WOOTTON PARK

FOUNDATION FOR GROWTH

'Ipsum quod faciendum est diutius'

Year 8 Knowledge Maps
Term 3

Your Name	
Your Email Address	

Subject: Maths – 8A (Delta Scheme)	Term: 3	Topic: Units 5-7

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'Ipsum quod faciendum est diutius durant'

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

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

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

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

Unit 3:

Key point

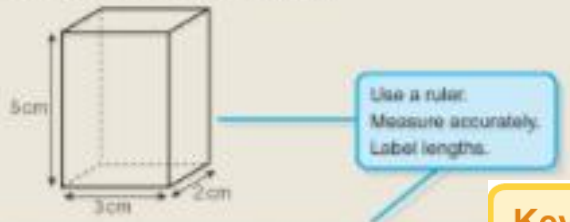
Surface area of a cylinder $= 2\pi r^2 + 2\pi rh$

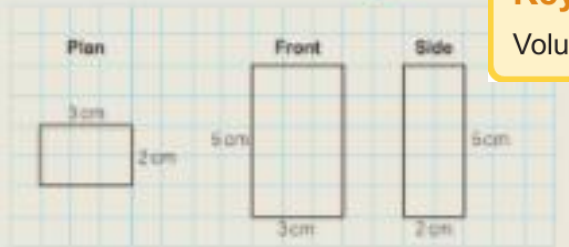
Key point

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

Worked example

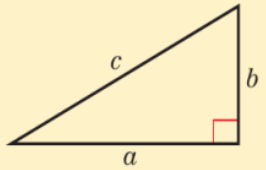
Draw the **plan**, the **front elevation** and the **side elevation** of this cuboid on squared paper.





Key point

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



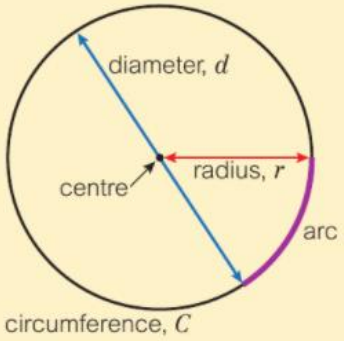
$c^2 = a^2 + b^2$

Key point

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

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.

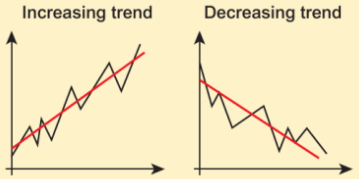


Subject: Maths – 8A (Delta Scheme)	Term: 3	Topic: Units 5-7

Unit 4:

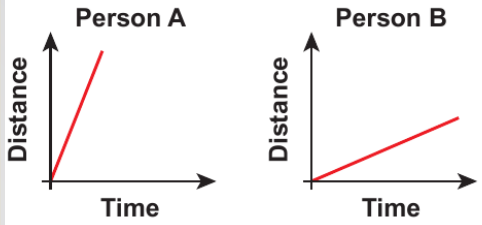
Key point

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.



Fluency

Which person is travelling faster?



Key point

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

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

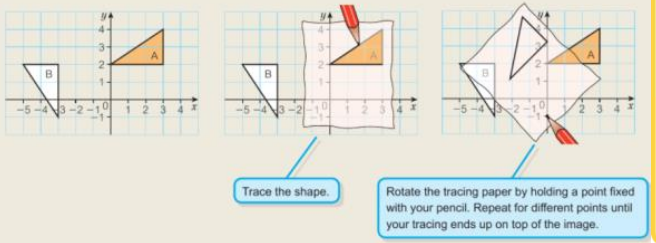
Key point

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**.

Unit 5:

Worked example

Describe the rotation that takes shape A to shape B.



Key point

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

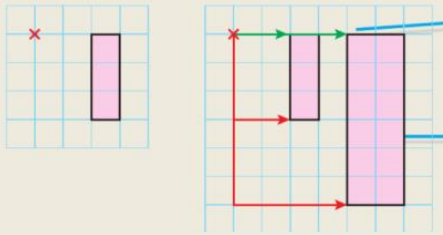
The column vector for a translation 3 squares right, 2 squares down is $\begin{pmatrix} 3 \\ -2 \end{pmatrix}$.

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

The bottom number gives the vertical movement.

Worked example

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

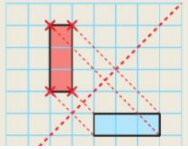


Multiply all the distances from the centre by the scale factor. Count the squares from the centre of enlargement.

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

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.

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

Subject: Maths – 8B (Theta Scheme)	Term: 3	Topic: Units 5-7

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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

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

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

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:
Pie Chart
Sector
Radius
Stem & Leaf
Correlation
Line of Best Fit
Two-Way Table

Unit 4:
Indices
Factorising
Function
Equation

Unit 5:
Conversion
Gradient
Trend
Interpret
Linear

Unit 3:

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 × 7 = 0
1	8	1 × 8 = 8
2	6	2 × 6 = 12
3	3	3 × 3 = 9
4	1	4 × 1 = 4
Total	25	33

mean = 33 ÷ 25 = 1.32

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.

mean = total number of pets ÷ number of people

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

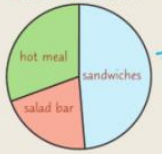
Total number of students = 35 + 15 + 22 = 72

÷72 72 students is 360°
1 student is 360° ÷ 72 = 5°

Sandwiches 35 × 5 = 175°
Salad bar 15 × 5 = 75°
Hot meal 22 × 5 = 110°

Check: 175 + 75 + 110 = 360

Students' lunch choices



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

−6 ÷ 5 = −1.2

100 + −1.2 = 98.8

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.

Add the mean difference to the assumed mean.

Worked example

Here are the heights of some tomato seedlings (in cm).
2.8, 3.4, 4.5, 4.1, 4.3, 2.7, 1.6, 3.2, 1.9, 2.5
Construct a stem and leaf diagram for this data.

1	6, 9
2	8, 7, 5
3	4, 2
4	5, 1, 3

1	6, 9
2	5, 7, 8
3	2, 4
4	1, 3, 5

Key: 1 | 6 means 1.6 cm

Decide on a stem. For decimals use the whole-number part. Write in the leaves as you work along the data list.

Write out your diagram again, putting the leaves in order.

Give your diagram a key.

Subject: Maths – 8B (Theta Scheme)	Term: 3	Topic: Units 5-7

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Unit 4:

Worked example

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

$6 = \mathbf{3} \times 2$, so **3** and 2 are factors of 6.
$3a = \mathbf{3} \times a$, 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 $x + 3 = 8$.

$x + 3 = 8$ — Visualise the equation as balanced scales.

$x + 3 - 3 = 8 - 3$ — 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 $(2a + 1) \div 3$.

$(2a + 1) \div 3 \times 3 = 5 \times 3$ — × 3 is the inverse of ÷ 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/
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- 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

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

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

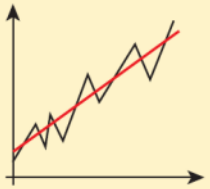
Key point

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

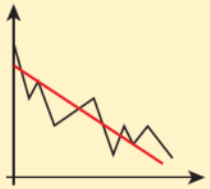
Key point

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

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

Subject: Maths – 8C (Pi Scheme)	Term: 3	Topic: Units 5-7

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Unit 3 - Key skills:

Unit 3 Statistics

3.1 Data collection sheets
3.2 Interpreting bar charts
3.3 Drawing bar charts
3.4 STEM: Pie charts

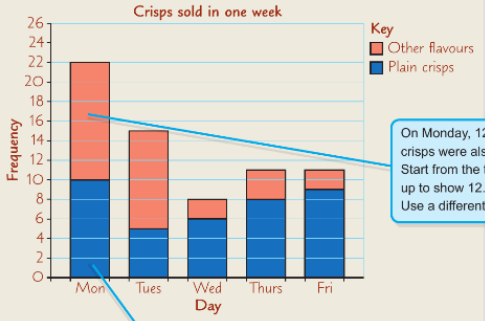
A **data collection sheet** is a table or chart for collecting **data**. It has a tally column and a frequency column.

Worked example

This frequency table shows the numbers of packets of different flavour crisps sold in one week.

	Mon	Tues	Wed	Thurs	Fri
Plain crisps	10	5	6	8	9
Other flavours	12	10	2	3	2

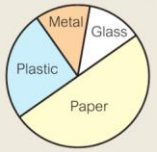
Draw a compound bar chart to show this data.



