

### 1. Key Concepts and ideas: The Gothic.

Key Word	Definition
Horror	Shows scary things happening directly.
Terror	The fear of what might happen; what you can't see.
Sublime	Impressive the mind with grandeur, beauty or power.
Supernatural	Unable to be explained by science of nature.
Rational	Based on facts and reason and not on emotions.
Epistolary novel	A novel that is written in letters or diary entries.
Mystery	Something that is difficult or impossible to explain.



### 2. Gothic Images and Settings



### 4. The Signalman by Charles Dickens

*The Signalman* is a short gothic story about a man who works alone by a railway line, controlling train signals. The narrator meets the signalman and notices that he seems nervous and afraid. The signalman explains that he has been seeing a ghostly figure near the tunnel. Each time the figure appears, it gives a warning signal. After these sightings, a terrible railway accident always happens. This makes the signalman terrified because he believes another disaster is coming, but he doesn't know how to stop it. The narrator tries to reassure him and thinks the visions might be caused by stress or imagination. **What do you think might happen next?**

### 3. Key Terminology



Terminology	Definition
pathetic fallacy	The weather is given human characteristics to reflect the mood of the story
adverbial phrase	A group of words that acts like an adverb. E.g. "in the blink of an eye".
symbol	an object that represents or stands for something else
sibilance	Repeating the letter "S" to create a hissing sound.
smile	When you compare two images using like or as.
onomatopoeia	The spelling of the word mimics the sound it describes.
metaphor	a comparison that is not literally true

#### Challenge!

Begin to think about writing your own gothic story. Make a storyboard of it first.

## 5. Vocabulary for Gothic Writing

Word	Definition
melancholy	sadness or depression
isolated	away from other people and places
shrouded	covered up (e.g. with mist)
pallid	pale (skin)
trepidation	a nervous feeling
apparition	a ghost or a vision
eerie	strange and mysterious in an uncomfortable way
ominous	a feeling that something bad is going to happen



### Challenge!

Extend your list of gothic vocabulary using a thesaurus.

## 6. The Tell-Tale Heart

*The Tell-Tale Heart* is a short story told by a nervous and unreliable narrator who insists they are not mad. The narrator lives with an old man and becomes obsessed with the old man's pale blue "vulture eye," which makes them feel uneasy and afraid.

One night, the narrator kills the old man while he is asleep. They carefully cut up the body and hide it under the floorboards, believing they have committed the perfect crime.

Soon after, the police arrive because a neighbour reported hearing a scream. The narrator calmly talks to the officers and feels proud of how clever they are. However, while speaking to the police, the narrator starts to hear a loud beating sound. They believe it is the old man's heart still beating under the floor.

The sound grows louder and louder, driving the narrator into a panic. Convinced the police can hear it too, the narrator confesses to the murder. The story ends by showing how guilt and madness lead to the narrator's downfall.

**Create a storyboard.**



## 7. The Context of The Merchant of Venice



- The play is set in 1600 Venice.
- Across Europe, most people were antisemitic at the time. (Prejudiced against Jewish people.)
- False tales of Jews harming Christians were common in Europe.
- Moneylending (usury) was one of the few professions allowed to Jews but the fact that they charged interest was considered sinful by Christians.
- Most members of Shakespeare's audience would have never even met a Jew - but they would all have heard about the 1594 execution of Queen Elizabeth I's Jewish doctor for plotting.
- The place where business took place in Venice was called the Rialto.

## 8. Key themes

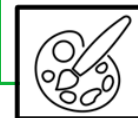
Money and business

Love and friendship

Religion

Justice and mercy

Intolerance and hatred



## 9. Key Vocabulary

- **Antagonist:** a person/character who is hostile to someone or something; an adversary.
- **Injustice:** lack of fairness, especially if linked to law/authority.
- **Gaberdine:** an over-gown/cloak worn by medieval Jews.
- **Ghetto:** the area of Venice in which Jews were forced to live by the government of the Venetian Republic
- **Prejudice:** preconceived opinion that is not based on reason or actual experience.
- **Usury:** lending money at high rates of interest: only Jewish people could do this in the era Merchant of Venice is set.
- **Bond:** a legal agreement – in the play this is between Shylock and Antonio.
- **Christianity:** a religion based on the teachings of Jesus Christ which was dominant in the time the play is set.
- **Judaism:** the Jewish religion based on the teachings of Abraham and Moses.
- **Anti-Semite/anti-semitism:** a person who is hostile to or prejudiced against Jewish people.



## 10. Key Quotations

- 'I hate him for he is a Christian!' – Shylock
- 'I will feed fat the ancient grudge I bear him.' - Shylock  
'The devil can cite scripture.' - Antonio
- 'You call me misbeliever, cutthroat dog,/And spit upon my Jewish gaberdine.'- Shylock
- 'I am as like to call thee so again, / To spit on thee again.' - Antonio
- 'The Hebrew will turn Christian: he grows kind.' – Antonio
- 'Hath not a Jew hands, organs, dimensions, senses, affections, passions?' – Shylock
- 'Alack, what heinous sin is it in me/ To be ashamed to be my father's child!' – Jessica
- 'The villainy you teach me I will execute—and it shall go hard but I will better the instruction.' - Shylock
- 'I will have my bond!' – Shylock
- 'It is the most impenetrable cur / That ever kept with men.' - Salarino
- 'Pound of flesh.' – Shylock
- 'Down therefore and beg mercy of the Duke.' - Portia
- 'He presently become a Christian' - Antonio



## 11. Language Devices

**Simile:** Comparing using like or as:

*'like a villain with a smiling cheek.'*

**Metaphor:** Comparing without like or as – a poetic lie:

*'thou damned, inexcusable dog'*

**Religious imagery:** Language based on beliefs:

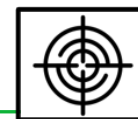
*'The devil can cite Scripture'*

**Personification:** Making something non-human, seen human:

*'it will feed my revenge.'*

**Exclamation:** Sudden cry expressing surprise or strong emotion:

*'My daughter! O my ducats!'*



## Challenge – Reflect on the Year.

1. List all of the stories you have read this year.
2. List all of the characters you have encountered this year.
3. List all of the poems you have read this year.
4. List 4 facts you can remember about The Merchant of Venice.
5. List 4 facts you can remember about dystopian fiction.

### 1. Melody and Harmony

**CONJUNCT** - wide leaps, angular and spiky.

**CHROMATIC** -uses all 12 notes (black and white) of the **CHROMATIC SCALE**.

**DISSONANCE** - harsh sounds.

**PHASE SHIFT (PHASE IN/OUT)** – when two or more motifs or cells begin in **UNISON** and gradually become “out of sync” with each other through displacement, either forwards or backwards.

Based on **CELLS** or **MOTIFS** – short simple ideas.



### 2. Rhythm and Metre

**SYNCOPIATION** – half beat followed by full beat emphasising weaker beats of the bar.

**IRREGULAR ACCENTS (>)** – These change over time *e.g. Clapping music*

**IRREGULAR TIME SIGNATURES** – 5 or 7 beats per bar.

**OSTINATO** – Ostinati are rhythmic, melodic or harmonic patterns, which are repeated many times



### 3. Timbre and Sonority

Strange, intriguing, and exotic sounds; striking, sometimes explosive, contrasts.

**PERCUSSION** – expanded in orchestra and more emphasis on percussion timbre and sonorities.

Unfamiliar sounds from strange instruments such as **EXTREME PITCH RANGES** and playing instruments in different and unusual ways.

**TOTALLY NEW SOUNDS** often involving **ELECTRONIC EQUIPMENT** and **MAGNETIC TAPE**.



### 4. Melody and accompaniment

Use of **REPETITION** – also called **LOOPING**.

**Layered Texture**

**NO CLEAR MELODY**

**GRADUAL CHANGES OVER TIME**

**ADDITIVE MELODY** – change a motif by adding one note at a time

**POLYPHONIC TEXTURE** – More than one part at



## 5. Devices

**METAMORPHOSIS** – tiny changes are made over time to one note or to one part of the rhythm. This can go a “full circle” and end up exactly the same at the end.

**ADDITIVE MELODY** – adding notes to an original melodic cell gradually.

**ISORHYTHMIC OVERLAP** – combining different length motifs or ostinato patterns



## 6. Inversion and Retrograde

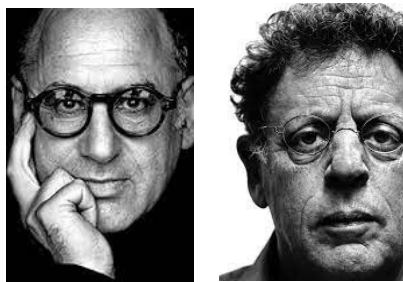
**PHASE SHIFT (PHASE IN/OUT)** – when two or more motifs or cells begin in **UNISON** and gradually become “out of sync” with each other through displacement, either forwards or backwards.

**INVERSION** – Changing the **INTERVALS** between the notes of a theme so that they are upside down from the original.

**RETROGRADE** – A variation technique created by arranging the main theme backwards.

**RETROGRADE INVERSION** – Arranging the “inverted” variation of the theme backwards!

**Famous Minimalist Composers include:**  
*Terry Riley, Steve Reich, Philip Glass, Michael Nyman.*



## 7. Theme and Variation Key words

**MELODY** – A tune or succession of notes, varying in pitch, that have an organised and recognizable shape. Often called the main **TUNE** or **THEME** of a piece of music or song and easily remembered.

**VARIATION** – Where a **THEME** is altered or changed musically, while retaining some of the primary elements, notes and structure of the original.



## 8. Augmentation and Diminution

**AUGMENTATION** – the process of **DOUBLING** the note values (**DURATION**) of a theme as a means of variation.

**DIMINUTION** – the process of **HALVING** the note values (**DURATION**) of a theme as a means of variation.





## 9. Texture

**TEXTURE**– Change the amount of sound we hear – play as a **SOLO**, add an **ACCOMPANIMENT** or **CHORDS**, add a **COUNTER-MELODY** (an ‘extra’ melody that is played or sung at the same time as the main melody, often higher in pitch and sometimes called a **DESCANT**).

**PEDAL** – A long (often very long!) note in the bass line of the music over which other parts, including the theme or a variation of the theme can be played. Also called a **PEDAL NOTE** or **PEDAL POINT** and often the **TONIC** note (but can be the **DOMINANT** or other notes).

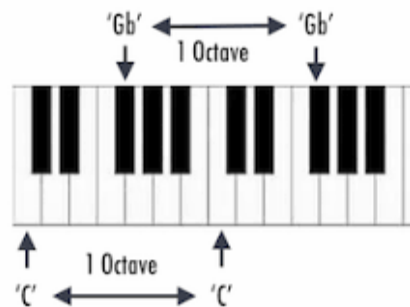


## 10. Melody and Accompaniment

**DRONE** – A long or series of repeated (often long) notes using the **TONIC** and **DOMINANT** notes together (a **FIFTH**).

**MELODIC DECORATION** – Adding extra notes or embellishments to the theme such as trills, turns, mordents (**ORNAMENTS**) or **PASSING NOTES** (extra notes between the main melody notes).

**PITCH** – Change the highness or lowness of the theme – play the same notes, but at different pitches *e.g. in different **OCTAVES***.



