse to the line
- Prose:** Any language that is not patterned by the regularity of some kind of metre
- Pun: a play on words:** two different meanings are drawn out of a single word, usually for comedy
- Rhyming couplet:** A pair of rhymed lines, of any metre
- Simile:** A figure of speech in which one thing is compared to another, indicated by 'like' or 'as'
- Soliloquy:** A dramatic convention which allows a character in a play to speak directly to the audience-as if thinking aloud about motives, feelings and decisions

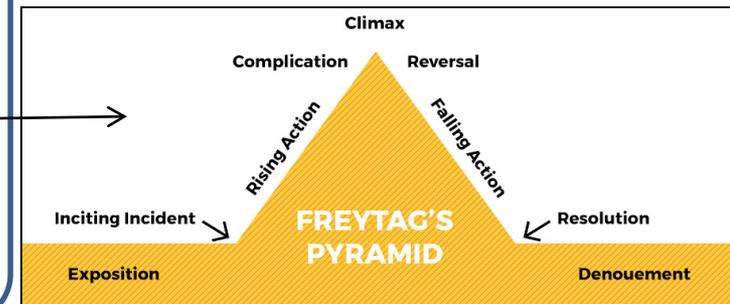
Key Vocabulary:

Comedy
Romance
Magic
Identity
Transformation
Renaissance
Athenian
Carnavalesque
Ambiguity
Individuality



Narrative Structure

Freytag's Pyramid to the right is a simple way of remembering how Shakespeare structured his plays to engage the Elizabethan audience.

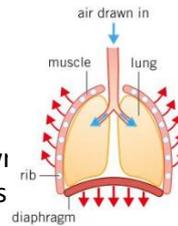


Topics Covered**Biology – Organisms, Breathing**

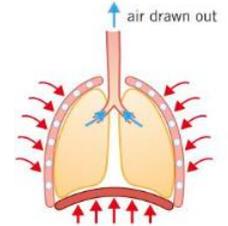
- 8.3.1 Gas Exchange
- 8.3.2 Breathing
- 8.3.3 Drugs
- 8.3.4 Alcohol
- 8.3.5 Smoking

Organisms: 8.3.2 BreathingInhaling

- Muscles between your ribs contract – this pulls your ribcage up and out
- The diaphragm contracts – moves down
- The volume inside your chest increases
- The pressure inside your chest decreases – this draws air into your lungs

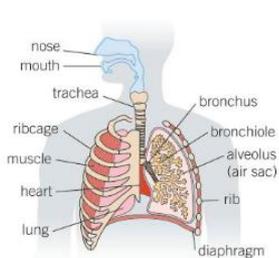
Exhaling

- Muscles between your ribs relax – this pulls your ribcage down and in
- The diaphragm relaxes – moves up
- The volume inside your chest decreases
- The pressure inside your chest increases – this pushed air out of your lungs

**Organisms: 8.3.1 Gas Exchange**

Gas exchange is when you breathe in oxygen and breathe out carbon dioxide. It happens in your **lungs**. Your lungs are so important that they need to be protected by the **ribs**. The lungs and the gas exchange system make up the **respiratory system**.

The **alveolus** air sac create a large surface area that is only 1 cell thick so that gas exchange occurs quickly and easily. We **inhale** oxygen and **exhale** carbon dioxide. The oxygen is used in **respiration** to transfer energy, carbon dioxide is a waste product.



Air enters your body through your mouth and nose.

↓

Air moves down the **trachea** (windpipe) – a large tube.

↓

Air moves down a **bronchus** – a smaller tube.

↓

Air moves through a **bronchiole** – a tiny tube.

↓

Air moves into an **alveolus** – an air sac.

↓

Oxygen then diffuses into the blood.

Organisms: 8.3.3 Drugs

Drugs are a chemical substances that affects the way your body works. There are two types – **medicinal drugs** and **recreational drugs**. Medicinal drugs are used in medicine to benefit your health, e.g. antibiotics. Recreational drugs are drugs that people take for enjoyment, e.g. alcohol or tobacco. Most recreational drugs are illegal.



Drug addiction is when your body gets used to the changes caused by a drug and it becomes dependent on that drug to make you feel normal this is a **drug addiction**. If an addict tries to stop taking a drug they make get **withdrawal symptoms**.

Organisms: 8.3.4 Alcohol

Alcohol contains a drug called **ethanol**. When you drink alcohol this goes into the bloodstream and to the brain where it affects the nervous system. It is called a **depressant** because it slows the body down. **Alcoholics** are people that are dependent on alcohol and have an addiction.