On Monday, 12 packets of other flavours of crisps were also sold.
Start from the top of the blue bar and draw up to show 12.
Use a different colour for this part of the bar.

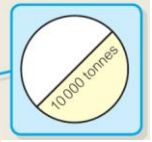
First draw a bar to show plain crisps.

Worked example



This **pie chart** shows the types of waste recycled in one town.
The town recycles 10 000 tonnes of paper.
How many tonnes of waste does it recycle in total?

Paper = $\frac{1}{2}$ of pie chart
Paper = 10 000 tonnes = $\frac{1}{2}$ of all waste
Total recycled = 10 000 × 2 = 20 000 tonnes



Mean
= total number of homeworks missed
÷ total number of students

Range = largest value – smallest value

The **modal class** is the group of data with the highest frequency.

Key Terms – Can you add the definitions (meanings)?

Mode: _____

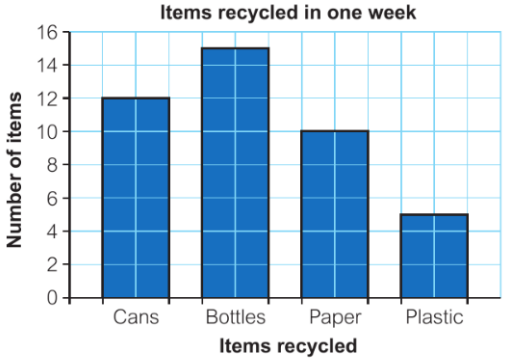
Mean: _____

Inverse: _____

Simplify: _____

Unit 3 - Test Your Understanding

The bar chart shows the number of items recycled by a family in one week.

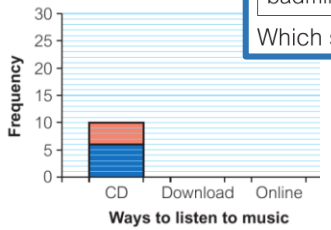


a How many cans were recycled?
b How many plastic items were recycled?
c How many items were recycled in total?
d How many more bottles were recycled than paper items?

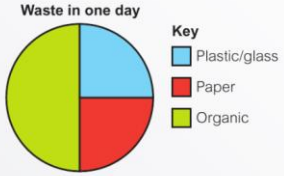
Robin asked 20 Year 8 students and 20 Year 9 students how they usually listen to music.

	CD	Download	Online
Year 8	6	12	10
Year 9	4	10	14

a Copy and complete this compound bar chart for the data.
b What is the most popular way of listening to music for Year 9s?



Real In one day, John recorded the number of items he threw away. Here is a pie chart of his data.



a What fraction of his waste was paper?
b What fraction was organic?
c He threw away 40 organic items. How many items did he throw away altogether?
d How many plastic items did he throw away?

Copy and complete this tally chart.

Favourite sport	Tally	Frequency
football		14
tennis		9
basketball	𝍸 ||	
netball	𝍸	
golf		12
badminton		4

Which sport is the mode?

Subject: Maths – 8C (Pi Scheme)	Term: 3	Topic: Units 5-7

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Unit 4 Expressions and equations

4.1 Simplifying expressions
4.2 Functions
4.3 Solving equations
4.4 Using brackets

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/

Unit 4 - Key Skills:

Key point

The function +5 adds 5 to a number.

2 → +5 → 7

2 ← −5 ← 7

The **inverse function** is –5 because it reverses the effect of adding 5.

Worked example

Work out 4 × (10 + 6)

4 × (10 + 6) = 4 × 10 + 4 × 6
= 40 + 24
= 64

Worked example

Solve the equation $x + 7 = 12$.

x → +7 → 12 — Draw a function machine for the equation.

5 ← −7 ← 12 — Draw the inverse function machine to work out the value of x.

$x = 5$

Check: $x + 7 = 5 + 7 = 12$ ✓ — Check by substituting $x = 5$ back into $x + 7$.

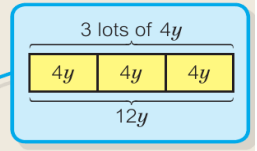
Worked example

Simplify

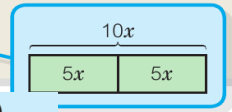
a $3 \times 4y$

b $10x \div 2$

a $3 \times 4y = 12y$



b $10x \div 2 = 5x$



3(10 + 7) means 3 × (10 + 7).
You don't need to write the × sign.

Unit 4 - Test Your Understanding

Match each yellow card with its correct simplified blue card.

$2x + 5x$	$8x - 2x$	$3x + x$	$12x - 7x$
$4x$	$5x$	$6x$	$7x$

Write down the missing function for each **inverse function** machine.

a 1 → +9 → 10

1 ← □ ← 10

b 2 → ×6 → 12

2 ← □ ← 12

Solve these equations. Check your **solutions**.

a $x + 4 = 10$ **b** $y + 3 = 15$

c $z + 9 = 11$ **d** $n - 1 = 5$

e $m - 3 = 7$ **f** $p - 10 = 6$

Simplify

a $5 \times 2x$ **b** $4 \times 6y$

c $3p \times 5$ **d** $9t \times 7$

Work out by multiplying out the brackets.

a $5 \times (3 + 9)$ **b** $2 \times (8 + 5)$

Unit 5:

Work out

a 21.54 + 9.34 **b** 9.8 + 12.17

Key point

$0.5 = \frac{1}{2}$, so multiplying by 0.5 is the same as multiplying by $\frac{1}{2}$, which is the same as dividing by 2.

For example,

$14 \times 0.5 = 14 \times \frac{1}{2} = 14 \div 2 = 7$

Work out

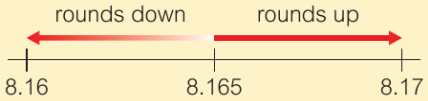
a 16×0.5 **b** 24×0.5

c 38×0.5 **d** 0.5×62

Key point

When rounding to 2 decimal places, look at the thousandths:

- for 0.005 and above, round up
- for 0.004 and below, round down.



Round each number to 2 decimal places.

a 7.926

b 9.353

c 4.325

Subject: Maths – 8D (Delta 3)	Term: 3	Topic: Units 5-7

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Key skills

Unit 5 Multiplicative reasoning

5.1 Direct proportion
5.2 Solving problems using direct proportion
5.3 Non-linear proportion
5.4 Arcs and sectors of circles

Unit 6 Non-linear graphs

6.1 Graphs of quadratic functions
6.2 Solving quadratic equations
6.3 Graphs of cubic functions
6.4 STEM: Graphs of reciprocal functions

Unit 7 Accuracy and measures

7.1 Rates of change
7.2 Density and pressure
7.3 Upper and lower bounds
7.4 Calculating with bounds
7.5 STEM: Accurate measures in real life

Overview

In this term, learners will be studying up to three units which will include proportion, graphs of non-linear functions, compound measures and bounds

Key Terms:

Unit 5:
Direct proportion
Inverse proportion
Linear graphs
Arc
Sector
Radius
Diameter

Unit 6:
Quadratic
Cubic
Reciprocal

Unit 7:
Compound measures
Density
Mass
Volume
Force
Pressure
Area
Upper bound
Lower bound

Unit 3:

Key point

When
- y varies as x
- y varies directly as x
- y is in direct proportion to x

you can write $y \propto x$

- $y \propto x$ means 'y is proportional to x'.

When $y \propto x$, then $y = kx$, where k is the **constant of proportionality**.

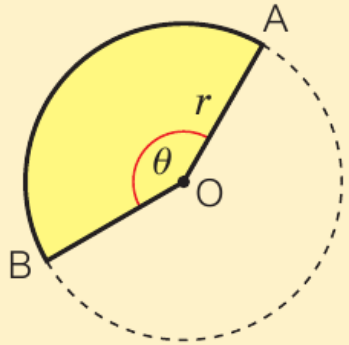
Key point

Two variables are in **inverse proportion** when one is proportional to the reciprocal of the other.

$y \propto \frac{1}{x}$

So $y = \frac{k}{x}$ or $xy = k$

Key point



Area of sector $= \frac{\theta}{360} \times \pi r^2$

Length of arc $= \frac{\theta}{360} \times 2\pi r$

You could use ratios to find the missing numbers.