## 11. Devices

**OSTINATO** – Adding a repeated musical pattern (rhythmic or melodic) to the main theme as a form of variation.

**CANON/ROUND** - A song or piece of music in which different performers sing or perform the same **THEME** starting one after the other.

**GROUND BASS** – A repeated musical pattern in the bass part upon which chords, and melodies can be performed and varied “over the top” of.

**TONALITY** refers to whether a **THEME** or **MELODY** is in a **MAJOR** or **MINOR** key. Changing the tonality from major to minor or minor to major is one way of providing a variation on the theme of melody.



Ground bass



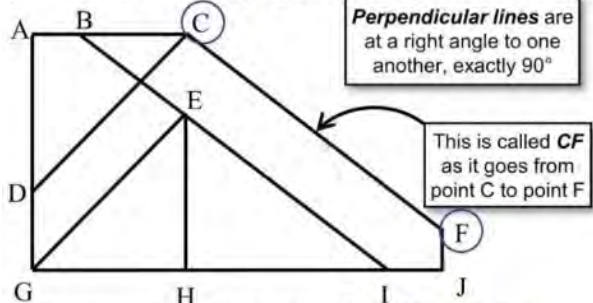
Ground bass

## 1. Accurate Drawings 1



**16s** Recognise and label **parallel** and **perpendicular** lines

Name two pairs of lines that are **parallel** and two pairs of lines that are **perpendicular**.



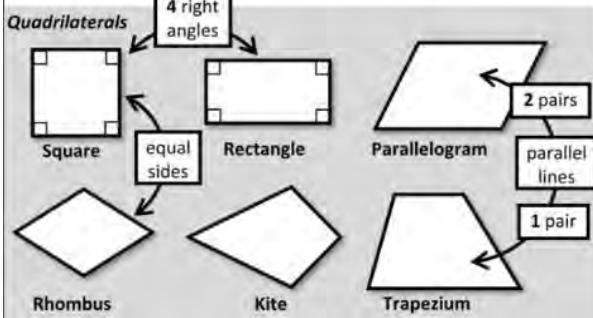
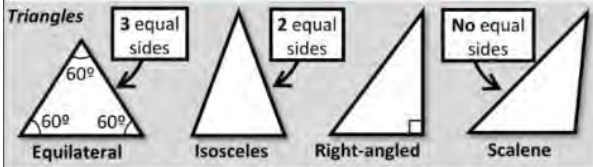
Perpendicular lines are at a right angle to one another, exactly  $90^\circ$

This is called **CF** as it goes from point C to point F

**Parallel lines** will never meet running in the same direction forever like train tracks.

Parallel - **CF and BI**  
**DC and GE**  
 Perpendicular - **AG and GJ**  
**EH and HI**

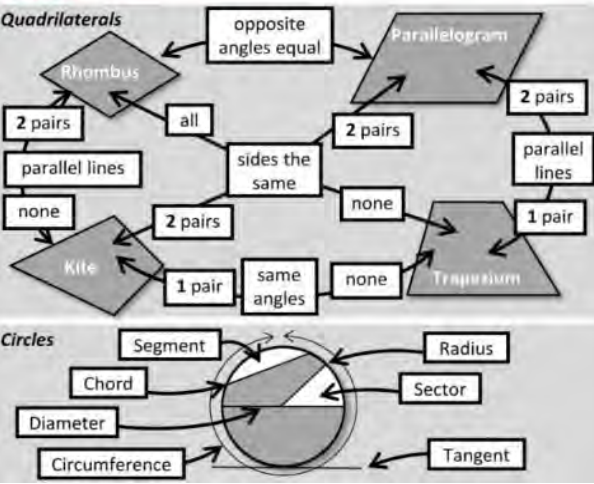
**17s** Know mathematical names for **2D shapes** including special **quadrilaterals** and **triangles**



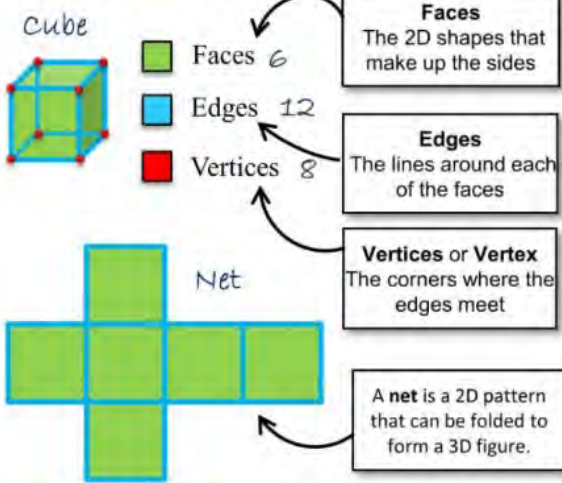
## 2. Accurate Drawings 2



**30s** Know the properties of **sides** and **angles** of special **quadrilaterals** and the names of **parts of circles**



**31s** Naming **3D solids**, matching **nets** to 3D solids and counting **faces**, **edges** and **vertices** including recognising which edges will meet

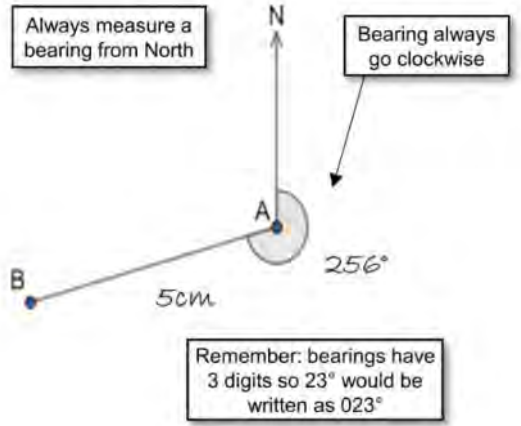


## 3. Accurate Drawings 3

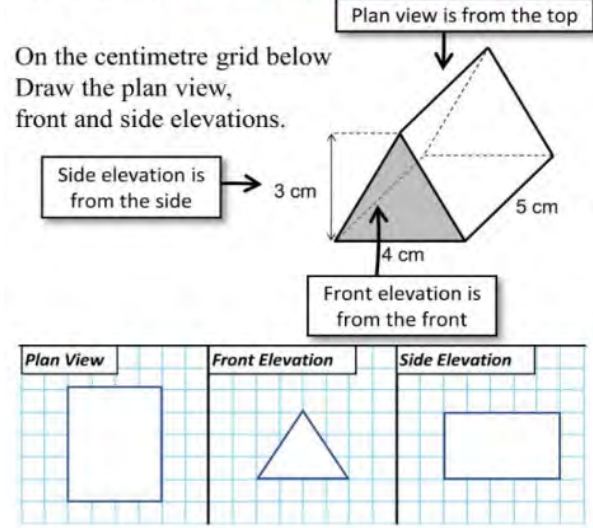


**45s** Reading and using **bearings**

Point B is 5km away from point A on a bearing of  $256^\circ$ . Using a scale of  $1\text{cm} = 1\text{km}$  draw point B



**47s** Drawing **plans** and **elevations** of **3D shapes**



## 4. Statistics & Probability 1



**40d** Distinguish between types of data: **discrete**, **continuous** and **categorical**

**Qualitative**

- Categorical - descriptive data, not numerical (e.g. colours, pets)

**Quantitative**

- Discrete - counted, taking on set values (e.g. shoe size, number of pupils in each tutor group)
- Continuous - measured, taking any value in a range (e.g. height, birth weight)

**41d** Complete a **grouped frequency tally chart**

Thomas records the heights of the students in a class. His results are given below.

155 141 160 132 156 156 167 150 145  
162 152 159 168 159 145 154 166 140

Complete the tally chart.

This interval represents heights between 130 and 140, **not including 140**.

Underline each number as you fill in the Tally. This **should** stop you from **missing** numbers.

Height (cm)	Tally	Frequency
$130 \leq h < 140$		1
$140 \leq h < 150$		4
$150 \leq h < 160$		8
$160 \leq h < 170$		5

Represent every fifth tally with a slanted line.

Frequency means how many. **Sum** the tally.

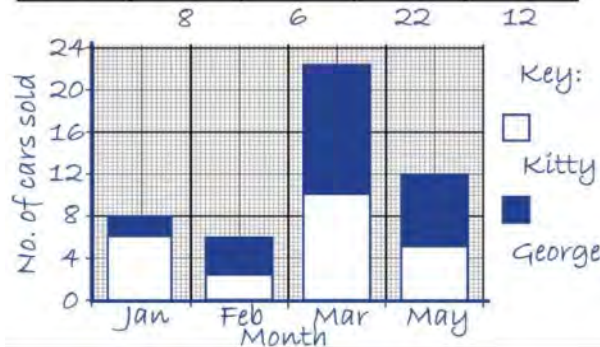
## 5. Statistics & Probability 2



**47d** Draw and read from **stacked bar charts**

Kitty and George sell cars. The table shows the number of cars sold.

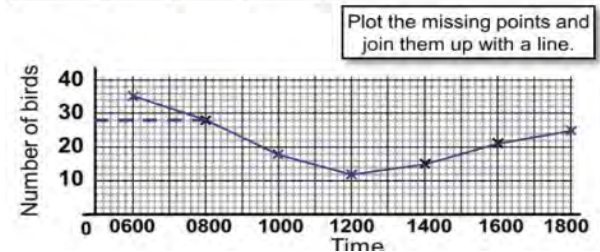
	Jan	Feb	Mar	Apr
Kitty	6	2	10	5
George	2	4	12	7
	8	6	22	12



**49d** Draw and read from tables and line graphs for **time series** data

Every two hours the number of birds in a garden are counted. Complete the table and the graph.

Time	06 00	08 00	10 00	12 00	14 00	16 00	18 00
No. birds	35	28	18	12	15	21	25

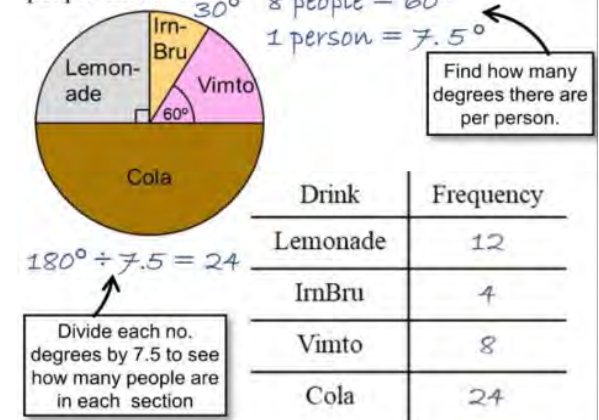


## 6. Statistics & Probability 3



**48d** Read and **interpret pie charts** including working out fractions or totals for each category

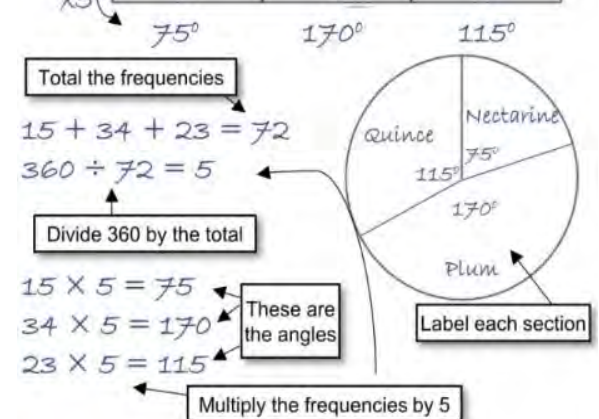
Complete the frequency table for this pie chart if 8 people chose Vimto



**58d** Calculate the angles and **draw a pie chart** from data in a table

Draw a pie chart to represent the data below:

Nectarine	Plum	Quince
15	34	23

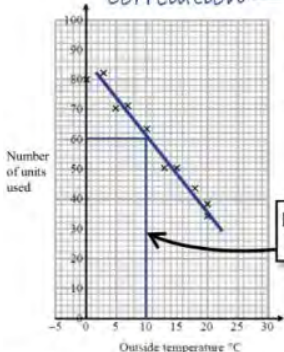
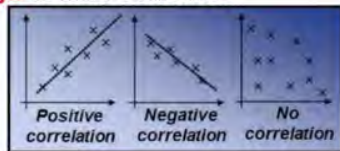


## 7. Statistics & Probability 4



**51d** Draw a **scatter graph**, comment on **correlation** and use a **line of best fit** to make estimates

What kind of correlation does this show? **Negative correlation**



Estimate the outside temperature if 60 units are used.