Too much alcohol can cause stomach ulcers, heart disease, brain damage and liver damage.



▲ Look at the difference in appearance of a diseased liver (left) and a healthy liver (right).

Topics Covered**Biology – Organisms, Breathing**

8.3.5 Smoking

Biology – Organisms, Digestion

8.4.1 Nutrients

8.4.2 Food tests

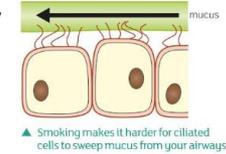
8.4.3 Unhealthy diet

Organisms: 8.3.5 Smoking

Smoking increases chances of breathing problems, cancer, heart attacks and strokes. By breathing in other people's smoke your risk of developing circulatory and respiratory conditions increases. This is known as **passive smoking**.

Smoking when pregnant can increase the risk of miscarriage, low-birth-weight babies and affect the development of the foetus.

Tobacco in cigarettes contains tar, nicotine (a stimulant drug) and carbon monoxide.

**Organisms: 8.4.1 Nutrients**

Nutrients are important substances that your body needs to survive and stay healthy. The types of nutrient are:

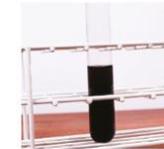
- **Carbohydrates** – provide energy
- **Lipids** – provide energy
- **Proteins** – used for growth and repair
- **Vitamins** – which keep you healthy
- **Minerals** – which keep you healthy
- **Water** – needed in all cells and body fluids
- **Dietary fibre** – provides bulk to food to keep it moving through your gut

Eating these in the correct amounts make a balanced diet.

**Organisms: 8.4.2 Food tests**

We can determine nutrients in food using **food tests**. For most food tests you need a solution of the food, to do this you:

1. Crush the food using a pestle and mortar
2. Add a few drops of water, and mix well

**How to test for starch?**

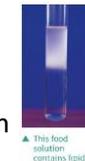
1. Add a few drops of iodine solution to the food solution
2. If the solution turns a dark blue-black colour the food contains starch

How to test for lipids?

1. Rub some food solution onto a piece of filter paper
2. Hold the paper up to the light. If the paper is translucent, the food contains lipids.

or,

1. Add a few drops of ethanol to the food solution
2. Shake the test tube and leave for one minute
3. Pour the ethanol into a test tube of water
4. If the solution turns cloudy, the food contains lipids

**How to test for sugar?**

1. Add a few drops of Benedict's solution to the food solution
2. Heat the test tube in a water bath
3. If the solution turns orange-red, the food contains sugar

**How to test for protein?**

1. Add a few drops of copper sulphate solution to your food solution
2. Add a few drops of sodium hydroxide solution
3. If the solution turns purple, the food contains protein



Topics Covered**Biology – Organisms, Digestion**

8.4.4 Digestive system

8.4.5 Bacteria and enzymes in digestion

Organisms: 8.4.3 Unhealthy diet

We need energy for everything we do, even sleeping! This energy comes from your food.

Why is it unhealthy to be underweight?

People that do not eat enough, in extreme cases, **starvation**, lose weight. If the energy in the food you eat is less than the energy you use, you will lose body mass. Underweight people:

- Suffer from health problems, such as a poor immune system
- Lack energy to do things and are often tired
- Are likely to suffer from a lack of vitamins or minerals

Why is it unhealthy to be overweight?

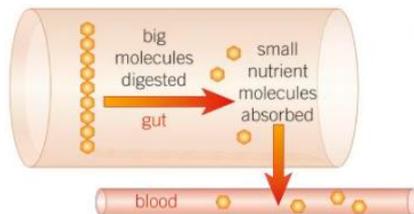
- Heart disease
- Stroke
- Diabetes
- Some cancers

What are vitamin and mineral deficiencies?

A **deficiency** is when a person does not have enough of a certain vitamin or mineral. This can damage someone's health. For example, vitamin A deficiency can lead to 'night blindness' and vitamin D deficiency can lead to rickets, where your bones become weak.

**8 Organisms: 8.4.4 Digestive System**

The **digestive system** is a group of organs that work together to break down food molecules so that they can be absorbed into the bloodstream.



Fibre in your food isn't digested by adds bulk to the food. Muscles push against this, forcing food along the gut. Eating lots of fibre helps prevent constipation.