$\times \square$ 8 : 25 $\times \square$

12 : a

Subject: Maths – 8D (Delta 3)	Term: 3	Topic: Units 5-7

WOOTTON PARK

Unit 6:

Key point

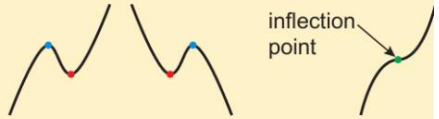
A **quadratic function** contains a term in x^2 but no higher power of x. $y = x^2$, $y = 5x^2$, $y = x^2 + 5$ and $y = x^2 + 3x + 2$ are all quadratic. The graph of a quadratic function is called a **parabola**.

Key point

A **turning point** of a graph is where its direction changes. A turning point can be a **maximum** or **minimum** point. A maximum is the point on the graph with the greatest y-coordinate. A minimum is the point on the graph with the lowest y-coordinate.

Key point

Cubic graphs have two turning points or an inflection point.



The red point is also called a **local minimum**.
The blue point is also called a **local maximum**.
The inflection point is neither a maximum nor a minimum.

Key point

A **reciprocal function** has a power of x in the denominator.

$y = \frac{1}{x}$, $y = \frac{2}{x}$, $y = \frac{1}{x^2}$ and $y = \frac{16}{x^3}$ are all reciprocals.

Key point

A **cubic function** contains a term in x^3 but no higher power of x. $y = x^3$, $y = 2x^3$, $y = -x^3$ and $y = x^3 + 5x$ are all cubic.

Unit 7:

Key point

To convert between compound measures, convert each unit one at a time.

Key point

The **absolute error** is the maximum difference between the measured value and the actual value.

Key point

When compound measures involve dividing by a unit of time, they are called **rates of change**. Speed is the rate of change of distance with time.

Key point

Pressure is a compound measure. Pressure is the force applied over a given area. The most common units of pressure are newtons per square centimetre (N/cm^2) and newtons per square metre (N/m^2).

$$\text{pressure} = \frac{\text{force}}{\text{area}} \qquad P = \frac{F}{A}$$

Key point

When a measurement is rounded, the actual value could be bigger or smaller than the rounded value. The biggest possible actual value is called the **upper bound**. The smallest possible actual value is called the **lower bound**.

Key point

Density is a compound measure. Density measures the mass per unit of volume. Density is often measured in grams per cubic centimetre (g/cm^3) and kilograms per cubic metre (kg/m^3). The Greek letter ρ *(rho)* is used to represent density.

$$\text{density } (\rho) = \frac{\text{mass}}{\text{volume}}$$

Upper bound for average speed $= \frac{400.5}{83.5} = 4.80$ m/s

To find the upper bound, divide the largest possible distance by the smallest possible time.

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

Subject: English	Term: 3	Topic: 19th Century Literature Extracts

WOOTTON PARK
'Ipsum quod faciendum est diutius durant'

What must I analyse when looking at an extract?

When analysing and responding to a text, you must consider how a writer uses form, structure and language - thinking about the effects they have on the reader.

To put this simply, you must analyse:

- Form - is the name of the **text type** that the writer uses. For example, you can have short stories, plays, scripts, sonnets, novels etc. All of these are different text types that a writer can use. The form of a text is important because it tells you about the writer's intentions, characters or key themes. In this case, we are looking at the novel form and how Brontë uses the first person.
- Structure - is **how the plot is ordered** and put together for the reader. You can think of plot at a text level but also at a sentence level. In this case, we are looking at the order of events in Brontë's novel.
- Language - **the words a writer uses** and the **impact** they have. What words does Brontë use? Why? How does she use them? What effect does this have? Does she employ any language devices in her writing? For example: metaphor, imagery, alliteration, pathetic fallacy etc.

Structuring your Analytical Paragraphs

P: Make your point
E: Use a word/line from the extract to support your point
A: Name the technique used and discuss the why the writer has used it
C: Has the writer been influenced by something happening at the time they were writing?
E: Conclude your point

Key Themes

Education

Jane Eyre
Charlotte Bronte

Gender

Wuthering Heights
Emily Bronte

Adventure

Treasure Island
Robert Louis Stevenson

Gothic

Frankenstein
Mary Shelley

19th Century Literature Genres

Five main kinds of novel were popular in the mid-19th century. As befits a novel trying to win back readers, Dickens crammed elements of **all** of these genres of Victorian writing into one book:
The 'Silver Fork' novel - stories about rich people fascinated poor people.
The 'Newgate' novel - people were enthralled by stories about jail, crime, the criminal underworld and gruesome murders.
The 'Gothic' novel - horror stories, such as *Frankenstein*, set in bleak locations or scary mansions.
The 'Romantic' novel - love stories such as *Jane Eyre* (especially where the lovers were socially mismatched).
The 'Social-purpose' novel - stories such as *Oliver Twist*, written to bring social issues to the notice of the general public.

Revising 19th Century Literature Conventions
http://www.bbc.co.uk/schools/gcsebitesize/english_literature/prosegreatexpect/0prose_greatexpect_contrev2.shtml

Key Terms
https://quizlet.com/87525523/english-literature-key-terms-flash-cards/

Revising 19th Century Texts
https://www.bbc.co.uk/education/topics/zqndtyc

Subject: Science	Term: 3	Topic: Earth

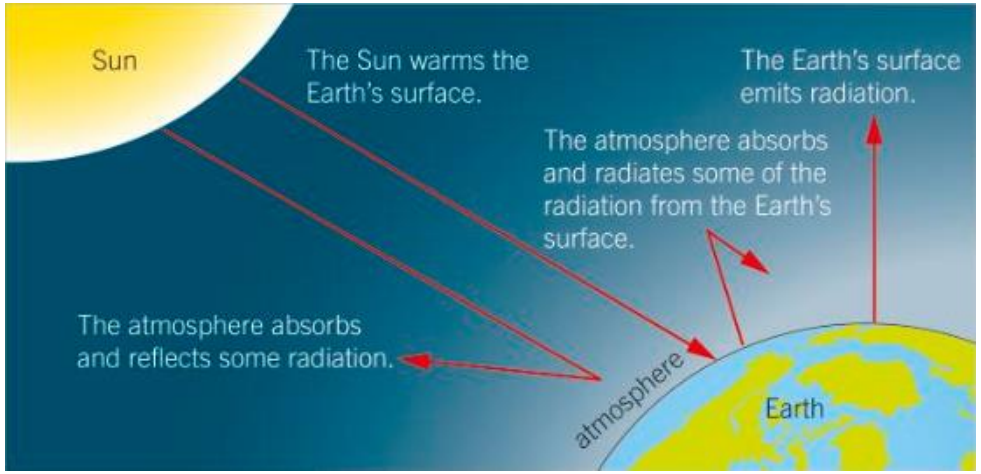
WOOTTON PARK
'Ipsum quod faciendum est diutius durant'

7.3 Climate
7.3.1 Global Warming
7.3.2 The Carbon Cycle
7.3.3 Climate Change

7.4 Earth resources
7.4.1 Extracting Metals
7.4.2 recycling

Climate: 7.3.1 Global warming

The air around us is called the **atmosphere**.
The Sun can heat the Earth's surface; the Sun emits radiation. The radiation can travel through our atmosphere; some is reflected back into space, some will be absorbed by gases in the atmosphere.
Some gases that store this heat energy cause **global warming**. These gases are called the **greenhouse gases**. This means our planet is slowly heating up, getting hotter and hotter and potentially melting the ice-caps.



Climate: 7.3.2 The Carbon Cycle

The carbon cycle is all about how carbon dioxide is released into the atmosphere and taken out of it.