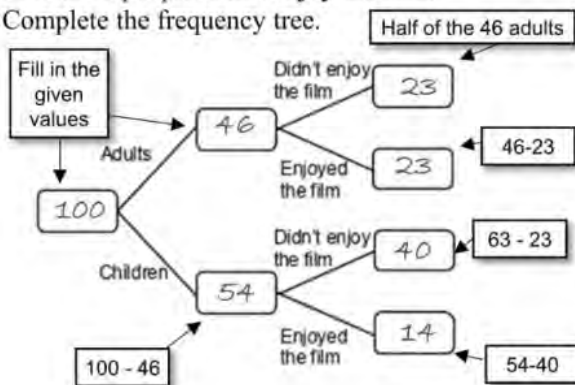
Draw a line of best fit following the trend.

Read across at 60 units to the line of best fit

10°C

**55d** Draw up a **frequency tree** from a list of information and use it to solve problems

100 people saw a film.  
46 of them were adults.  
Of the adults, 1/2 of them didn't enjoy the film.  
In total 63 people didn't enjoy the film.  
Complete the frequency tree.



## 8. Statistics & Probability 5



**43d** Complete a **two-way table**

The two-way table gives some information about how 100 children travelled to school one day.

Complete the two-way table.

$$54 - (15 + 14) = 25$$

	Walk	Car	Other	Total
Boy	15	25	14	54
Girl	22	8	16	46
Total	37	33	30	100

Look for a row or column with just **one** missing value.

Then find another row or column with **one missing value** until the whole table is completed.

$$37 - 15 = 22$$

$$25 + 8 = 33 \quad 14 + 16 = 30$$

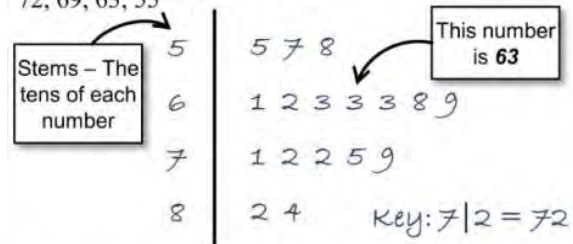
$$22 + 8 + 16 = 46$$

## 10. Statistics & Probability 6



**38d** Draw a **stem and leaf diagram** and use it to find **mode, median** or **range**

Create a stem and leaf diagram for these values  
58, 71, 62, 84, 79, 82, 63, 63, 61, 75, 57, 68, 72, 72, 69, 63, 55



Mode The number that appears most = 63

Median The middle number = 68

Mean Add and then divide = 68

## 9. Statistics & Probability 6



**56d** Draw up and use a **two-way table** from a list of information

There are 40 students in a class.  
Each student walks, cycles or gets the bus to school.  
There are 22 boys in the class.  
9 of the boys walk to school.  
7 of the girls cycle to school.  
6 of the 10 students who get the bus are girls.  
How many students walk to school.

Put these in first

	W	C	B	Total
Girls	5	7	6	18
Boys	9	9	4	22
Total	14	16	10	40

$$40 - 22 = 18 \text{ girls}$$

$$18 - 7 - 6 = 5 \text{ Girls who walk}$$

$$5 + 9 = 14 \text{ Students who walk}$$

## 11. Statistics & Probability 7



**59d** Calculate the **mean, mode** or **median** from a **frequency table**

Calculate the mean, median and mode for the data below.

Shoe Size	Frequency	SS x F	Cumulative Frequency
4	3	12	3
5	5	25	8
6	9	54	17
7	5	35	22
8	3	24	25
	25	150	

Mode = 6

The mode is the shoe size with the highest frequency, **NOT** the frequency itself.

Median is the 13<sup>th</sup> value which lies within size 6.

Mean

$$150 \div 25 = 6$$

- Add a column to multiply shoe sizes by their frequencies.
- Add totals to the column created and the frequency column.
- Divide the totals to find the mean

- Add a cumulative frequency column to the data
- Work out where the position of the median value lies.

## 1. Background

### **Oedipus Rex is a Greek Tragedy**

**Tragedy** - a play which ends with the death of main characters.

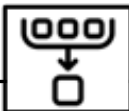
Oedipus runs away from his parents after a prophecy tells him that

1. He will be rich and powerful
2. He will kill his father
3. He will marry his mother.

On the way to the city of Thebes he kills an old man. He meets a sphinx guarding the city gates. He solves the Riddle of the Sphinx.

Oedipus is crowned King of Thebes as his reward.

**Sphinx** - winged monster having a woman's head and a lion's body.



## 2. Wedding of Oedipus & Jocasta

Since the Sphinx was defeated, Thebes was saved. However, the old King is missing...

After the wedding, Oedipus and Jocasta (the Queen) had 4 children: Antigone, Ismene, Eteocles and Polynices.

### **Keywords for the lesson:**

**Amphitheatre** - An open-air, semi-circular venue used for entertainment, performances, and sports.

**Greek Chorus** - A group of actors who described and commented upon the main action of a play with song, dance, and recitation.



## 3. Plague of Thebes and Prophecies



A plague spreads in Thebes. An oracle (Tiresias) states that the murderer of the old King Laius is still living in Thebes.

**The murderer needs to be punished.**

Tiresias suspects that Oedipus killed the old King.

He hears that the person who knows the truth knew Oedipus when he was a child – the Herdsman/Shepard. He requests for the man to be brought to him.

### **Keywords for the lesson:**

**Prophecy** - A prediction of what will happen in the future.

**Oracle** – A priest who gave advice and prophecies from the Gods.

**Plague** – A contagious bacterial disease or hordes of insects “plague of locusts”.

**Exaggerated reactions** – Responding to news or actions in an extreme way (vocal and movement skills).

## 4. The Truth



The shepherd arrives and reveals to Oedipus his hidden past.

The old King was told a prophecy of his son killing him and marrying the Queen.

The old King ordered for his son (Oedipus) to be sent away. The baby was found by a shepherd who took him to Corinth where he was raised.

This means that Oedipus was **adopted** and has fulfilled the prophecy of killing his father (the old King) and marrying his mother (Jocasta).

### **Techniques for the lesson:**

**Flashback** – A scene that is from the past of the current scene.

**Montage** – A sequence of images or scenes that are shown together.

**Narration** – Telling the story directly to the audience.

## 5. Destiny of Oedipus & Jocasta

With **the truth revealed**, Oedipus and Jocasta are shocked by what has happened. They both react in extreme ways.



Jocasta **commits suicide** offstage.

Oedipus **blinds himself** using Jocasta's hair pins as he was "**blinded by the truth**"

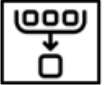
Oedipus remains alive but leaves Thebes to be ruled by his sons.



## 6. A Re-telling of Oedipus Rex

We have learned about a Greek tragedy **Oedipus Rex**, and as a class we will be re-telling the story using the skills and techniques we have focused on each week.

You can use: Slow Movement and Facial Expressions, Greek Chorus, Exaggerated Reactions, Flashback and Montage, Hot-Seating and Monologues.



Highlight the **themes**: Sight & Blindness, Fate & Free Will.

## 7. Pandora's Box

Create ideas using the **stimulus** given in your groups. Your stimulus is **Pandora's Box**.

Active Listening  
Teamwork  
Creativity



The name Pandora means "the one with all the gifts"

Week 1 - Creating ideas from your Stimulus (THIS!)  
Week 2 - Improvisation Scene using Park Bench  
Week 3 - Verbatim Scene using DV8 (Speaking the tale below)  
Week 4 - News Reporting using Brecht  
Week 5 - Chair Duet using Frantic Assembly  
Week 6 - Performances

Zeus created a woman named Pandora and gives her a box filled with death, disease, and all the other miseries and sufferings of the world.

He sends her to earth with specific instructions not to open the box for any reason. Soon after arriving on earth, Pandora opens the lid of the box, releasing all the evils of life into the world.

She slams the lid back on the box as quickly as she can, and even though she had released pain and suffering, hope remains inside the box.

Greek Myths state that Pandora's Box is still on Earth. The belief is that hope, and cures remain inside the box but is missing.

## 8. What is Devising?



**Devising** - Creating drama ourselves. We use a **stimulus** to start our ideas and **devising techniques**.

**Stimulus** - An image, quote or song that inspires us to create Drama linked to the stimulus.

**Devising techniques** – ways to create scenes as a group.

Think about:

Structure, Characters, action within the story, a clear message, effective Drama skills and Drama techniques.

## 9. Improvisation

**Improvisation** - Scenes with no written dialogue and little preparation. Thinking on your feet.

Using the stimulus given (check week 7), you will use an activity called park bench to create scene without planning it.



Try using **exaggerated reactions** as they help build action into the scene.

What could you be doing linked to Pandora's box?

### Think!

1. How do you know about it?
2. What do you know?
3. Who else can know?
4. Where could it be/where was it?
5. Why do you care about it?



## 10. Verbatim



**Verbatim** - Using real texts and spoken words, speaking them word from word.

The text you can use is in your stimulus (week 7). We will watch an example of **DV8's** work to show how you can add **physical theatre, dance, and speech** into a performance.

## 11. News Report

In telling tales we looked at creating a **news report**. You had the elements of:

**Witnesses, Facts, Reporters, and Experts** in your performances.

Think about how you can use the idea of Pandora's Box into a news report.

What **genre** of performance are you aiming for:

Comedy, Action, Mystery, Horror, Rom-com, Sci-fi, Fantasy



## News Report

A news report is a recount of an event that has occurred.

Example:

Last night (**when**) Tom Young (**who**) broke the world record for the 100 m backstroke (**what**). It was an amazing achievement because he is the youngest competitor at these Olympic games. It is also the first gold medal for his country.(....**more information**)



### 1. Key Words

Continuous Data	Data that is collected as a range eg. Height, temperature, etc. Plotted as a line graph
Discontinuous Data	Data that can be put into categories. eg. Eye colour, blood type. Plotted as a bar chart.
Inherited Variation	Variation that is genetically decided and found at birth e.g. Eye colour, ability to roll tongue
Environmental Variation	Variation that is affected by the environment around the individual eg. Tattoos, scars, language, accent, etc.
Common Ancestor	An organism from which two different species have both evolved at some point in their past.