8 Organisms: 8.4.5 Bacteria and enzymes in digestion

Your large intestines contain bacteria, **gut bacteria** helps us to break down our food during digestion. These digestive juices are called **enzymes**. Enzymes chop large molecules into the smaller molecules that they are made from:



Types of enzyme:

Carbohydrase – breaks carbohydrates down into sugar molecules

Protease – breaks protein down into amino acids

Lipase – breaks lipids down into fatty acids and glycerol

Topics Covered**Physics – Forces, Contact forces**

1.3.1 Friction and drag

1.3.2 Squashing and stretching

1.3.3 Turning forces

Physics – Forces, Pressure

1.4.1 Pressure in gases

1.4.2 Pressure in liquids

1.4.3 Stress on solids

Forces: 1.3.1 Friction and drag

Friction is a force, it is a force that causes two objects to grip each other. A **drag force** is the force in

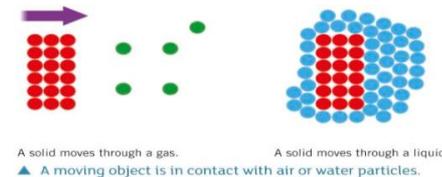
air or water that slows an object down, also known as **air** and **water resistance**.

When an object is moving the forces may be **balanced** or **unbalanced**. If they are balanced and at a

steady speed we can say that the object is at **equilibrium**.

If the forces are unbalanced then one force will be stronger. This is known as the **resultant force**.

To reduce drag or friction you could use **lubrication** or make an object **streamlined**.

**Forces: 1.3.2 Squashing and Stretching**

A force can change a shape of an object, this is called **deformation**. When a force squashes an object, they cause **compression**. When they stretch an object, they cause **tension**.

The amount an object can stretch is called the **extension**.



◀ The shape of a bungee cord changes when you stretch it.

Forces: 1.3.3 Turning forces

A turning force acts at a certain distance from a **pivot**.

The turning effect of a force is called a **moment**. A moment can be calculated in **Newton metres (Nm)**. The **Law of Moments** is when an object is in equilibrium and the sum of the clockwise moments is equal to the sum of the anticlockwise moments.

Falling over!!
When you tilt your chair slightly, there is a turning force that bring your chair back. The turning force is your weight on the chair. Lean back to far and you will fall.



▲ These apples are in equilibrium because the clockwise moment equals the anticlockwise moment.

All weight on an object seems to act through a point called the **centre of gravity** (or **centre of mass**).

Forces: 1.4.1 Pressure in gases

Fluid pressure can occur in gases and liquids. Gases and liquids contain atoms or molecules that collide with the surfaces to produce fluid pressure which can act in all directions. Fluid pressure can be calculated using the equation:

$$\text{Fluid pressure (N/m}^2\text{)} = \frac{\text{Force (N)}}{\text{area (m}^2\text{)}}$$

If you squash or heat a gas, you increase the gas pressure because there would be more collisions. Around us we have pressure being exerted onto our bodies, this is known as **atmospheric pressure**.

Topics Covered**Physics – Forces, Pressure**

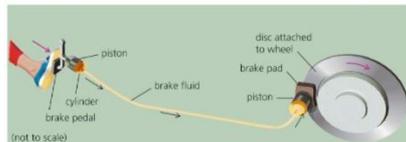
1.4.2 Pressure in liquids

1.4.3 Stress on solids

Forces: 1.4.2 Pressure in liquids

Water is a fluid, when you swim underwater it exerts a pressure on you. The water molecules are pushing on each other and on surfaces, and this **liquid pressure** acts in all directions.

Liquids are **incompressible**, in a sealed syringe the liquid won't squash. They can pass on any pressure applied to them. We use this property of liquids to make hydraulic machines, like brakes in a car.



▲ The hydraulic fluid transmits the force of the driver's foot on the brake to the brake pads and discs in a car.

Forces: 1.4.3 Stress on solids

When you stand on any surface you exert a force on it because of your weight. Your weight is spread out over the area of your foot. You are exerting a pressure on the ground, called **stress**. You can calculate stress using:

$$\text{Stress (N/m}^2\text{)} = \frac{\text{Force (N)}}{\text{area (m}^2\text{)}}$$

Stress can depend on the surface area of a surface, for example, studs on football boots have a small area and produce a bigger stress.



▲ Snowshoes increase the area of your feet so the stress is less.



▲ The studs increase the grip on the ground.

**Year 8
(Organisms)**

Gas exchange
Respiration
Exhale
Inhale
Diaphragm
Addiction
Nutrients
Deficiency
Digestion
Enzymes

**Year 8
(Forces)**

Friction
Contact Forces
Newton's
Resistance
Resultant force
Compression
Moment
Pressure

Key question 1: What are plate tectonics?