Process that can *add* carbon dioxide to the atmosphere are:
- **Combustion** – burning fuels

$$Fuel + Oxygen \rightarrow Carbon\ dioxide + water\ (+energy)$$

- **Respiration** – where we transfer energy from food:

$$Glucose + Oxygen \rightarrow Carbon\ dioxide + water$$

Process that *remove* carbon dioxide from the atmosphere are:
- **Photosynthesis** – where plants use the carbon dioxide and water to make glucose:

$$Carbon\ dioxide + water \overrightarrow{Light} Glucose + Oxygen$$

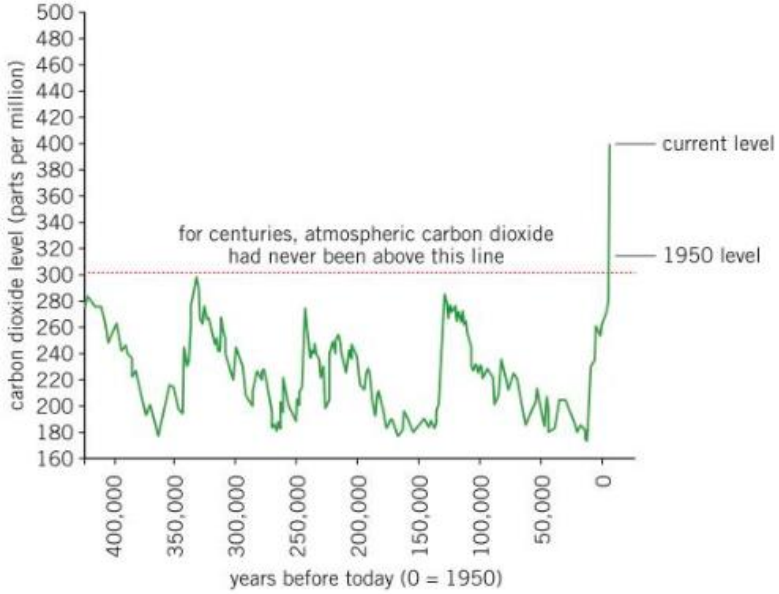
- **Dissolves in water**

Climate: 7.3.3 Climate Change

Extra carbon dioxide can be released into the atmosphere when:
- Fossil fuels are burned to generate electricity
- Forests are cut down or burnt to make space for crops or cattle
- We farm animals like cows

With extra carbon dioxide in the atmosphere global warming is caused. Global warming changes local weather patterns.
Long-term patterns are called **climate change**.
Climate change could lead to the ice-caps melting, flooding and the possible extinction of plants and animal.

People believe that humans are contributing to global warming. Look at this graph, what do you think?



Subject: Science	Term: 3	Topic: Earth

WOOTTON PARK
'Ipsum quod faciendum est diutius durant'

7.3 Climate
7.3.1 Global Warming
7.3.2 The Carbon Cycle
7.3.3 Climate Change

7.4 Earth resources
7.4.1 Extracting Metals
7.4.2 recycling

Climate: 7.4.1 Extracting Metals

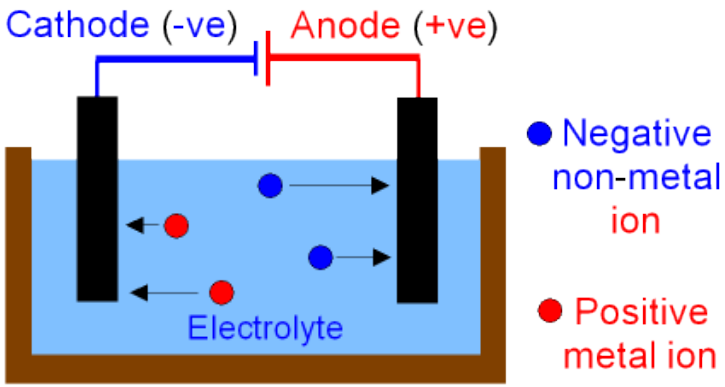
Minerals that make everything we use originally come from **natural resources** in the Earth's crust, atmosphere, or oceans.
Naturally occurring metals, and their compounds, are called **minerals**.
A rock that contains a mineral is called an **ore.**
We must remove a mineral from its ore to make it useful. The process of removal is called **extraction**.
One way of extracting a metal is to heat the ore with carbon. If the metal is less reactive, then carbon will take its place in the ore. For example:

$$Carbon + Copper\ Oxide \rightarrow Copper + Carbon\ Dioxide$$
$$C + 2CuO \rightarrow 2Cu + CO_2$$

▲ Part of the reactivity series, including carbon.

Climate: 7.4.1 Extracting Metals

A second way of extracting metals is used for minerals that are more reactive then carbon. This method is call **electrolysis.** In electrolysis we use electricity to separate the mineral from the ore.



Climate: 7.4.2 Recycling

Recycling means collecting and processing materials that have been used so that the materials can be used again.
Examples include:
- Recycling paper to make more paper
- Recycled bottles can make fleeces
- Recycling aluminium can to make more cans

There are advantages and disadvantages of recycling. Can you think of any?


▲ If we continue to use tin as we do now, tin ore might run out by 2030.

Subject: Science	Term: 3	Topic: Organisms

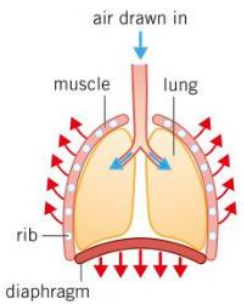
WOOTTON PARK
'Ipsum quod faciendum est diutius durant'

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

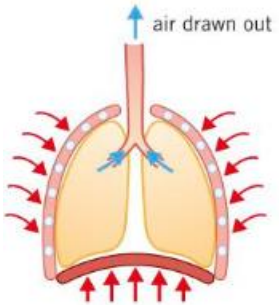
8.4 Digestion
8.4.1 Nutrients
8.4.2 Food tests
8.4.3 Unhealthy diet
8.4.4 Digestive system
8.4.5 Bacteria and enzymes in digestion

Organisms: 8.3.2 Breathing

Inhaling
- Muscles between your ribs contact – 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



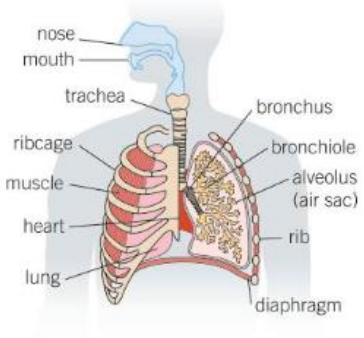
Exhaling
- Muscles between your ribs relax – this pulls your ribcage down and in
- The diaphragm relaxes – moves up
- The volume inside your chest decreases
- The pressure inside your chest increases – this pushed air out of your lungs



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.



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.

▲ Many 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 is affects the nervous system. It is a called **depressant** because its 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).

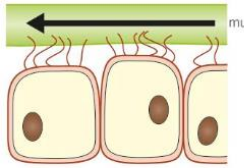
Subject: Science	Term: 3	Topic: Organisms

WOOTTON PARK
'Ipsum quod faciendum est diutius durant'

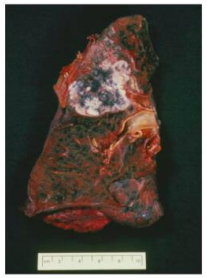
8.3 Breathing
8.3.1 Gas Exchange
8.3.2 Breathing
8.3.3 Drugs
8.3.4 Alcohol
8.3.5 Smoking
8.4 Digestion
8.4.1 Nutrients
8.4.2 Food tests
8.4.3 Unhealthy diet
8.4.4 Digestive system
8.4.5 Bacteria and enzymes in digestion

Organisms: 8.3.5 Smoking

Smoking increases chances of breathing problems, cancer, heart attacks and strokes. By breathing in other peoples' 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.



▲ Smoking makes it harder for ciliated cells to sweep mucus from your airways.


▲ This diseased lung is full of tar. Healthy lungs should be pink.

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.


▲ Carbohydrate-rich foods.


▲ Fat-rich foods.


▲ Protein-rich foods.

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

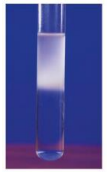

▲ This food solution contains starch.

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


▲ This food solution 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


▲ This food solution 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

Subject: Science	Term: 3	Topic: Organisms

WOOTTON PARK
'Ipsum quod faciendum est diutius durant'

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?

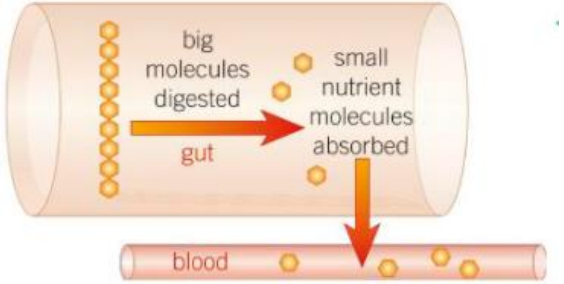
- Heart disease
- Stroke
- Diabetes
- Some cancers

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

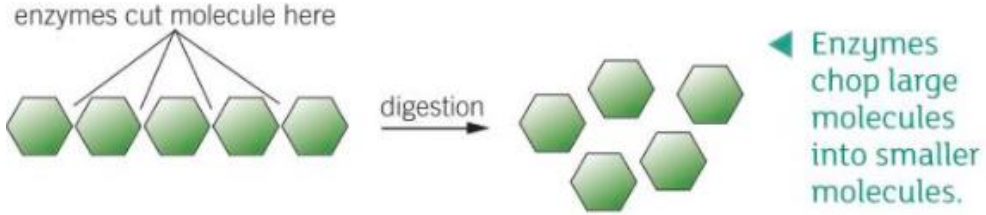
The **digestive system** is a group of organs that work together to break down food molecules so that they can be absorbed into the bloodstream.