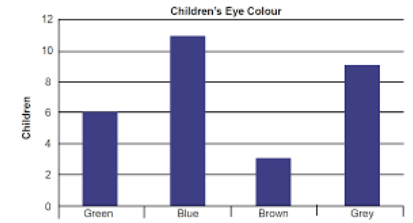
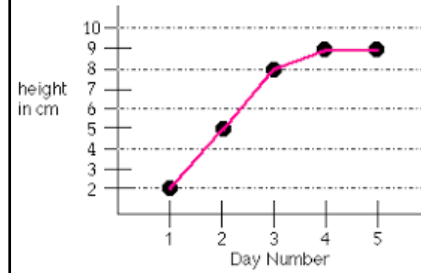


### 2. Key Words

Chromosome	A length of DNA containing many genes. There are 46 (23 pairs) in human cells.
Adaptations	The features that plants and animals have to help them live in a particular place.
Evolution	Natural selection over long periods of time leads to permanent adaptations
Natural Selection	Theory suggested by Charles Darwin – Organisms that are best adapted to survive in the environment have more offspring. There will be more offspring containing the advantageous adaptation.



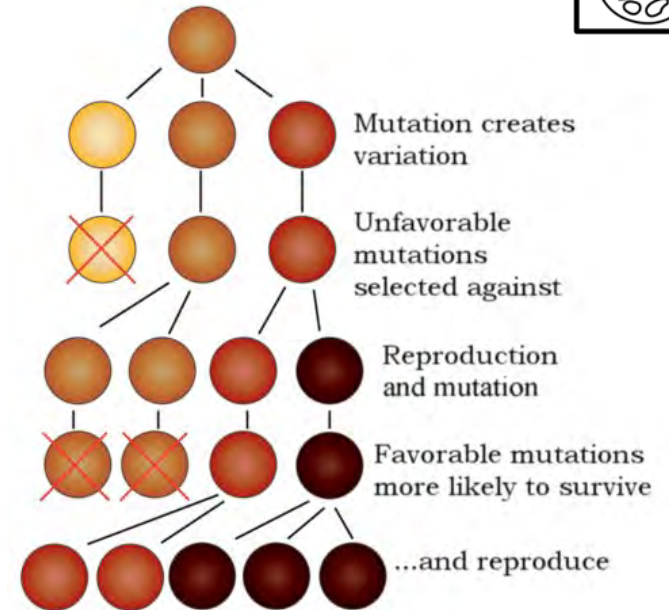
### 3. Types of Data



Continuous Data Collected on a scale



### 4. Natural Selection



### 5. Key Words

Fossil Fuel	A fuel formed from the matter of dead plants and animals.
Renewable	An energy source that can be replaced more quickly than it is used.
Non-Renewable	An energy resource that cannot be replaced as quickly as it will be used – will eventually run out.
Greenhouse Effect	The effect of increasing amounts of radiation being trapped in the Earth's atmosphere – causing temperatures to increase.
Metal Ore	When metal is found in the earth's crust after it has already reacted.
Electrolysis	The use of electricity to split a compound. Can be used to extract metals from ores.
Recycling	The process of converting waste into a reusable material.



### 6. The Greenhouse Effect

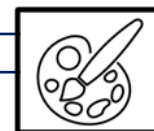
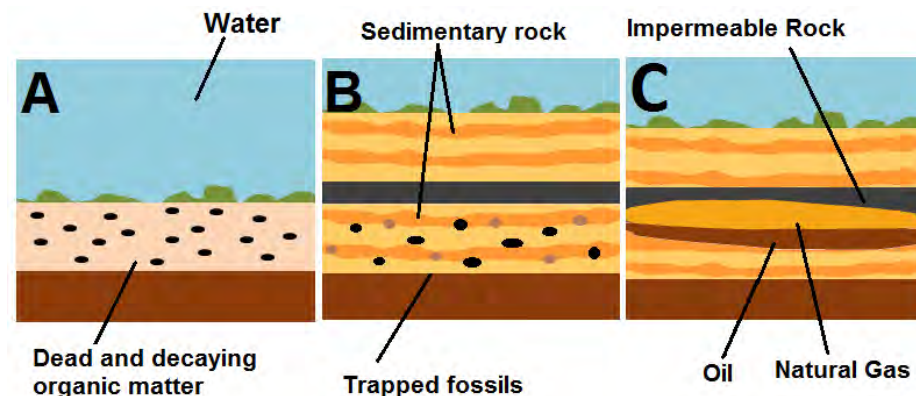
The main greenhouse gases are carbon dioxide, methane and water vapour.

These gases prevent radiation from escaping the earth's atmosphere causing temperatures to rise.

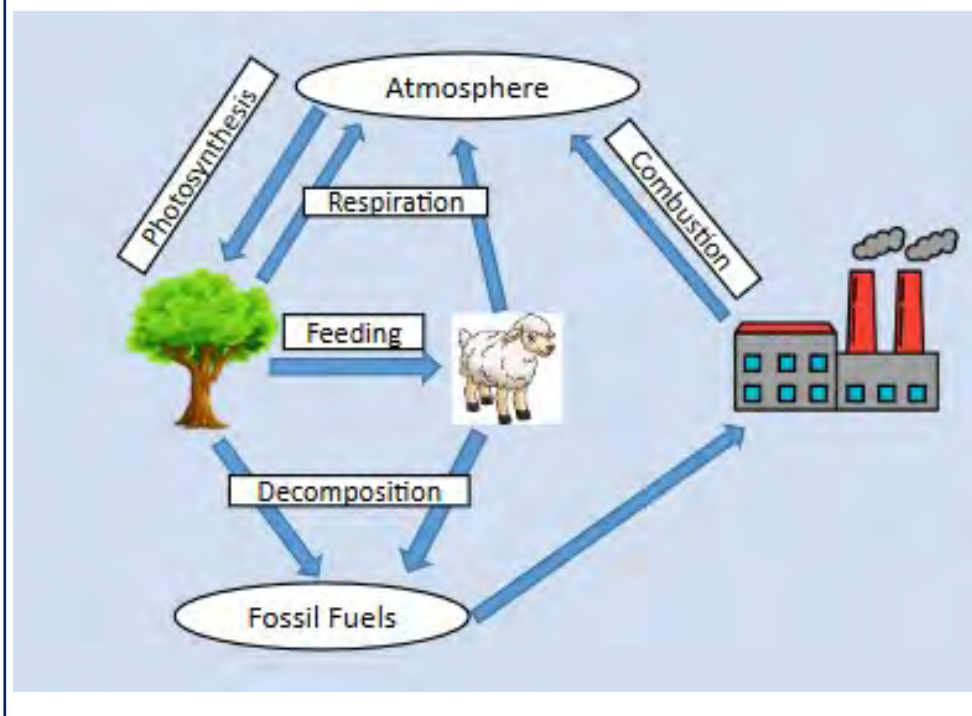
Causes – Deforestation, industrialisation, transport, burning fossil fuels, etc.

Effects of this include – Melting ice caps, extreme weather, defrosting permafrost, rising sea-levels, extinctions.

### 7. Formation of Fossil Fuels



### 8. The Carbon Cycle



## 9. Keywords

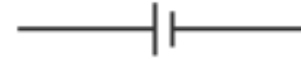


Conductor	A material that allows electricity to pass through.
Insulator	A material that does not allow electricity to pass through.
Series	Electrical components are connected one after another in a single loop.
Parallel	Electrical components are connected alongside each other, forming several "loops".

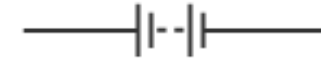
## 10. Circuit Symbols



Switch



Cell



Battery



Lamp



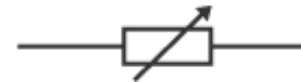
Voltmeter



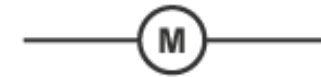
Ammeter



Resistor



Variable resistor



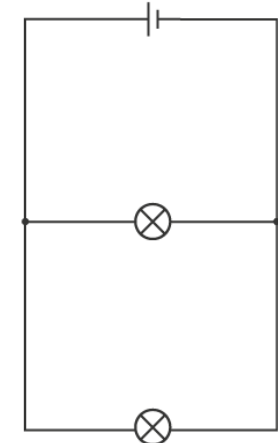
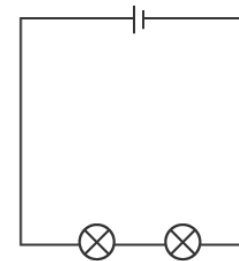
Motor



## 11. Series and Parallel

In a series circuit, the current can only have one available route. Therefore, the current will remain the same despite the number of components. Potential difference is split between components.

In a parallel circuit, the current has different circuits it can take. Therefore, the current will be reduced, the more parallel circuits there are.



## 1. Stages of a warm-up

### **Stage 1: Pulse raiser**

Gradually raising heart rate to increase blood flow around the body and speed up oxygen delivery to the working muscles by performing exercise that make the performer breathe faster.

### **Stage 2: Stretching**

Stretching the muscles that will be used during the main activity. Stretches can be static or dynamic and aim to increase the range



Raising heart rate



Stretching



Practicing skills

## 2. Stages of a warm-up

### **Stage 3: Skills practice**

Familiarising the performers body with the movements they are about to perform e.g. passing drill before football or netball fixture

### **Stage 4: Mental preparation**

Ensuring the performers attention are entirely focussed on the performance e.g. mental rehearsal, deep breathing, visualisation, imagery and positive self-talk.



## 3. Benefits of warming up:

Increases on body temperature.  
Range of movement increased  
Gradual increase of effort to full pace.

Psychological preparation  
Practice of movement skills through the whole range of movement

### **Recap**

Gradually raising heart rate to increase blood flow around the body and speed up oxygen delivery to the working muscles by performing exercise that make the performer breathe faster.

Stretching the muscles that will be used during the main activity. Stretches can be static or dynamic and aim to increase the range.

Familiarising the performers body with the movements they are about to perform e.g. passing drill before football or netball fixture



## 4. Stages of a cool-down

**Stage 1:** Activity to keep an elevated breathing rate (walk, jog)

**Stage 2:** Gradual decrease (jog, light jog, walk)

**Stage 3:** Stretching (longer than warm-up)

Benefits of cooling down  
Allows recovery Removal of lactic acid and waste products

### **Benefits of cooling down**

- Allows recovery
- Removal of lactic acid, CO<sub>2</sub>, waste products

Cooldown exercises and stretches lower your chance of injury, promote blood flow, and reduce stress to your heart and other muscles. Plus, you'll bring your heart rate, body temperature, and blood pressure levels back down to their normal levels.



## 5. Safety Principles

- Safe/suitable intensity
- Warm-up and cool-down
- Avoid over-training
- Clothing and footwear
- Hydration
- Stretches
- Correct technique
- Rest and recovery

### **Use the SAFER acronym**

S – Stretches

A – Appropriate intensity

F – Footwear & clothing

ER – Exercise



## 6. Safety Principals

There are two primary methods of preventing injury in sporting performances:

1. Follow all rules and apply them fairly use protective equipment and clothing at all times.
2. Ensure that all protection is in good working condition

A cricketer must follow all rules to ensure that injury is avoided. For example, a bowler must ensure that the ball bounces on the pitch or passes the batsperson below waist height.

The bowler must also bowl from behind the crease so that the batsperson has enough time to respond to the ball and only a limited number of bowls each over may be delivered over shoulder height.