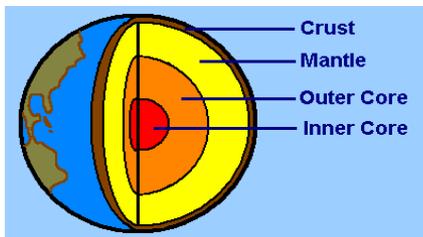
Crust: The thin outer layer of the earth

Mantel: The layer of the earth between the core and the crust

Core: The very hot central part of the earth. *Can be split into the inner and outer core.*

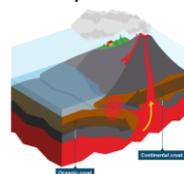
Plates: Large sections of the earth crust.

Convection currents: The process that moves the tectonic plates. This takes place due to the heat from the core.



Key question 2: What causes earthquakes, volcanoes and tsunamis ?

Conservative plate boundary: A conservative plate boundary, occurs where plates slide past each other in opposite directions, or in the same direction but at different speeds. Friction is eventually overcome and the plates slip past in a sudden movement. The shockwaves created produce an earthquake.



Destructive plate boundary: This occurs when oceanic and continental plates move together. The oceanic plate is forced under the lighter continental plate. Friction causes melting of the oceanic plate and may trigger earthquakes.

Constructive plate boundary: A constructive plate boundary, occurs when plates move apart. Volcanoes are formed as magma wells up to fill the gap, and eventually new crust is formed.



Key question 3: What are the costs of tectonic hazards?

Here you need to understand how and why tectonic hazards are so disastrous. There are a number of ways that they affect us:

- Impact on people = Social costs
- Impact on money = economical costs
- Impact on the local area = environmental costs



Case studies:

- The Haiti Earthquake 2010
- The Icelandic Volcanic Eruption 2010
- The Japanese Tsunami 2011

You also need to know why tectonic hazards are worse in poor (Less developed) countries.

Websites and further reading:

<http://www.bbc.co.uk/education/guides/zyhv4wx/revision>

<http://exploregography.net/earthquake-case-studies-gcse/>

<http://www.bbc.co.uk/education/guides/zvnbkqt/revision/4>

http://www.bbc.co.uk/bitesize/ks3/geography/physical_processes/plate_tectonics/revision/3/



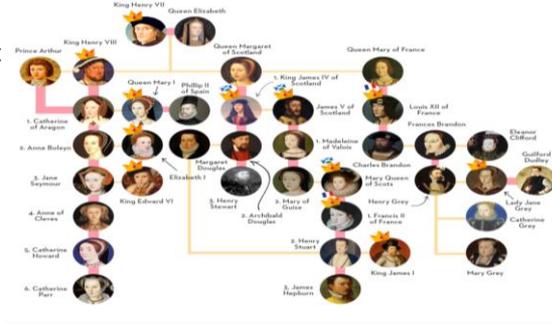
Key vocabulary to define and learn:

- | | | | | |
|-------------------|-------------------------|---------------|-----------------|---------------------|
| Inner core | outer core | mantel | crust | convection currents |
| plates | conservative earthquake | constructive | destructive | shield volcano |
| composite volcano | tsunami | super volcano | active volcano | active volcano |
| dormant volcano | | | extinct volcano | |

Key concept 1: Who were the Tudors?

Who were the Tudors?

The **Tudors** were a Welsh-English family that ruled England and Wales from 1485 to 1603. The **Tudors** ruled for 118 years and **Tudor** England saw two of the strongest monarchs ever to sit on the English throne: King Henry VIII and his daughter Queen Elizabeth I.



Key concept 2: Main Issues during the Tudor period

- Succession** – Henry VIII only son died early, the age of the Queen regnant was born!
- Religion** – Henry VIII wanted to divorce his first wife, but the **Catholic Church** and the Pope won't let him. So Henry changes the ENTIRE church to suit his needs... The **Protestant Church of England** is created.



Key concept 3: Catholic Vs. Protestant

The Reformation

Henry VIII broke away from the **Catholic Church** in Rome and closed the monasteries. To help him in his struggle with the Catholic Church, Henry needed help from **Protestants**. He then created the **Church of England** which he became the leader of. Although the **reformation** started with Henry VIII but his children kept changing the religion of the country from Protestant to Catholic and back again!