Fibre in your food isn't digested but 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

Subject: Spanish	Term: 3	Topic: Viva 2; Módulo 3 – A Comer (*Let's eat!*)

WOOTTON PARK

Key Content 1 – ¿Qué te gusta comer y beber? *(What do you like to eat and drink?)*

Ask others what they like to eat/drink and give your own opinion

Use positive and negative opinions

Add reasons to opinions – using adjectives

Key Content 2 – ¿Qué comes para…? *(What do you eat for…?)*

Saying what you eat for different meals

Giving times

Connecting and sequencing ideas

Using positive and negative statements

Key Content 3 – ¿Qué le gustaría tomar?*(What would Sir/Madam like to have?)*

Asking questions formally and informally with 'usted'

Saying what you would like in a restaurant

Understanding a menu and restaurant language

Key Content 4 – ¿Qué vas a comprar? *(What are you going to buy?)*

Know the verb to go as part of compound future

Understand how to form the future tense

Say what you are going to buy/bring to a party

Activities *(you may complete some or all of these…)*

- Creating a menu
- Creating and illustrating a food diary
- Interviewing others about what they eat and drink
- Reading and listening to surveys giving opinions
- Acting out a dialogue/restaurant scene with transactional language

Websites and further reading:

Search on www.quizlet.com for 'Viva 2, M3' or 'vacaciones'
Use the third module in your textbook and on www.pearsonactivelearn.com

Comemos – Let's eat

Key Vocabulary (See Textbook pages 70 & 71) *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: **Food & Drink** □ **Meals** □ **Adjectives for food**□ **Transactional Language - restaurants**□ **Formal & Informal address**□ **The verb TO GO 'IR' (present)** □ **Compound future**□ **Sequencers & Times** □

High Frequency Words: *Para (for), Desayuno (breakfast), Comida/Almuerzo (Lunch), Cena (dinner), Como (I eat), Tomo (I have – food/drink), Bebo (I drink), Voy a + inf. (I am going to…)*

Subject: Spanish	Term: 3	Topic: Viva 2; Módulo 3– A Comer (*Let's eat!*)

WOOTTON PARK

Key Content 1 – ¿Qué te gusta comer y beber? *(What do you like to eat and drink?)*

Task 1:
Match the English and Spanish for…

1. I drink
2. I eat
3. Sometimes
4. Everyday
5. Never
6. Rice
7. Seafood
8. Fish
9. Vegetables
10. Meat
11. Cheese
12. Milk

a. Como
b. A veces
c. Nunca
d. Arroz
e. Carne
f. Todos los días
g. Bebo
h. Queso
i. Leche
j. Mariscos
k. Pescado
l. Verduras

To eat _____
I eat _____
You (s) eat _____
He/She eats _____
We eat _____
You (pl) eat _____
They eat _____

comes // come // comer // comemos // como // comen // coméis

Key Content 2 – ¿Qué comes para…? *(What do you eat for…?)*

Task 2:
Complete the phrases with the correct missing word…

Para el _____ como cereales y _____ zumo de _____
Para el _____ como un bocadillo de _____ y bebo _____ mineral
Para la _____ como un filete de _____ con verduras y _____ limonada

bebo // desayuno // bebo // cena // almuerzo // naranja // jamón // agua // pollo

Key Content 3 – En el restaurante *(In the restaurant)*

Use p. 70/71 of Viva 2 and Pearson ActiveLearn to practise vocab!

Task 3: Read the dialogue in a restaurant…

Camarero: Buenos días. ¿Qué van a tomar **1**____?
Lola: De primer plato voy a tomar una tortilla. ¿Y **2**____, José? ¿Qué vas a tomar?
José: Voy a tomar una ensalada.
Camarero: ¿Y **3**____, señora? ¿De segundo plato, qué va a tomar?
Lola: De segundo voy a tomar un filete.
Camarero: ¿Y para **4**____, señor?
José: Voy a tomar pollo.
Camarero: Muy bien. ¿Y de postre que van a tomar **5**____?
Lola: Vamos a tomar helado.

1. What is Lola going to eat as a starter?
2. And Jose?
3. What is Lola going to eat as a main course?
4. And Jose?
5. What are they both having for dessert?

Now put the right form of 'you' in each gap.

usted
tú
ustedes
ustedes
usted

Key Content 4 - ¿Qué vas a comprar? *(What are you going to buy?)*

Task 4:
Look at these 6 future tense sentences and work out what each says…

Voy a traer fajitas.
Vas a comprar queso.
Va a ser superguay.
Vamos a bailar.
Vais a cantar.
Van a comer mucho.

To go _____
I go _____
You (s) go _____
He/She goes _____
We go _____
You (pl) go _____
They go _____

Vas // va // vamos // van // váis // ir // voy

¿Qué te gusta comer y beber? What do you like to eat and drink?

¿Qué no te gusta comer/beber?	What don't you like to eat/drink?
Me gusta(n) mucho...	I really like...
Me encanta(n)...	I love...
No me gusta(n) nada...	I don't like... at all.
Odio...	I hate...
Prefiero...	I prefer...
el agua	water
el arroz	rice
la carne	meat
los caramelos	sweets
la fruta	fruit
las hamburguesas	hamburgers
los huevos	eggs
la leche	milk
el marisco	seafood/shellfish
el pescado	fish
el queso	cheese
las verduras	vegetables

¿Qué desayunas? What do you have for breakfast?

Desayuno...	For breakfast I have...
cereales	cereal
churros	churros (sweet fritters)
tostadas	toast
yogur	yogurt
café	coffee
Cola Cao™	Cola Cao (chocolate drink)
té	tea
zumo de naranja	orange juice
No desayuno nada.	I don't have anything for breakfast.
¿Qué comes?	What do you have for lunch?
Como...	I eat ... /For lunch I have...
un bocadillo	a sandwich
¿Qué cenas?	What do you have for dinner?
Ceno...	For dinner I have...
patatas fritas	chips
pollo con ensalada	chicken with salad
¿A qué hora desayunas/comes/cenas?	At what time do you have breakfast/lunch/dinner?
Desayuno a las siete.	I have breakfast at 7:00.
Como a las dos.	I have lunch at 2:00.
Ceno a las nueve.	I have dinner at 9:00.

En el restaurante At the restaurant

buenos días	good day, good morning
¿Qué va a tomar (usted)?	What are you (singular) going to have?
¿Qué van a tomar (ustedes)?	What are you (plural) going to have?
¿Y de segundo?	And for main course?
¿Para beber?	To drink?
¿Algo más?	Anything else?
Voy a tomar...	I'll have...
de primer plato	as a starter
de segundo plato	for main course
de postre	for dessert
nada más	nothing else
La cuenta, por favor.	The bill, please.
la ensalada mixta	mixed salad
los huevos fritos	fried eggs
la sopa	soup
el pan	bread
las chuletas de cerdo	pork chops
el filete	steak
el pollo con pimientos	chicken with peppers
la tortilla española	Spanish omelette
el helado de chocolate/fresa/vainilla	chocolate/strawberry/vanilla ice cream
Tengo hambre.	I am hungry.
Tengo sed.	I am thirsty.
la tarta de queso	cheesecake
la cola	coke

Una fiesta mexicana A Mexican party

¿Qué vas a traer/comprar?	What are you going to bring/buy?
Voy a traer...	I'm going to bring...
quesadillas	quesadillas (toasted cheese tortillas)
limonada	lemonade
Voy a comprar...	I am going to buy...
una lechuga	a lettuce
un pimiento verde/rojo	a green/red pepper
un aguacate	an avocado
un kilo de tomates	a kilo of tomatoes
medio kilo de queso	half a kilo of cheese
200 gramos de pollo	200 grammes of chicken
un paquete de tortillas	a packet of tortilla wraps
una botella de limonada	a bottle of lemonade

¿Y tú? ¿Qué opinas? And you? What do you think?