These rules help to keep the batsperson safe.



## 7. Short-term effects of exercise

- Increased breathing rate, heart rate, stroke volume, cardiac output
- Increased blood pressure
- Increased body temperature (sweating)
- Decreased hydration levels
- Muscle fatigue

When a person exercises, the cardiovascular, respiratory, energy, and muscular systems all work together to supply energy to the working muscles and remove waste products.

When the muscles start to work, they need more oxygen so the respiratory system responds by getting more oxygen into the lungs. The blood carries greater amounts of oxygen and the heart responds to pump more oxygenated blood around the body.



## 8. Long-term effects of exercise

- Improved cardiovascular endurance
- Efficiency to use oxygen
- Lower blood pressure
- Decreased resting heart rate
- Increased muscular endurance
- Increased muscular strength
- Muscle hypertrophy
- Increased red blood cell production
- Increased flexibility

Taking part in regular exercise or training around three times per week for six weeks will lead to adaptation of the body systems that are used or trained. This increases performance in that type of exercise or sport and is often beneficial to general health and everyday life.



## 9. Mechanics of Breathing

This is how our body moves air in and out of our lungs:

### Breathing IN:

- Intercostal muscles (between the ribs) contract, pulling the ribcage up and out.
- Diaphragm muscle contracts, moving downwards and flattening, increasing the size of the chest
- The lungs increase in size, so the pressure inside them falls. This causes the air to rush in through the nose or mouth.

### Breathing OUT

- Intercostal muscles (between the ribs) relax, pulling the ribcage in and down.
- Diaphragm muscle relaxes and bulges up, reducing the size of the chest
- The lungs increase in size, so the pressure inside them falls. This causes the air to rush in through the nose or mouth.



## 10. Measuring of Breathing

### Tidal volume

Is the amount you breathe in and out in one normal breath.

### Vital capacity

Is the maximum volume of air you can breathe out after breathing in as much as you can.

### Residual volume

Is the amount of air left in your lungs after you have breathed out as hard as you can.

### Inspiratory reserve volume

The volume of air forcibly inspired during normal breathing.

### Expiratory reserve volume

The volume of air forcibly expired during normal breathing.

### Total lung capacity

The maximum amount of air the lungs can hold measured in liters.



## 11. Aerobic respiration

Can be done for long periods of time and lasts minutes or hours in duration.

- When you exercise at a steady, comfortable rate, the cardiovascular system is able to supply the muscles with all the oxygen they need.

- Under these conditions, aerobic respiration takes place.

- Aerobic respiration equation:

Glucose + Oxygen = Energy + Carbon Dioxide + Water

- Aerobic exercise can be maintained for long periods without the performer getting breathless or suffering muscle cramps.

- Moderate activities like walking, jogging, cycling and swimming use aerobic respiration.



### Challenge!

Research anaerobic respiration and compare with aerobic respiration.

## 1. What are human rights?

Human Rights were set up by the UN in 1948. Some examples to use are: right to vote, right to education, right to healthcare, right to have freedom of speech, right to practice your own religion.

### The Law in the UK:

The law is there to protect people from discrimination and make it illegal in the UK.

The following Acts have all been introduced: • 1976 Race Relations Act • The Commission for Racial Equality • Equal Pay Act • Sex Discrimination • Disability Discrimination Act • Equality Act 2010.

- Types of prejudice: • Sexuality • Racism • Disability • Gender

### Self-quiz on the information above.

e.g. How might the laws have changed over the years?



## 2. Vocabulary



<b>Social Justice</b>	Ensuring that society treats people fairly whether they are poor or wealthy and protects peoples human rights.
<b>Human rights</b>	The basic rights and freedoms to which all human beings should be entitled.
<b>Equality</b>	The state of being equal, especially in status, rights and opportunities.
<b>Prejudice</b>	Unfairly judging someone before you know them. Holding biased opinions (thoughts) about an individual or group.
<b>Poverty</b>	Being without money, food or other basic needs of life.
<b>Disability</b>	A physical or mental impairment which has an adverse effect on a persons ability to carry out normal day to day activities.

## 3. Positive Discrimination



Read the extract. **Where are examples of Positive discrimination?**

Discrimination can be positive as well as negative. Positive discrimination is used to promote opportunities for minority groups in society so that those groups are better represented in public services. For example, the Police Service may advertise specifically for black, Asian and LGBTQ+ officers so that more people are represented from other communities and also trying to promote more equality.

### Religious expression

In the UK the right to religious freedom is protected. Freedom of religious expression is the right of any person to follow the religion of their choice. No religion teaches intolerance. The freedom to believe and worship in public or private, to change religion or not or not follow any religion is a fundamental human right.

he status and roles of women in religion: In some Christian denominations women are not allowed to have important positions. Catholics do not support women becoming priests. They argue that men and women are equal but have different roles. Jesus chose male disciples and the tradition of males leaders has continued in their church.

#### 4. Wealth and Poverty

Helping the Poor In the UK benefits are paid by the government to help those in financial difficulty. This includes support for those who are sick, unemployed, homeless or disabled. There are a number of religious charities such as Christian Aid and Islamic Relief that raise money and awareness for those living in poverty in the UK and around the world.

#### Causes of poverty

• Natural disaster/climate • War • Corrupt governments • Lack of education • Debt • Unfair trade/poor wages • Lack of employment.



#### Poverty in the UK

Housing problems and homelessness is a real issue in the UK and more people are in need than ever before. Charities such as Shelter and The Salvation Army work all year round to: • Rebuild lives – drug and alcohol rehabilitation • Offering food parcels • Youth clubs

#### 5. Exploitation



Exploitation Poor is people are often vulnerable to exploitation.

This means the misuse of power or money to get others to do things for little or unfair reward such as: • Unfair pay/wages • Excessive interest on loans • People trafficking.

#### 6. Responsibilities of wealth

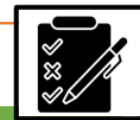
Christianity Christians believe that there is nothing wrong with wealth itself. It is how we use it that matters. We can use it for good and bad. Christians should not become greedy or selfish that they forget God or forget to love their neighbour. Christians believe that by sharing they are following the teachings of the bible and Jesus.



#### Responsibilities in Islam

In Islam every Muslim must donate 2.5% of their wealth to the poor. This is part of the Five Pillars of Islam – the second Pillar is called Zakat which means charity in Arabic. To give extra money voluntarily is known as Sadaqah. Charging interest in Islam is forbidden in Islam as this could mean that the poor get poorer while the rich get richer. This is seen as wrong and unjust.

#### 7. Key Vocabulary



Word	Definition
Discrimination	Treating (the action) someone unfairly based on prejudiced thoughts about them
censorship	The banning of books, films or news that are considered unacceptable by the government.
Exploitation	Misuse of power or money to get others to do things for little or unfair reward.
Freedom of religion	an imagined state or society in which there is great suffering or injustice (usually futuristic)
Freedom of religious expression	The right to worship and practise one's faith in whatever way one choose.
Positive discrimination	Treating people more favourably because they have been discriminated against in the past.

### Challenge!

Using your knowledge of poverty, explain the causes of poverty.

**Extension:** Justify the ways in which the government supports those in poverty.

## 8. Key Quotes

Christianity “Love your neighbour as yourself” Mark 12:31 The Good Samaritan The parable of the Sheep and the Goats

Matthew 25:31-46 “Faith without deeds is useless.”

James 2:20 “There is neither Jew nor Gentile, neither slave nor free, nor is there male or female for you are all one in Christ Jesus.”

Galatians 3:28 “Women should remain silent in the churches. They are not allowed to speak...for it is disgraceful for a woman to speak in the church.”

Corinthians 14:34-35) “If it is possible, as far as it depends on you, live at peace with everyone.”

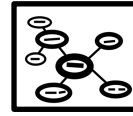
Romans 12:18 “It is easier for a camel to go through the eye of a needle than for someone who is rich to enter the kingdom of heaven.”

Mark 10:25 “No one can serve two masters...you cannot serve both God and money.”

Matthew 6:33 “For the love of money is the root of all kinds of evil.” Timothy 6:15



## 9. Humanists



Humanists oppose racism, sexism, torture and persecution.

It is up to the individual to make a fair and just society

Every human life has dignity

Humanists were amongst the founders of the UN and they support many human rights organisations.

Some people’s beliefs mean they are in conflict with the law of the land they live in Examples: Martin Luther King Malala Yousafzai Oscar Romero Supporters of Euthanasia Supporters of Capital Punishment Pro-Life (antiabortion) Protesters

## 11. Helping the poor

In the UK benefits are paid by the government to help those in financial difficulty. This includes support for those who are sick, unemployed, homeless or disabled.

There are a number of religious charities such as Christian Aid and Islamic Relief that raise money and awareness for those living in poverty in the UK and around the world.



## 10. Islam key teachings

1. “We created you all from a single man and a single woman and made you into nations and tribes so that you should get to know one another.” Quran 49:13 “Beware of greed for its ready poverty.” Hadith
2. “Do not charge your brother interest, whether on money or food or anything else that may earn interest.” “Cure poverty with charity and giving generously.” Hadith
3. “Be good to your parents, to relatives, to orphans, to the needy, to neighbours near and far.” Quran 4:36
4. “All people are as equal as the teeth of a comb.” Hadith “Allah does not look upon your outward appearance, he looks upon your hearts and deeds’.
5. Hadith “Anyone, male or female who does good works and is a believer will enter paradise.” Quran 4:124

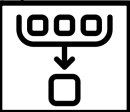


## **Challenge!**

**Explain the different kinds of aids that the government does and give reasons.**

## 1. Keywords spelling/definition test.

<p><b>C.A.D</b></p>	<p>C.A.D stands for <b>Computer Aided Design</b>, this means that a design is drawn in either 2D or 3D using a computer program such as 2D design, AutoCAD, Onshape or any other software that allows you to create a drawing using a computer.</p>
<p><b>C.A.M</b></p>	<p>C.A.M stands for <b>Computer Aided Manufacture</b>. Computer aided manufacture (CAM) involves using computers to control machines to produce 3D parts or products. By using CAM, designs can be created using CAM machines such as laser cutters, 3D printers and milling machines.</p>
<p><b>C.N.C</b></p>	<p><b>Computer Numerical Control (CNC)</b> machining is a manufacturing process in which pre-programmed computer software tells computer operated machinery what to do and what to cut or engrave. This means that the computer does all the work rather than a person. This can save time and money but takes skilled users to write the computer program.</p> <p>The process can be used to control a range of complex machinery, from grinders and lathes to mills and CNC routers.</p>



## 2. Advantages and disadvantages of C.A.D



Advantages of CAD	Disadvantages of CAD
Ideas can be drawn and developed quickly	Expensive to set up
Designs can be viewed from all angles and with a range of materials	Needs a skilled workforce
Some testing and consumer feedback can be done before costly production takes place	Difficult to keep up with constantly changing technology
It becomes easier to design and test a range of ideas	Computers can fail



## 3. Advantages and disadvantages of C.A.M



Advantages of CAM	Disadvantages of CAM
Fast and accurate production	Expensive to set up
Machines can run constantly on repetitive tasks	Needs a skilled workforce of engineers
Good for producing on a mass/flow production line	Downtime required for maintenance
Less material wastage	Computers and machines can fail
Machines can run 24/7	Errors can happen if they are not monitored.