Websites and further reading:



- <http://www.primaryhomeworkhelp.co.uk/timeline/tudors.htm>
- <http://www.bbc.co.uk/education/topics/zymp34j>
- http://www.bbc.co.uk/bitesize/ks3/history/tudors_stuarts/reformation/revision/4/
- <http://www.historyonthenet.com/the-tudors-monarchs/>

Key vocabulary to define and learn:

Punishment Corporal punishment Capital punishment Law Human
 rights justice reformation innocent morals ethics
 criminal prison guilty trials jury
 judge Police Treason murder

Key Content 1 – Ma journée! (*My day!*)Using time to talk about daily routine

Describing the sequence of a day

Sequencing ideas

Describing what you do at school

Key Content 2 – Miam Miam (*Yum yum – talking about food*)Giving likes and dislikes 

Talking about food and drink

Saying what you eat & drink at school

Key Content 3 – Mon collège idéal (*My ideal school*)

Describing school facilities

Key Content 4 – Mes Matières (*My subjects!*)

Saying what you study

Comparing schools in France and UK

Using time and understanding timetables

Key Content 5 – Mes Profs (*My teachers*)

Using the verb to have – AVOIR

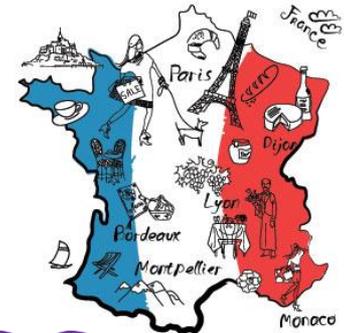
Using the verb to be – ÊTRE

Giving justified opinions

Describing character

Activities

- Surveying others
- Creating a timetable
- Designing an ideal school
- Creating a teacher profile
- Writing a school review

Websites and further reading:Search on www.quizlet.com for 'Studio 1, M2'Use the first module in your textbook and on www.pearsonactivelearn.comUse www.French-games.net to practise and play language gamesUse www.languagesonline.org and go to the French Grammar section to practise AVOIR and ETRE and the regular present tense and extend your knowledge – self-marking exercises.**Key Vocabulary** (See Textbook pages 46 & 47) *For revision you need to be able to understand all the texts on the double pages*

Practise vocabulary at home and/or with a friend at school

Tick off the modules above as you complete them, and make sure you can still do these topics for the End of Unit test. Look over your learning and complete anything missing at home each week: **Look, cover, write, check...**You need: **School Subjects** **Opinions** **Food & drink** **School facilities** **Comparison** **The verb to have 'AVOIR'** **Using the time in French** **The verb to be 'ETRE'** **High Frequency Words:** *J'étudie (I study) Je préfère (I prefer), Je pense que (I think that), Quell heure est-il? (What time is it?), Premier (first), puis (then), après (after) finalement (finally)*

Les matières scolaires • School subjects

le français	<i>French</i>
le théâtre	<i>drama</i>
la géographie/la géo	<i>geography</i>
la musique	<i>music</i>
la technologie	<i>technology</i>
l'anglais (m)	<i>English</i>
l'EPS (f)	<i>PE</i>
l'histoire (f)	<i>history</i>
l'informatique (f)	<i>ICT</i>
les arts plastiques (m)	<i>art</i>
les mathématiques/maths (f)	<i>maths</i>
les sciences (f)	<i>science</i>

Les opinions • Opinions

Tu aimes/Est-ce que tu aimes ... ?	<i>Do you like ... ?</i>
J'aime ...	<i>I like ...</i>
J'aime beaucoup ...	<i>I like ... a lot.</i>
J'aime assez ...	<i>I quite like ...</i>
J'adore ...	<i>I love ...</i>
Je n'aime pas ...	<i>I don't like ...</i>
Je déteste ...	<i>I hate ...</i>
C'est ma matière préférée.	<i>It's my favourite subject.</i>
Moi aussi.	<i>Me too.</i>
T'es fou/folle.	<i>You're crazy.</i>

Les raisons • Reasons

C'est ...	<i>It's ...</i>
intéressant	<i>interesting</i>
ennuyeux	<i>boring</i>
facile	<i>easy</i>
difficile	<i>difficult</i>
génial	<i>great</i>
nul	<i>rubbish</i>
marrant	<i>fun/funny</i>
On a beaucoup de devoirs.	<i>We have a lot of homework.</i>
Le/La prof est sympa.	<i>The teacher is nice.</i>
Le/La prof est trop sévère.	<i>The teacher is too strict.</i>

Quelle heure est-il? • What time is it?