Pues...	Well...
Depende...	It depends...
No sé...	I don't know...
Eh...	Er...
A ver...	Let's see...
Bueno/Vale...	OK...

Lo siento, pero no entiendo I'm sorry, but I don't understand

¿Qué significa '...'?	What does '...' mean?
¿Puedes repetir?	Can you repeat that?
¿Puedes hablar más despacio, por favor?	Can you speak more slowly, please?

Palabras muy frecuentes High-frequency words

a las...	at... o' clock
bastante	quite
día	day
favorito/a	favourite
hora	time
lugar	place
para	for
por ejemplo	for example
pasado/a	last
que viene	next

Key Vocab – Term 3

Subject: French (8D)	Term: 3	Topic: Studio 2; Module 1 La télé, la musique et la lecture! (*TV, Music and Reading!)*

WOOTTON PARK

Key Content 1 – À la télé *(On tv)*

Say what you like and don't like on TV

Use frequency and say how often you watch different programmes

Compare programmes and give preferences

Key Content 2 – Les films *(Films)*

Say how often you go to the cinema

Say what you watch at the cinema

Give preferences on films

Use specialist vocab to describe and review films

Key Content 3 – Qu'est-ce que tu lis? *(What do you read?)*

Say whether you read

Give opinions on books and other reading material

Key Content 4 –Je pense… *(I think…)*

Giving opinions

Compare your opinions with others

Justify opinions & extend opinions

Activities *(you may complete some or all of these…)*

- Interviewing/surveying others
- Creating a film/book /TV review
- Making a poster about your free time
- Understanding what others do in their time and read articles about films/books

Websites and further reading:

Search on www.quizlet.com for 'Studio 2, M1'
Use the third module in your textbook and on www.pearsonactivelearn.com
Use www.French-games.net to practise and play language games
Use www.languagesonline.org and go to the French Grammar section to practise the present tense of ER (and other) verbs including AVOIR/ ETRE/ FAIRE

Mon temps libre!

Key Vocabulary (See Textbook pages 24 & 25) *For revision you need to be able to understand all the texts and activities on the double pages*

Practise vocabulary at home and/or with a friend at school
Tick off the points above as you complete them, and make sure you can still do these topics for the Assessment Point. Look over your learning and complete anything missing at home each week: **Look, cover, write, check…**
You need: **Film vocab** □ **TV programmes** □ **Opinion phrases** □ **The verb to watch (REGARDER)** □ **The verb to read (LIRE)** □ **Past tenses** □
See vocab overleaf.

À la télé • On TV

je regarde ...	*I watch ...*
les dessins animés	*cartoons*
les documentaires	*documentaries*
les émissions de sport	*sports programmes*
les émissions de télé-réalité	*reality TV shows*
les émissions musicales	*music shows*
les infos	*the news*
les jeux télévisés	*game shows*
la météo	*the weather*
les séries	*series*
les séries policières	*police series*
les séries américaines	*American series*
Mon émission préférée, c'est ...	*My favourite programme is ...*
j'adore	*I love*
j'aime bien	*I like*
je n'aime pas	*I don't like*
je ne regarde jamais	*I never watch*
je ne rate jamais	*I never miss*

Les films • Films

j'aime ...	*I like ...*
je suis fan de ...	*I'm a fan of ...*
je ne suis pas fan de ...	*I'm not a fan of ...*
j'ai une passion pour les ...	*I have a passion for ...*
j'ai horreur des ...	*I really dislike ...*
je déteste ...	*I hate ...*
les comédies	*comedies*
les films d'action	*action films*
les films d'amour	*romantic films*
les films d'arts martiaux	*martial-arts films*
les films d'aventure	*adventure films*
les films fantastiques	*fantasy films*
les films d'horreur	*horror films*
les films de science-fiction	*science-fiction films*
mon acteur préféré, c'est ...	*my favourite actor is ...*
mon film préféré, c'est ...	*my favourite film is ...*

Qu'est-ce que tu lis? • What are you reading?

je lis ...	*I'm reading ...*
une BD	*a comic book*
un livre sur les animaux	*a book on animals*
un livre d'épouvante	*a horror story*
un magazine sur les célébrités	*a magazine about celebrities*
un manga	*a manga*
un roman fantastique	*a fantasy novel*
un roman policier	*a thriller*
un roman d'amour	*a love story*

Les opinions • Opinions

à mon avis, c'est ...	*in my opinion, it's ...*
je pense que c'est ...	*I think it's ...*
je trouve ça ...	*I find it ...*
amusant	*funny*
assez bien	*quite good*
barbant	*boring*
chouette	*excellent*
effrayant	*frightening*
émouvant	*moving*
ennuyeux	*boring*
génial	*great*
intéressant	*interesting*
nul	*rubbish*
passionnant	*exciting*
pratique	*practical*
stupide	*stupid*
formidable	*great*
idiot	*stupid*

Sur Internet • On the internet

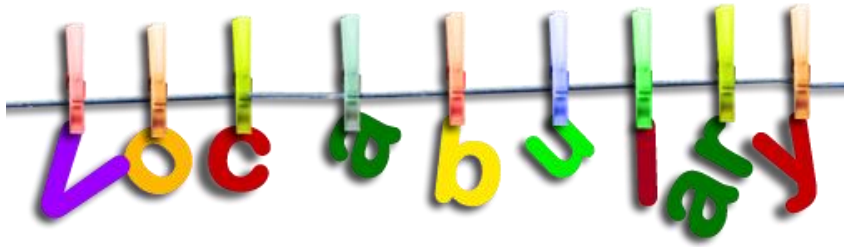
J'envoie des e-mails.	*I send emails.*
Je fais beaucoup de choses.	*I do lots of things.*
Je fais des recherches pour mes devoirs.	*I do research for my homework.*
Je fais des achats.	*I buy things.*
Je fais des quiz.	*I do quizzes.*
Je joue à des jeux en ligne.	*I play games online.*
Je mets à jour ma page perso.	*I update my homepage.*
Je vais sur mes sites préférés.	*I go onto my favourite sites.*
Je vais sur des blogs.	*I go onto blogs.*
Je vais sur des forums.	*I go onto forums.*

Hier soir • Last night

J'ai discuté.	*I discussed/chatted.*
J'ai écouté la radio.	*I listened to the radio.*
J'ai envoyé des SMS.	*I sent text messages.*
J'ai joué à des jeux en ligne.	*I played games online.*
J'ai posté des photos.	*I posted photos.*
J'ai regardé la télé/des clips vidéo.	*I watched TV/video clips.*
J'ai surfé sur Internet.	*I surfed the net.*
J'ai tchatté sur MSN.	*I chatted on MSN.*
J'ai téléchargé des chansons.	*I downloaded some songs.*

Les mots essentiels • High-frequency words

assez	*quite*
aussi	*also*
car	*because*
comme	*as*
et	*and*
mais	*but*
très	*very*
un peu	*a bit*
parce que	*because*
par exemple	*for example*
surtout	*above all*
Expressions of time and frequency	
d'habitude	*usually*
de temps en temps	*from time to time*
en ce moment	*at the moment*
quelquefois	*sometimes*
souvent	*often*
tous les jours	*every day*
une ou deux fois par mois	*once or twice a month*
Sequencers	
après (le dîner)	*after (dinner)*
avant (de me coucher)	*before (I go to bed)*
d'abord	*first*
ensuite	*next*
puis	*then*
un peu plus tard	*a bit later*



8D– Key Vocab – Term 3

Subject: Philosophy and Ethics	Term: 3 and 4	Topic: Buddhism and Sikhism

WOOTTON PARK

The history of the religions

	Sikhism	Buddhism
Place of Origin	The Punjab (Panjab or Panj), an area of Northern India	North East India
Founder	Guru Nanak	Siddhartha Gautama (The Buddha)
Sacred Text	Guru Granth Sahib	Tripitaka
Sacred Building	Gurdwara	Stupa / Temple

Buddhism-Practices, worship and beliefs

One important belief involves **reincarnation**: the concept that one must go through many cycles of birth, living, and death.

After many such cycles, if a person releases their attachment to desire and the self, they can attain **Nirvana** - a state of liberation and freedom from suffering.