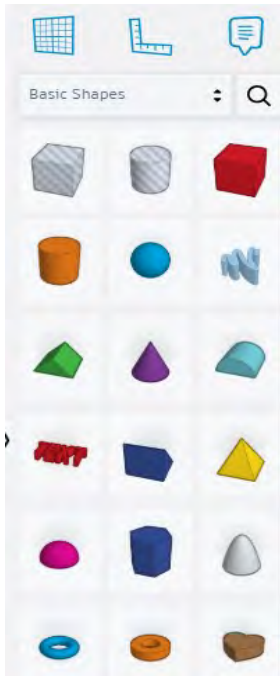
### Challenge!

Nasa wants to use 3D printers to design and make houses on other planets – Design a house that could be 3D printer for families to live in on the moon. Colour and label your design.

## 4 TinkercAD

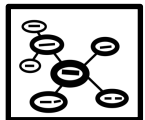
What is Tinkercad?

Tinkercad is a FREE web app for 3D design, electronics, and coding. We're ad-free and certified as COPPA compliant by the kid SAFE Seal Program, meaning you can feel comfortable using Tinkercad in a classroom environment.



These are the basic shapes that you would use to start any design. You can then change the height, width and depth, add a colour, and combine shapes to make new shapes.

Most of the shapes are 3D geometric shapes from cuboids and prisms, to square based pyramids and doughnuts.



## 5 TINKERCAD – 3D DESIGN

The software that you will use to design and make your work in your Computer



3D Design



Start designing in 3D in minutes.

If you can dream it, you can build it. From product models to printable parts, 3D design is the first step in making big ideas real.

### Place a shape

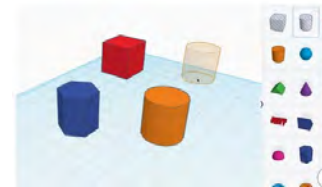
Shapes are the building blocks of Tinkercad. You can add pre-existing shapes or import your own.

### Adjust objects

Simply rotate the work plane to adjust shapes or change views. Input exact dimensions with the ruler.

### Combine elements

Create custom shapes to build detailed, intricate models. The sky's the limit!

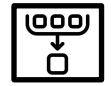


## 6. TINKERCAD - CIRCUITS

The software that you will use to design and make your work in your Computer



Circuits



Add light and movement to your designs.

From blinking your first LED to building autonomous robots, this is where you can create and make the buttons, and breadboards of electronics.

### Design electronics

Place and wire electronic components (even a lemon) to create a virtual circuit from scratch or use our starter circuits to explore and try things out. No additional hardware required.

### Program with ease

Using our interactive circuit editor, you can explore, connect, and code virtual projects.



## 7. TINKERCAD - CODEBLOCKS

The software that you will use to design and make your work in your Computer  
Write programs that bring your designs to life.

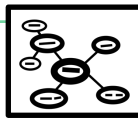
Block-based code makes it easy to create dynamic, parametric, and adaptive designs.



### Drag and drop

To begin, simply drag blocks of code and snap them together to form a stack of actions. Code blocks is a great way to learn and teach coding principles.

## 1. Keywords spelling/definition test.



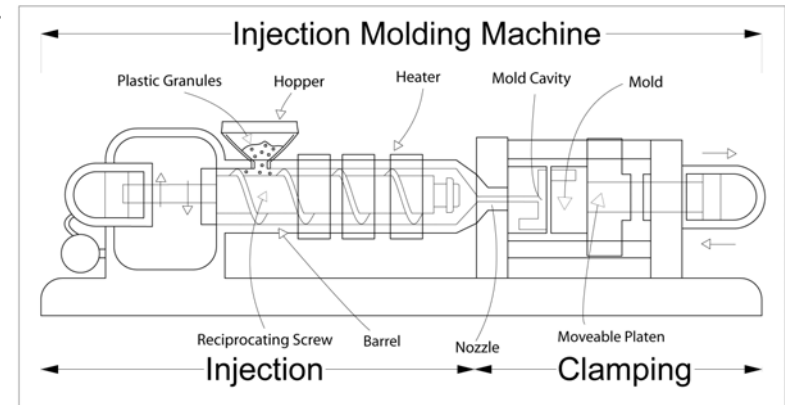
<b>Blister packaging</b>	a clear pocket on the front of a card package that will contain a product.
<b>Injection moulding</b>	a process used to create products out of plastic.
<b>Product analysis</b>	Looking at existing products to establish their strengths and weaknesses.
<b>Vacuum forming</b>	A way of created a clear plastic pocket/ shape using a mould with the plastic forced over it when heated.
<b>Net</b>	A flattened piece of packaging that shows the cut lines, fold line and tabs.
	A way of displaying a product..
<b>Silicon</b>	A flexible material used to create the moulds for our Lego people

## 3. What is Lego made from and how is it produced?

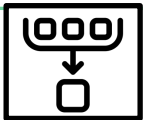


Most LEGO® pieces are made from a high-quality plastic called ABS. It provides the unique connective grip, high gloss, and the colour stability our LEGO bricks are known for. It meets a long list of safety, durability and quality rules and they have been using it ever since 1963.

LEGO bricks are plastic injection moulded and so the process starts with tiny plastic granules. Inside the moulding machine these granules are superheated to around 230 degrees Celsius and are fed into moulds inside the machine.



## 2. Facts about Lego



### The History of Lego

The name 'LEGO' is an abbreviation of the two Danish words "leg godt", meaning "play well". The LEGO Group was founded in 1932 by Ole Kirk Kristiansen. The company has passed from father to son and is now owned by Kjeld Kirk Kristiansen, a grandchild of the founder. The first LEGO logo was introduced in 1934. It was a rather uninspiring design, though, with the words LOGO spelled out in an ordinary, black font. Over the years, the logo would undergo a few changes before the company settled on the logo, we are now familiar with.

## 4. Target Audience & Market Research

**Target market** = the group of people a product is designed for.

### Designers consider:

- Age
- Gender (if relevant)
- Interests and hobbies
- Colours and styles
- Types of products they buy

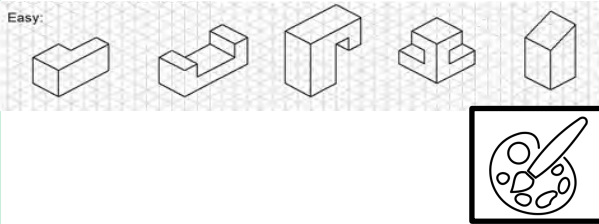
### Good packaging design:

- Attracts the right audience
- Matches their interests
- Uses appealing colours and themes
- Communicates brand identity clearly

## 5. Isometric Drawing

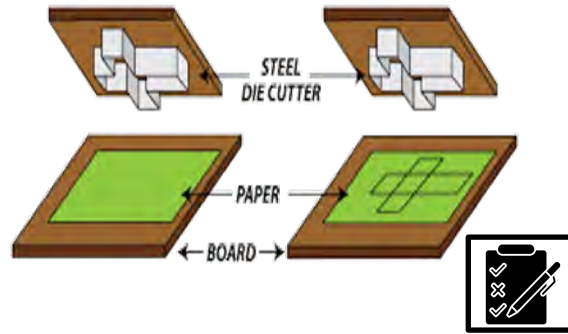
Isometric drawing is a way of showing a 3D object on paper using 30-degree angles, so all sides stay the same scale.

It helps designers show what a product will look like in real life and makes their ideas easier for others to understand. Isometric drawing is important because it keeps shapes accurate and is used in real product and packaging design to communicate ideas clearly and professionally.



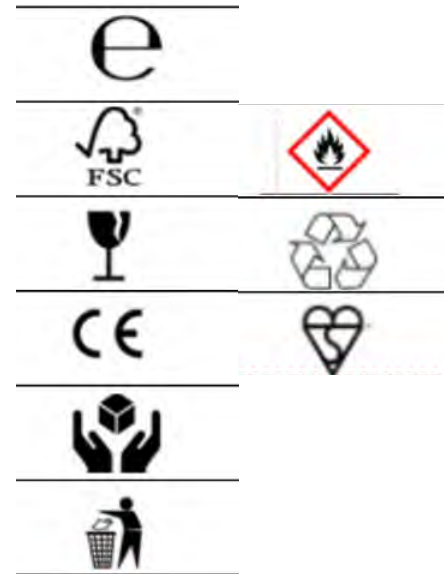
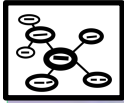
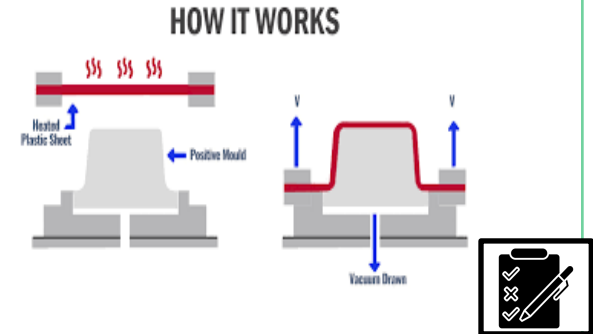
## 6. Die cutting

Die-cutting is a process whereby a die is used to cut through materials such as paper and card on a die press. The process allows you to make an identical cut into material numerous times. How die cutting machines work. For each job, a die, which is a shaped blade, is custom made for the item being created.



## 7. Vacuum forming

Vacuum forming is a simplified version of thermoforming, where a sheet of plastic is heated to a forming temperature, stretched onto a single-surface mould, and forced against the mould by a vacuum. This process can be used to form plastic into permanent objects such as turnpike signs and protective covers



## 8. Packaging Symbols

Packaging symbols are small pictures on packaging. They give important information about the product. Symbols help people know how to recycle, throw away, or use packaging safely. They are used instead of words so everyone can understand them. Packaging symbols help protect people and the environment.

How many symbols do you recognise?  
What do you think it represents?

## 1 Pattern types

Basic pattern- The pattern repeats in a straight line across and down without changing.

Half drop pattern- Each row of the pattern is moved down halfway from the one above it.

Mirrored repeat pattern - The pattern is reflected like a mirror each time it repeats.

Rotational pattern - The pattern is turned or rotated around a point each time it repeats.



## The 6Rs are 6 ways we can make products more sustainable.

The 6Rs:

**Rethink** – Do we really need it? Could it be made differently?

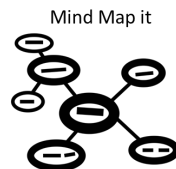
**Refuse** – Say no to products that harm the environment.

**Reduce** – Use fewer materials, less energy, and create less waste.

**Reuse** – Use things again instead of throwing them away.

**Repair** – Fix broken items instead of replacing them.

**Recycle** – Break items down and make them into something new



## Dye Sublimation

A dye-sublimation printer uses special inks and paper. When the picture is printed, the ink sits on the paper and dries.

When you put the print onto polycotton and use the heat press at 160 °C for 1 minute, the heat turns the ink into a gas. The gas moves into the fibres of the fabric, then cools and becomes solid again.

This “locks” the design into the fabric, so it doesn’t sit on top, it becomes part of the material.



## 7 The sewing machine

A sewing machine is the perfect piece of equipment to use when making clothing. It is faster than hand sewing and produces a stronger and more consistent stitch.

It is important to know and understand the parts of the sewing machine so you can use it effectively.