Il est ...	<i>It's ...</i>
huit heures	<i>eight o'clock</i>
huit heures dix	<i>ten past eight</i>
huit heures et quart	<i>quarter past eight</i>
huit heures et demie	<i>half past eight</i>
neuf heures moins vingt	<i>twenty to nine</i>
neuf heures moins le quart	<i>quarter to nine</i>
midi	<i>midday</i>
minuit	<i>midnight</i>
midi/minuit et demi	<i>half past twelve (midday/midnight)</i>

L'emploi du temps • The timetable

le lundi	<i>on Mondays</i>
le mardi	<i>on Tuesdays</i>
le mercredi	<i>on Wednesdays</i>
le jeudi	<i>on Thursdays</i>
le vendredi	<i>on Fridays</i>
À [neuf heures]	<i>At [nine o'clock]</i>
j'ai [sciences].	<i>I've got [science].</i>
le matin	<i>(in) the morning</i>
l'après-midi	<i>(in) the afternoon</i>
le mercredi après-midi	<i>on Wednesday afternoon</i>
la récréation/la récré	<i>breaktime</i>
le déjeuner	<i>lunch</i>

La journée scolaire • The school day

On a cours (le lundi).	<i>We have lessons (on Mondays).</i>
On n'a pas cours ...	<i>We don't have lessons ...</i>
On commence les cours à ...	<i>We start lessons at ...</i>
On a quatre cours le matin.	<i>We have four lessons in the morning.</i>
On étudie neuf matières.	<i>We study nine subjects.</i>
À la récré, on bavarde et on rigole.	<i>At break, we chat and have a laugh.</i>
On mange à la cantine.	<i>We eat in the canteen.</i>
On finit les cours à ...	<i>We finish lessons at ...</i>
On est fatigués.	<i>We are tired.</i>

Qu'est-ce que • What do you eat?/ tu manges? • What are you eating?

Je mange ...	<i>I eat/I'm eating ...</i>
du fromage	<i>cheese</i>
du poisson	<i>fish</i>
du poulet	<i>chicken</i>
du steak haché	<i>beefburger</i>
du yaourt	<i>yoghurt</i>
de la pizza	<i>pizza</i>
de la purée de pommes de terre	<i>mashed potatoes</i>
de la glace à la fraise	<i>strawberry ice-cream</i>
de la mousse au chocolat	<i>chocolate mousse</i>
de la tarte au citron	<i>lemon tart</i>
des crudités	<i>chopped, raw vegetables</i>
des frites	<i>chips</i>
des haricots verts	<i>green beans</i>
Bon appétit!	<i>Enjoy your meal!</i>

Les mots essentiels • High-frequency words

à	<i>at</i>
et	<i>and</i>
aussi	<i>also</i>
mais	<i>but</i>
très	<i>very</i>
trop	<i>too</i>
assez	<i>quite</i>
un peu	<i>a bit</i>
pourquoi?	<i>why?</i>
parce que	<i>because</i>
beaucoup (de)	<i>a lot (of)</i>
tous les jours	<i>every day</i>
aujourd'hui	<i>today</i>
pardon	<i>excuse me</i>
merci	<i>thank you</i>
est-ce que (tu) ... ?	<i>do (you) ... ?</i>
qu'est-ce que (tu) ... ?	<i>what do (you) ... ?</i>
avec	<i>with</i>

Je me prépare • I get myself ready

Je me douche.	<i>I have a shower.</i>
Je me fais une crête.	<i>I make my hair spiky.</i>
Je me parfume.	<i>I put on perfume/ aftershave.</i>
Je m'habille.	<i>I get dressed.</i>
Je me brosse les cheveux.	<i>I brush my hair.</i>
Je me lave les dents.	<i>I clean my teeth.</i>
Je me regarde dans la glace.	<i>I look in the mirror.</i>
Je me rase.	<i>I shave.</i>
Je me maquille.	<i>I put on make-up.</i>



Subject: Spanish

Term: 1

Topic: Viva 2; Módulo 2– Todo Sobre Mi Vida (*All about my life*)

Key Content 1 – Mi vida; mi móvil (*My life; my mobile*)

Using VERBS – practising grammar and present/past conjugation

Talking about how you and others use phones/technology

Using FREQUENCY



Key Content 2 – ¿Qué tipo de música te gusta? (*What type of music do you like?*)

Saying what type of music you like

Understanding and giving opinions

Adding reasons to opinions and adding extra detail

Developing cultural awareness of Spanish music/artists



Key Content 3 – ¿Qué te gusta ver en la tele? (*What do you like to watch on TV?*)

Types of TV programme, days of the week

Talking about and explaining preferences

Adding complexity to opinions and justifications

Using the comparative



Key Content 4 – ¿Qué hiciste ayer? (*What did you do yesterday?*)

Use the preterite tense to build descriptions of activities in the past

Connect and sequence ideas to build narrative description

Give opinions in the past and talk about/understand what others do

Activities

- Taking part in a dialogue/interview asking and answering questions in the past and present
- Matching and adapting questions and answers
- Creating and delivering a presentation about your free time activities and preferences
- Complex reading including authentic texts
- Reviewing music/TV in writing giving complex opinions
- Using tenses together
- Creating a Free Time diary or storyboard

Websites and further reading:

Search on www.quizlet.com for 'Viva 2, M2' or 'tiempo libre'

Use the second module in your textbook and on www.pearsonactivelearn.com

Use www.languagesonline.org and use the Grammar sections (The Present Tense) and (The Preterite).