At the heart of the Buddha's teaching lie **The Four Noble Truths** and **The Eightfold Path** which lead the Buddhist towards the path of Enlightenment

Sikhism -Practices, worship and beliefs

The core beliefs

-One God

-All Are Equal

Men and Women have the same rights/responsibilities

-Meditation

Remember God

-Live Honestly

Sikhs are supposed to work hard and live honestly

-Share with Others

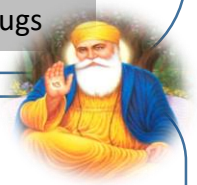
Give to the needy

What do Sikhs believe?

Sikhism teaches that all human beings are equal and can realise the divine within them through devotion to God, truthful living and service to humanity.

Sikhs do not believe in the following:

Fasting, superstitions, ritualism, caste system, alcohol, smoking and drugs



Websites and further reading:

- http://www.primaryhomeworkhelp.co.uk/religion/buddhism.htm
  http://www.telegraph.co.uk/news/religion/10935470/Tibetan-Buddhism-what-is-reincarnation.html
- http://www.bbc.co.uk/religion/religions/buddhism/
- http://www.bbc.co.uk/schools/religion/sikhism/
- http://www.primaryhomeworkhelp.co.uk/religion/sikhism.html
- http://www.bbc.co.uk/schools/gcsebitesize/rs/death/sikhbeliefrev2.shtml

Key vocabulary to define and learn:

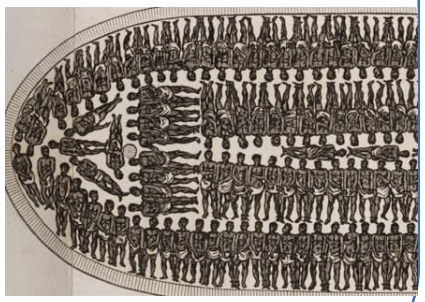
Sikhism, Buddhism, Gurdwara, Meditation, Divine, Caste system, Dharma, Karma, Reincarnation, Nirvana, Enlightenment, Four Nobel Truths, Eightfold Path

Subject: History	Term: 3 and 4	Topic: Empire and Slavery

WOOTTON PARK

Key concept 1: What was life like in the Middle Passage?

The middle passage was the journey newly enslaved men and women would take from Africa to the Americas.
The Slaves were placed into the hold of a ship with very limited space, food or water. Many would not survive the long journey.



Key Facts

- The journey could take up to 3 months.
- Records suggest that until 1750 1 in 5 slaves died during the middle passage.
- Some slaves tried to rebel during the middle passage, by fighting their captors or killing themselves so they could not be sold.

Key concept 2: What was life like on a Plantation?

Once the slaves reached the Americas they would be sold at auction. Only rich people could afford slaves and they used them to farm their land (usually cotton or sugar cane).

Life was incredibly hard for slaves, they worked all hours it was light, if they did not work hard enough they would be punished.
Punishments included whippings, beatings, maiming (cutting off of a foot or a hand), or a 'slave collar'.

Escape attempts were common but most slaves were now born on the plantations and did not want to leave their families.

Key concept 3: How was Slavery abolished (ended)?

Abolished in 1807 – outlawed slave ownership in 1833

Factor 1	Factor 2
Slavery was not making as much money as it used to. The plantations were closing down so people did not need slaves.	Slaves were organising more rebellions and uprisings, they took back the whole island of Haiti.
Factor 3	**Factor 4**
Slaves proved the racists wrong by showing they could organise intellectual debate in court about slavery laws.	Anti-slavery campaigners helped to change the minds of common people and helped freed slaves in court cases

Websites and further reading:

- http://www.bbc.co.uk/history/british/abolition/
- http://www.bbc.co.uk/bitesize/ks3/history/industrial_era/the_slave_trade/revision/1/
- https://www.bbc.co.uk/education/guides/zy7fr82/revision
- http://www.liverpoolmuseums.org.uk/ism/slavery/
- https://www.bbc.co.uk/education/guides/zqv7hyc/revision/8

Key vocabulary to define and learn:

Slave **Middle Passage** **Abolition** **Plantation** **Empire** **Rebellion**
Revolution **Dehumanisation** **Abolitionist** **Slave Triangle** **Human Rights**

Subject: Geography	Term: 3 and 4	Topic: The Geography of Crime

WOOTTON PARK

Key concept: What is crime?

What is a criminal?
A person who has committed a crime.

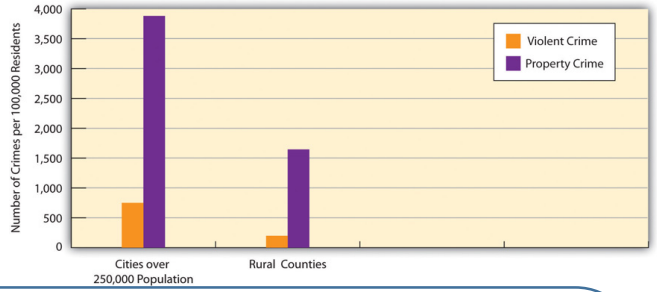
Why do people commit crimes?
- Opportunity
-Greed
-Power
- A person's psychology (how they are made up)
-Poverty (being poor)

What is crime?
An action which breaks the law and is punishable.

Key concept: Crime Distribution in the United Kingdom – Rural Vs Urban

Crime **distribution (where is happens)** investigates how the type of **criminal activity** varies (changes) across different locations. **Rural** (countryside) areas often see a very different type and scale of crime compared to **urban** (city) areas. There are higher crime rates in larger cities due to a number of factors such as: **opportunity, population, competition** and **poverty**. However, rural crime is still a large problem in the UK and often due to a lack of population, less security systems and a lack of reporting of rural crime it is on the rise in our countryside areas.

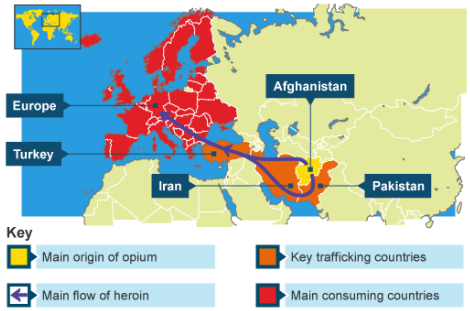
Crime statistic help us to investigate crimes in different locations however the sources of the statistic a is very important to ensure that the data is reliable unfortunately a number of crimes go unreported so than little can be done to investigate them.



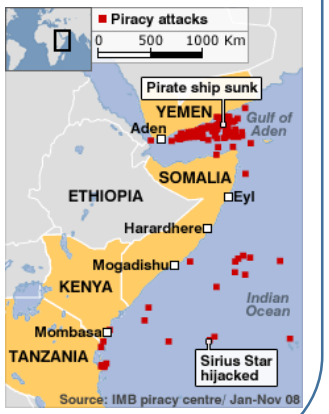
Key concept: International Crime

International crime is complex to investigate and control due to international laws and controls varying in different places. The drug trade and piracy are two of the most difficult to control international crimes of our times.

The Heroin Trail– is a route that the drug takes across parts of Asia and Europe. Poor farmers grow heroin as a means of survival, if people didn't buy it, it would not be grown.



Piracy – is most active around the Gulf Of Aden and the eastern coast of Africa in the Indian Ocean



Websites and further reading:

https://www.police.uk/northamptonshire/SCT162/crime/

https://www.bbc.co.uk/education/guides/zytycdm/revision

https://www.bbc.co.uk/education/guides/zytycdm/revision/5

http://www.bbc.co.uk/bitesize/ks3/geography/spaces/crime/revision/

Key vocabulary to define and learn:

Criminal, Crime, Crime Mapping, Opportunity, Poverty, Population, Rural, Urban, Competition, Statistics, Anomaly, Drug trafficking, Heroin Trail, Piracy, Pirates

Subject: Dance	Term: 3	Topic: Street Dance

WOOTTON PARK

Key Concept 1: The Origins of Street Dance

- To know and understand the characteristics and context of the whole play.
- Conventions of a script
- Use of performance space and spatial relationships on stage
- Interpretation of the text
- Create and communicate meaning

Key Concept 2: Emancipation of Expressionism

What do you think Emancipation of Expressionism means?

Exploration of the genre of Street Dance: Tutting, Locking, Popping, waving and krumping.

Reproduction of professional repertoire and exploration of a professional dance work by Rambert Dance Company.