### Spool Holder

The main function of the spool holder is to control the thread direction and hold the spool. The spool holder may be in the horizontal or vertical direction. Sometimes a sewing machine has more than one spool holder when a decorative stitch is needed.

### Bobbin

The bobbin is a small spindle that is wound with thread. Bobbin supplies the bottom thread during the stitch formation.

### Bobbin Case

The bobbin case holds the bobbin. The hook of the bobbin case catches the previously produced needle loop and moves over the bobbin case. As a result, a stitch is formed by the interlacing of bobbin thread & needle thread.

### Balance Wheel

The main function is to raise and lower the needle through manual labor. It is used when an extremely thick piece of fabric is required to be sewn. In the domestic sewing machine, it also helps to wind the sewing thread to the bobbin. It is situated on the right side of the machine.

## 8 The sewing machine continued

### Feed Dog

It helps to pass the cloth through the machine in a forwarding direction during the sewing.

### Needle and Needle Bar

The main function of the needle is to form the stitch during sewing the cloth. The needle fits in the needle bar which holds the needle with a small screw.

### Pressure Foot

It is used to put pressure on the fabric during sewing. It helps to prevent wrinkles that could mess up the stitch.

### Power Switch

The sewing machine is operated sometimes by electricity and manual labor. A power switch is used to supply the electricity to the machine. Normally Power switch is on the right side of the machine. The main function of the power switch is to turn on and off the machine. In the modern sewing machine, it gives light to the user to see properly when the machine is turned on.

### Foot Pedal

It controls the speed of the sewing machine. If you apply more pressure to the pedal, you can sew faster.

### Back Sew Button

Back sew is a button that is used to restitch over a very short area to increase seam strength.

## 1. Pewter

**Pewter** is an **alloy** made of **tin** mixed with **antimony** and **copper**. It is soft and flexible and it can be melted easily. It dissolves in **hydrochloric acid** to produce **tin(II) chloride**, leaving the **antimony** and **copper** behind in the hydrochloric acid. A long time ago, it was used to make knives, forks, spoons and other pieces of cutlery because it did not take much effort to melt down many times. It used to contain **poisonous lead**, but it does not contain lead anymore as the lead would make people ill when making things with pewter.

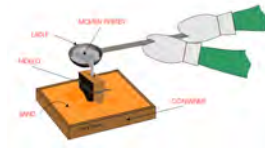
An **alloy** is a uniform mixture. It is made up of two or more **chemical elements**, of which at least one is a **metal**. An alloy has **properties** different from the metals it is made of. Most alloys are made by melting the metals, mixing them while they are liquid to form a **solution**, then leaving them to cool and turn solid again.



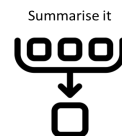
## 2. Casting



The diagram below shows pieces of the pewter ingot cut to a size suitable for heating in a ladle. Fire bricks have been arranged around the bowl of the ladle so that the heat from the brazing torch flame is reflected back onto the ladle. As the temperature rises the pewter begins to melt and quite quickly forms a molten liquid.



The molten pewter is then carefully poured into the mould. The mould is set in sand in case any of the molten pewter runs down the side of the mould. If this happens the molten pewter will simply stay on the surface of the sand and cool down. The mould should never be placed on a cold surface. If molten metal comes in contact with a cold surface it will 'splatter' violently. Anyone close to the area will be in serious danger.



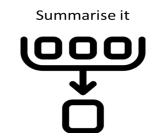
## 3. Health and safety

Carefully pour the pewter into the mould, trying not to over pour the metal. Melt the pewter. **HEALTH AND SAFETY:** As with all casting, it is important to think about safety.

Wear:

Leather apron to protect against spillages.  
Leather gloves to protect hands as the mould gets very hot.  
protective eyewear to protect against splashes if the mould is over filled.

place the mould on a fire-safe surface, ensure the area is well ventilated, and have a fire extinguisher nearby.



### 4. Observational drawing.

When you are asked to produce an observational drawing, it is much more than just copying what you see.

You are trying to show an understand of:

Why and how the product was made?

What influenced the designer?

What do you think the designer was trying to achieve?

What materials have been used?

Why did you choose to write about this product?

What do you like dislike about the design?

Is the design relevant to what it is you want to achieve?

### What can you see?



Illustrate it



### 5. Observational drawing

To develop the quality of our written work we use the mantra:

**Talk – Explain – Justify – Apply.**

**Talk and Explain = Year 7**

**Talk, Explain and Justify = Year 8**

**Talk, Explain, Justify and Apply = Year 9**



Illustrate it



### 6. Observational drawing

What do you like about this design?

What do you not like about this design?

How might you use this idea in your own work?

Illustrate it



### 7. Observational drawing.

Illustrate it



What can you see?

Is this realistic for your product?



### 8. Observational drawing (necklace)

Illustrate it



What would you ask the designer of this product?

Remember: Talk – Explain and Justify your response.

## 1. Key Words



**Eatwell Guide** – the guide which helps us eat the right sort of foods in the correct quantities.

**Consistency** – how thick or runny a sauce is in cooking (add liquid to make it runnier, boil longer or add something like cornflour to thicken).

**Coagulation** – when an egg becomes solid by cooking. The eggs in the Savoury Flan coagulate when it cooks in the oven. You know it is cooked when it is no longer runny.

## 2. Making Shortcrust Pastry



This is the easiest pastry to make from scratch. It can be used to make meat pies, fruit pies, quiches, flans and sweet tarts.

Method:

1. rub-in plain flour and butter (twice as much flour as butter)
2. add tablespoons of water to form into a dough
3. Roll out, fill dish, bake in oven

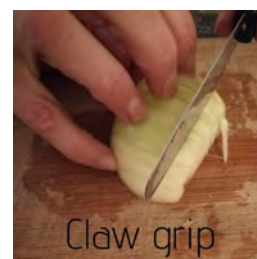
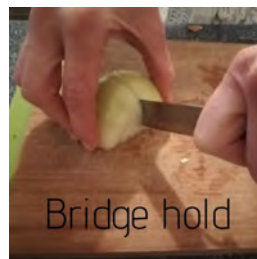
Its best if you have cold hands when rubbing-in. Chill the pastry in the fridge for 10+ minutes if you have time before rolling out.

## 3. How to chop an onion

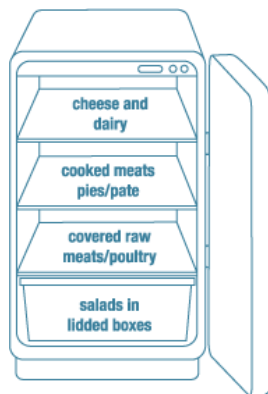


- 1 – Trim off the root (hairy bottom!)
- 2 – Cut the top where the stalk used to be
- 3 – Cut in half through the root end
- 4 – Peel the dry skin off the outside
- 5 – Cut the Hawaiian skirt – lots of cuts towards the root end
- 6 – Cut across to make lots of small pieces of onion

### Knife grips:

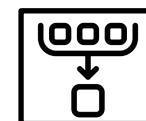


## 4. Storing foods in the fridge



High-risk foods should be stored in the fridge. Raw meat should be covered and stored **BELOW** cooked meat. The fridge should be between 1 and 5°C.

## 5. Foods links to celebrations



ANZAC Biscuits are linked to an important event in history find out what it is! Other foods that are linked to historical events are:

### The Victoria Sandwich Cake:



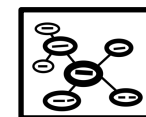
Supposedly a favourite of Queen Victoria for her afternoon tea when entertaining guests.

### Coronation Chicken Sandwich Filling:

For the coronation of Queen Elizabeth II in 1953 - diced chicken with a creamy sauce and touch of curry powder



## 6. Traffic Light Labels



The traffic light labelling system will tell you whether a food has high, medium or low amounts of fat, saturated fat, sugars and salt. It will also tell you the number of calories and kilojoules in the product.

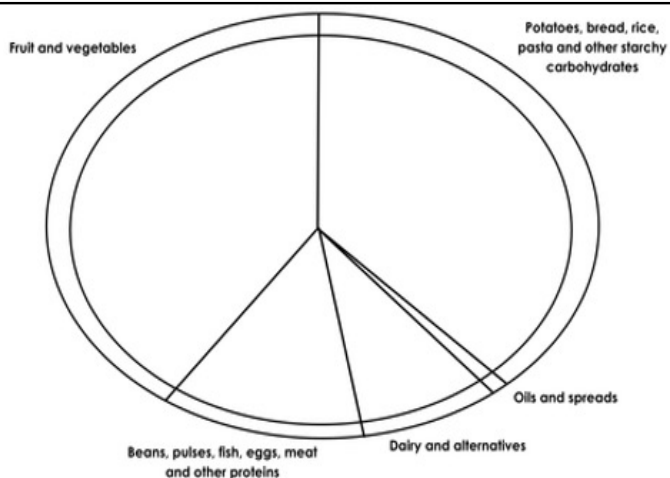
**Challenge!** Find some foods at home with these labels. How healthy are they?



## 7. Healthy Eating

Eatwell Guide. List below everything you eat in 24 hours then added it into the correct section of the Eatwell Guide below.

<b>BREAKFAST</b>
Food & Drinks:
<b>LUNCH:</b>
Food & Drinks:
<b>AFTER SCHOOL SNACKS:</b>
Food & Drinks:
<b>EVENING MEAL:</b>
Food & Drinks:



For more information on the Eatwell Guide search:  
[Eat well \(11-14 Years\) - Food A Fact Of Life](#)

## 8. Utensils and Equipment



grill pan – to place under the grill



palette knife – to lift pastry off the worktop



rolling pin – to roll out pastry



Quiche dish – porcelain dish to cook quiche in



Wok – for stir-frying



Fish Slice – for lifting food off trays or frying pans



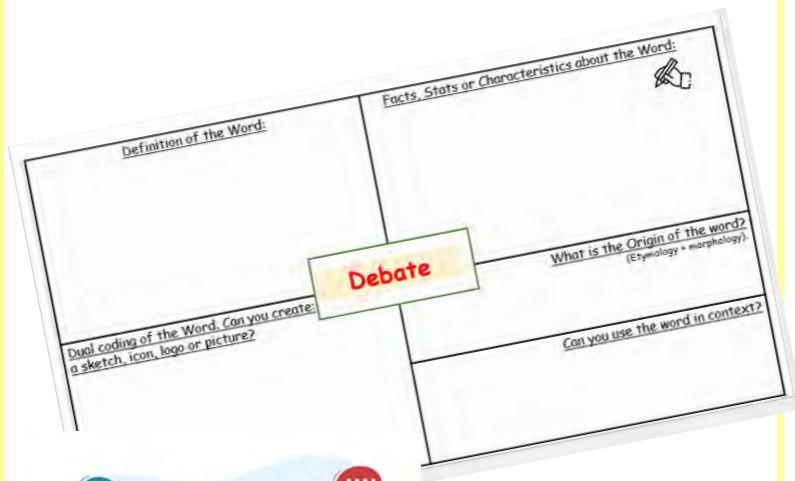
## 1) Key Concept: Analysing sources and causation

**Analysing sources** is the critical examination of, and reflection on, primary and secondary documents to determine their reliability, purpose, and context.