Use www.language-gym.com and do the 'grammar workouts' for preterite and present indicative and the vocabulary activities for 'Leisure' – explore other options too!

If you need even more verb practice – www.conjuguemos.com – grammar practice – you don't need to sign up – use as a guest.

Key Vocabulary (See Textbook pages 46 & 47) *For revision you need to be able to understand all the texts on the double pages*

Practise vocabulary at home and/or with a friend at school

Tick off the modules above as you complete them, and make sure you can still do these topics for the End of Unit test. Look over your learning and complete anything missing at home each week: **Look, cover, write, check...**

You need: **Music types** **TV programmes** **Online/phone activities** **Past hobbies/activities** **Sequence/Time phrases** **Opinion phrases** **Days of the week**

High Frequency Words: Veo (*I watch*), Escucho (*I listen to*) Hago (*I do*), Voy (*I go*), Juego (*I play*), Mi (*my*), Tu (*Your*), Su (*his/her*), para (*for/to*), más...que (*more than*), menos...que (*less than*), por la mañana (*in the morning*), por la tarde (*in the afternoon*), Hice (*I did*), Fui (*I went*), Vi (*I watched*), Escuché (*I listened to*), Jugué (*I played*), es (*it is*), fue (*it was*), pienso que (*I think that*), nunca (*never*), a veces (*sometimes*), todos los días (*everyday*), mucho (*a lot*), muy (*very*), un poco (*a little*), y (*and*), también (*also*), pero (*but*), cuando (*when*), si (*if*)

¿Qué haces con tu móvil? What do you do with your mobile?

Chateo con mis amigos.	I chat with my friends.	Juego.	I play.
Comparto mis vídeos favoritos.	I share my favourite videos.	Leo mis SMS.	I read my texts.
Descargo melodías o aplicaciones.	I download ringtones or apps.	Mando SMS.	I send texts.
Hablo por Skype.	I talk on Skype.	Saco fotos.	I take photos.
		Veo vídeos o películas.	I watch videos or films

¿Con qué frecuencia? How often?

todos los días	every day	a veces	sometimes
dos o tres veces a la semana	two or three times a week	de vez en cuando	from time to time
		nunca	never

¿Qué tipo de música te gusta? What type of music do you like?

el rap	rap	¿Qué tipo de música escuchas?	What type of music do you listen to?
el R'n'B	R'n'B	Escucho rap.	I listen to rap.
el rock	rock	Escucho la música de...	I listen to... 's music.
la música clásica	classical music	Escucho de todo.	I listen to everything.
la música electrónica	electronic music		
la música pop	pop music		

Opiniones Opinions

Me gusta (mucho)...	I like... (very much)	¿Te gusta la música de...?	Do you like... 's music?
Me encanta...	I love...	Me gusta la música de...	I like... 's music.
No me gusta (nada)...	I don't like... (at all)	mi canción favorita	my favourite song
la letra	the lyrics	mi cantante favorito/a	my favourite singer
la melodía	the tune	mi grupo favorito	my favourite group
el ritmo	the rhythm	En mi opinión...	In my opinion...
porque es guay/triste/horrible	because it is cool/sad/terrible		

Me gustan las comedias I like comedies

un programa de música	a music programme	el telediario	the news
un programa de deportes	a sports programme	más... que...	more... than...
un concurso	a game show	divertido/a	funny
un documental	a documentary	informativo/a	informative
un reality	a reality show	interesante	interesting
una comedia	a comedy	aburrido/a	boring
una serie policíaca	a police series	emocionante	exciting
una telenovela	a soap opera		

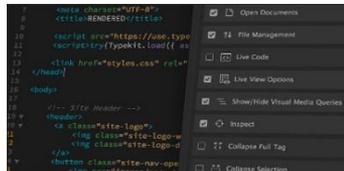
¿Qué hiciste ayer? What did you do yesterday?