Key Concept 3: Choreography and Performance

Choreographic devices: To explore basic choreographic devices to develop a movement phrase. (Levels, Formations, Unison/ Canon, Speed, Direction)

To learn how to use mental and physical skills when rehearsing dance movement. (Physical Skills: Facial expressions, accuracy, timing, control, stamina, strength, co-ordination Mental Skills: Concentration, Commitment, Focus, Movement Memory)

Websites and further reading:

BBC Bitesize:
https://www.bbc.co.uk/bitesize/guides/zxpc2hv/revision/1
BBC Iplayer: Darcy Bussell's New Dance
https://www.bbc.co.uk/programmes/b09qjl7l

Youtube: I believe in the power of Dance TEDX
https://www.youtube.com/watch?v=tbk1_K0bRrY
Emancipation of Expressionism – full dance video
https://www.youtube.com/watch?v=ZsALq261qa0

Key vocabulary

Physical Skills: Facial expressions, accuracy, timing, control, stamina, strength, co-ordination
Mental Skills: Concentration, Commitment, Focus, Movement Memory
Choreographic Devices: Levels, Formations, Unison/ Canon, Speed, Direction

Term 3 Challenge:

To create a profile page for the Dance Company: Boy Blue Entertainment.

Subject: Art	Term: 3	Topic: Pattern and shape- Eastern Art

WOOTTON PARK

'Ipsum quod faciendum est diutius durant'

Key question 1: What is Pop Art?

Pop art is an art movement that emerged in the United Kingdom and the United States during the mid- to late-1950s. The movement presented a challenge to traditions of fine art by including imagery from popular and mass culture, such as advertising, comic books and mundane cultural objects.

Key question 2 : What is print making?

Printing is the process of making images that can be transferred onto other surfaces. It can be used to make one or more identical images or to create repeating patterns on papers and textiles.

Printing allows an image to be accurately reproduced a number of times. This process developed to enable mass production of information and images (magazines, posters, fine art pictures), along with the ability to print repeated patterns for fabrics and wallpapers.

Key question 3: Who is Andy Warhol?

Andy Warhol (August 6, 1928 – February 22, 1987) was an American artist, director, and producer who was a leading figure in the pop art movement. His works explore the relationship between artistic expression, advertising, and celebrity culture that in the 1960s, and included a variety of media, such as painting, silk-screening, photography, film, and sculpture. Some of his best known works include the silkscreen paintings Campbell's Soup Cans (1962) and Marilyn Diptych (1962).

Websites and further reading:

The Art Story https://www.theartstory.org/movement/pop-art/

Artsy https://www.artsy.net/gene/pop-art

Tate https://www.tate.org.uk/search?q=pop+art

Key vocabulary to define and learn:

Pop art	Repetition	Art movement	Design	Processes
Linear qualities		flat colours	Simplicity	Popular
Mass culture				

Subject: Computer Science	Term: 3	Topic: Computer Networks

WOOTTON PARK
'Ipsum quod faciendum est diutius durant'

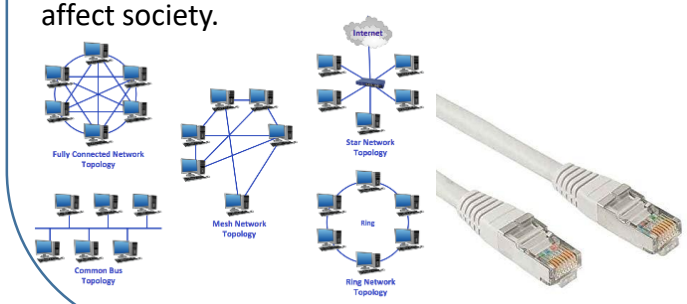
Key topic 4.1: Computer Networks

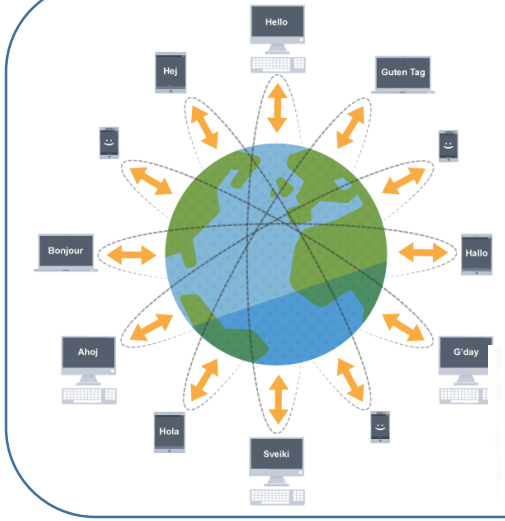
4.1 Computer networks;

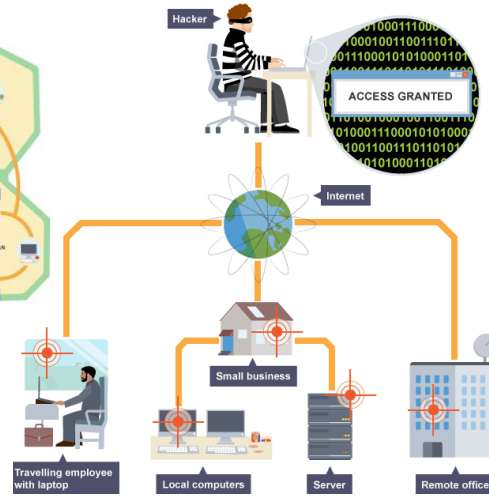
4.1.1 Definition of what a computer network is.
Discovered and explored the difference between LAN's and WAN's. Explained the advantages / disadvantages of LAN's and WAN's.
4.1.2 How Networks work; data packets
4.1.3 Introduction to simple topologies (bus network, ring network mesh and star networks),
4.1.4 Wired and wireless connections,
4.1.5 Hardware required for a network; end user devices and network devices.
4.1.6 Identify, source and price up a network solution for a specific business.

4.2 The internet

4.2.1 To identify what is the internet (and the difference between the www) and how it works.
4.2.2 The future of the internet; Augmented reality / virtual reality and how it will affect society.







Websites and further reading:

Purchasing computer parts: https://www.overclockers.co.uk/

BBC bitesize: https://www.bbc.com/bitesize/guides/zc6rcdm/revision/1

Teach ICT: http://www.teach-ict.com/gcse_computing/ocr/215_communications_networking/networks/miniweb/index.php

Key vocabulary to define and learn:

	bandwidth		bit	Bluetooth	bridge	broadband	client-server	data packet	
Digital	encrypt	Ethernet	hacking	LAN	WAN	MAC address	Networks card	Wireless	WPA

Subject: PE	Term: 3	Topic: Dodgeball

WOOTTON PARK

'Ipsum quod faciendum est diutius durant'

Key Skills

Throwing – Accuracy, Power, Tactical.
Catching – 2 handed, with and without a dodgeball.
Blocking – with a dodgeball (1 handed and 2 handed)
Dodging – Agility, Awareness
Run-offs – Tactical, Speed, Reaction, Timing.

The Game of Dodgeball

Dodgeball refers to a collection of team sports in which players on two teams try to throw balls at each other while avoiding being hit themselves.
There are many variations of the game, but generally the main objective of each team is to eliminate all members of the opposing team by hitting them with thrown balls, catching a ball thrown by a member of the opposing team, or forcing them to move outside the court boundaries when a ball is thrown at them.
Internationally, there are currently two world bodies: World Dodgeball Federation (WDBF), which uses foam, and the World Dodgeball Association (WDA), which uses cloth. The international dodgeball day is April 27th.

Websites, further reading and local information.

UK Dodgeball Association - https://ukdba.org/

Rules of Dodgeball - https://ukdba.org/rules-regulations/

Dodgeball World Cup - https://www.youtube.com/watch?v=i7V5uhR-BFc

Leadership in Dodgeball

Leadership will be an integral part of the Year 8 curriculum for learners at Wootton Park School. Leadership might broadly be considered the behavioural process of influencing individuals and groups towards set goals. In sport and exercise, leadership includes; making decisions, motivating participants, giving feedback, establishing interpersonal relationships, and directing the group or team confidently. Leadership will be developed in Dodgeball through learners taking on different roles such as; organisers, leading small activities and coaches.

Key Words

Dead Ball | Attack Line | Deflection | Face Shot | Fault | Live Ball | Retrievers