Bailé en mi cuarto.	I danced in my room.	Vi una película.	I watched a film.
Fuí al cine.	I went to the cinema.	Sali con mis amigos/as.	I went out with my friends.
Hablé por Skype.	I talked on Skype.	No hice los deberes.	I didn't do my homework.
Hice gimnasia.	I did gymnastics.	ayer	yesterday
Hice kárate.	I did karate.	luego	later, then
Jugué en línea con mis amigos/as.	I played online with my friends.	por la mañana	in the morning
Jugué tres horas.	I played for three hours.	por la tarde	in the afternoon
Monté en bici.	I rode my bike.	un poco más tarde	a bit later



Key topic 1.1: Website creation using Dreamweaver

- 2.1.1 Define what a web graphic is and how they are used by businesses. Understand the difference between vector and bitmaps. Plan the design of a web graphic.
- 2.1.2 Editing graphics using Adobe fireworks or similar to change the shape, text, colour and alignment.
- 2.1.3 Introduction to Dreamweaver;
- Understand the different choices for businesses that are available for website creation
 - Develop basic Dreamweaver skills such as text alignment, changing colour, inserting pictures and table creation
- 2.1.4 Making hyperlinks with text, images and images hotspots
- 2.1.5 Investigating interactive features on a website;
- Rollover images
 - Animated banners
- 2.1.6 Making a website using Dreamweaver

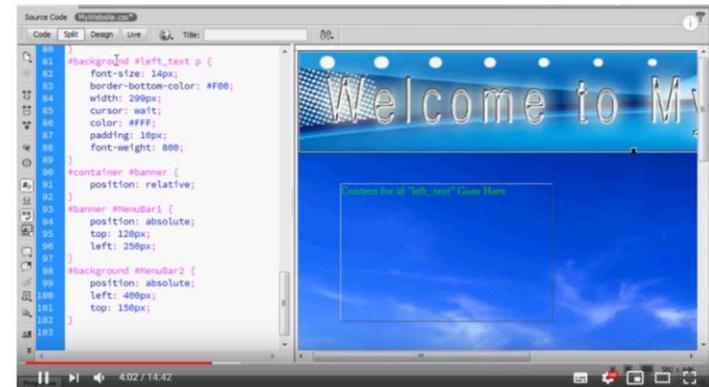


Websites and further reading:

What is dreamweaver: <https://helpx.adobe.com/uk/dreamweaver/how-to/what-is-dreamweaver.html>

What is fireworks: <https://www.adobe.com/uk/products/fireworks.html>

Dreamweaver tutorial: <https://www.youtube.com/watch?v=D-5xpY4zH2c>



Key vocabulary to define and learn:

Vector
Hyperlink

Bitmap
Hotspot

Alignment

Banner

Website

Animation

Key question 1: What is Illustration?

An illustration is a decoration, interpretation or visual explanation of a text, concept or process. This is done through a variety of media and styles. Who is your favourite illustrator? What do you like about their work? Can you identify features of their drawing style?



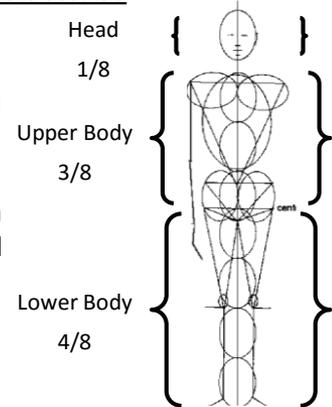
Key question 2: How to draw the human structure?

You will learn how to draw the structure of the human body through using simple shapes, lines and proportions. These rules can then be applied to show movement.

Can you use the proportions provided to create a different "pose" (running/ sitting). Could you add muscle structure/ clothing to begin creating your own character?

Use this video to help guide you.

https://www.youtube.com/watch?v=85A_F7_N3tO&t=52s



Key question 3: What is the character design?

Character design has four main stages; research, development, refine, and deliver. This is achieved through a series of projects which lead to a final piece. The images show stage 1 and stage 4. How do you think the illustrator gets from stage 1 to stage 4?



Websites and further reading:

Artists: Quentin Blake, Perry Maple, Axel Scheffler, Cressida Cowell, E.H Shepard, Peter Ramsey, Chris Riddell

BBC Bitesize:

<http://www.bbc.co.uk/schools/gcsebitesize/art/practicalities/elementsofart4.shtml>

Pinterest: Search "illustration character"

Youtube: <https://www.youtube.com/watch?v=XxNUIRVOMmW&t=612s>

Key vocabulary to define and learn

Proportions	Angles	Style	Position
Structure	Tone	Form	Design
Process	Movement	Identity	

Illustration Challenge:

Use the skills you are practicing in lessons to produce an illustration inspired by the word *DREAMS*. This can include an original character, setting or background, or typography. It can be created using your preferred method but must show an awareness of the skills on this page. If you wish to partake, entries must be submitted to Miss Garrett by the last day of term.