**Causation** in history is the analytical study of *why* events happened and their subsequent consequences, establishing relationships between actions, events, and developments



## 3) Freya Model of the word debate



## 2) Key words

Key Term	Definition
<b>Assassination</b>	The actions of killing someone.
<b>Debate</b>	A formal discussion on a particular matter in a public meeting or legislative assembly, in which opposing arguments are put forward and which usually ends with a vote.
<b>President</b>	Is a common title for the head of state in most republics.
<b>The Cold War</b>	A sustained period of struggles between the United States and its Western allies and the Soviet Union.
<b>Allies</b>	A state formally cooperating with another for a military or other purpose.
<b>Military</b>	The armed forces of a country.

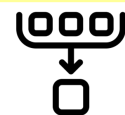
## 4) Who was JFK?

John F. Kennedy (1917–1963) was the 35th president of the United States (1961–1963), known for his youth, the Cold War crises (Cuban Missile Crisis, Bay of Pigs), and promoting civil rights.

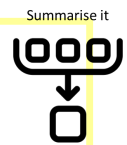
As a Democrat (Political party), he served in Congress before becoming the youngest elected president.

He was assassinated in Dallas, Texas, on November 22, 1963

Summarise it



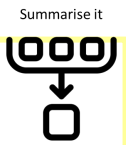
### 5) What was the *impact* of the Assassination of JFK?



The assassination of President John F. Kennedy greatly affected the United States. It shocked and saddened people across the country and made them feel less safe. The event led to stronger protection for future presidents.

It also changed the nation's leadership, with Lyndon B. Johnson becoming president and passing important civil rights laws. Many questions about the assassination are still discussed today, showing how deeply it affected American history and people's trust in their leaders.

### 8) Canals



#### A network of canals Linked major cities

The first canal to be dug was the Sankey Cut. It was opened in 1757 for barges to carry coal from Lancashire mines to Liverpool.

#### Railways replaced Canals

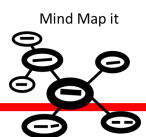
Railways were important, not just because they carried goods quickly and cheaply, but because building and running railways created a demand for coal and iron and created thousands of new jobs.

### 7) Key words

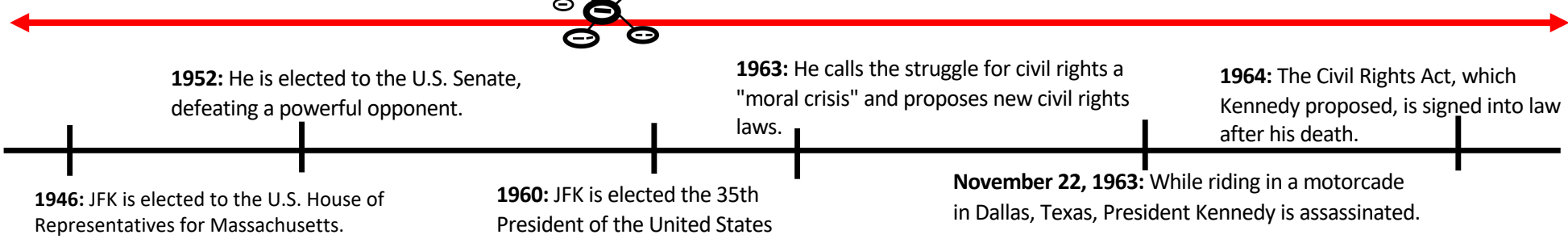


Key Words	Definition
<b>Agricultural Revolution</b>	Several revolutionary changes that have occurred in the agricultural practices of societies throughout history.
<b>Cultivating</b>	Prepare and use (land) for crops or gardening.
<b>Lock</b>	When canals had to cross hilly land, lock were dug in sections at different levels.
<b>Act of Parliament</b>	A creation of a new law or changes an existing law.
<b>Universal Suffrage</b>	Everyone being able to vote.
<b>Trade Unions</b>	Organisations of workers. They aimed to defend their members interests, for example, by negotiating better pay and conditions.

**Challenge!**  
 Research how Trade Unions have developed from the Victorian era to todays society.

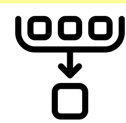


### 6) JFK timeline



## 9) Why was the population boom good for Industries

Summarise it



### Increase in demand

The increase in populations, made a demand for more food, products and cloth. Which pushed the need for more productive ways to produce this.

This had a knock-on effect on the invention of the mining and transport industries.

### Provision for workers.

The increase in populations, meant that there were more adults than jobs in most villages.

After the push for more productive ways to produce products, a surplus of jobs became available such as miners, weavers, builders, and labours to cut canals and lay railways. The influx of jobs caused migration of families to move from villages to towns.

## 10) Mass production in Britian

**British Textiles** - wool, silk and the most popular being cotton.

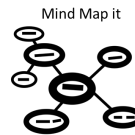
**Iron Industries** – Steel, bar iron and the cheapest and most produced cast iron.

**Machine Tools** – Wooden framing, tools and firearms.

**Chemicals** – Lead, bleach and pickling.

**Concrete** – using sintering clay and limestone.

**Mining** – coal mining, tin mining and lead mining.



## 11) Key words



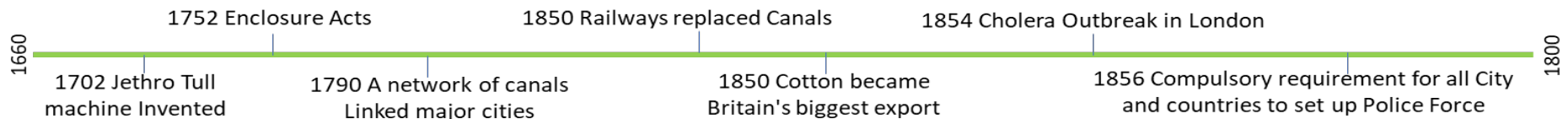
Key Words	Definition
<b>Franchise</b>	Those who could vote in the area.
<b>Heckle</b>	To interrupt a public speaker with comments, questions and arguments.
<b>Constituency</b>	An area represented by an MP.
<b>Slums</b>	Overcrowded and filthy houses lived in by very poor people.
<b>Quack Doctor</b>	Wandering around and begging because a person is homeless.
<b>Vagrancy</b>	Organisations of workers. They aimed to defend their members interests, for example, by negotiating better pay and conditions.
<b>Bobby</b>	A name given to police officers.



## Challenge!

Research Isambard Brunel and decide what his top three inventions were.

### Industrial Revolution Timeline



## 1. Le sport dans ma ville =

### Sport in my town



Dans ma ville/mon village =  
In my town / village

Il y a ... = there is/are..

- beaucoup de possibilités = lots of possibilities
- peu de possibilités sportives = few sporting opportunities
- une salle de fitness = a gym

On peut jouer (au/à la/aux )

= You can play...

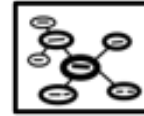
- au foot
- au basket
- au handball
- au rugby
- au tennis
- au hockey

On peut faire (du/de la/des)

= You can do...

- du cyclisme/du vélo = cycling
- du footing = jogging
- du judo = judo
- du patin à glace = ice-skating
- du ski = skiing
- de la natation = swimming
- de l'équitation = horse riding
- des randonnées = walking/hiking
- 

## 2. Plus ou moins?



Je trouve ... - I find

- |                      |                   |
|----------------------|-------------------|
| • le tennis          | - tennis          |
| • le tennis de table | - table tennis    |
| • le ping-pong       | - pingpong        |
| • la danse           | - dance           |
| • la gymnastique     | - gymnastics      |
| • la musculation     | - weight training |
| • la pétanque        | - boules          |
| • la voile           | - sailing         |
| • l'athlétisme       | - athletics       |
| • l'équitation       | - horse-riding    |
| • les arts martiaux  | - martial arts    |

- |                 |                |
|-----------------|----------------|
| amusant(e)      | = fun          |
| compliqué(e)    | = complicated  |
| divertissant(e) | = entertaining |
| fatigant(e)     | = tiring       |
| intéressant(e)  | = interesting  |
| passionnant(e)  | = exciting     |
| relaxant(e)     | = relaxing     |
| violent(e)      | = violent      |
| difficile       | = difficult    |
| facile          | = easy         |

Je trouve le tennis compliqué =  
I find tennis complicated.

Je trouve la natation plus relaxante que le tennis = I find swimming more relaxing than tennis

## 3. Mon héro sportif/sportive



Use this to create your own profile of your sporting hero/heroine.

**Mon sport préféré, c'est...** = my favourite sport is...

**Mon héro sportif est ...** = my sporting hero (M) is

**Mon héroïne sportive est ...** = my sporting hero (F) is

**il/elle a gagné** – he/she won

**il/elle a marqué un but** – he/she scored a goal

**Je suis membre d'un club** – I am a member of a club

**Je m'entraîne deux fois par semaine** – I train twice a week



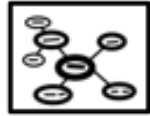
## 4. Pour aller au stade?

Pour aller ...

= How do I get to ...

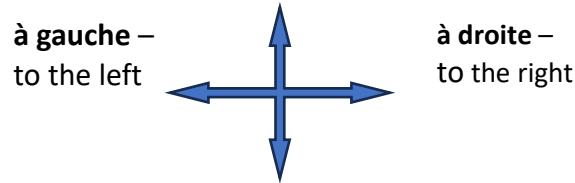
- |                           |                          |
|---------------------------|--------------------------|
| • au stade                | = the stadium            |
| • au lac                  | = the lake               |
| • au centre aquatique     | = the aquatic centre     |
| • au vélodrome            | = the velodrome          |
| • au bureau d'information | = the information office |
| • à la piste d'athlétisme | = the athletics track    |
| • à la gare SNCF          | = the train station      |
| • la gare routière        | = the bus station        |
| • aux magasins            | = the shops              |
| • aux toilettes           | = the toilets            |

## 5. Les directions



va/allez = go  
 tourne / tournez = turn  
 prends / prenez = take

**Allez tout droit** – go straight ahead



**Prenez..... = Take ...**

la première rue (à gauche) – the first street  
 (on the left)

la deuxième rue (à droite) – the second street  
 (on the right)

## 6. Qu'est-ce qu'il faut faire ?

Il faut ... - it is necessary/you must



travailler dur – (to) work hard  
 manger équilibré – (to) eat healthily  
 boire beaucoup d'eau – (to) drink lots of water  
 avoir de l'assurance – (to) be confident  
 être motivé(e) et déterminé(e) – (to) be motivated and determined  
 aller à la salle de fitness – (to) go to the gym  
 dormir huit heures par nuit – (to) sleep for 8 hours a night  
 faire d'autres activités – (to) do other activities

**Il ne faut pas... - You must not**

fumer des cigarettes – smoke cigarettes  
 consommer de drogue – take drugs

## 7. Qu'est-ce qu'il y a sur la photo ?

Sur la photo, il y a ... = in the photo, there is/are..

des athlètes – athletes  
 des joueurs – players

**ils/elles ... - They...**

participent à - are participating  
 jouent à - are playing  
 portent - are wearing

une course - a race  
 un maillot de course - a running vest  
 un maillot de basket - a basketball shirt

il/elle marque un panier – he/she is scoring a basket

## 8. Ça va ? How are you?

**J'ai mal ... I have a sore...**

au bras = arm  
 à la jambe = leg  
 au dos = back  
 au cou = neck  
 au genou = knee  
 au pied = foot  
 à la main = hand

au ventre – stomach  
 à la bouche – mouth  
 à la gorge – throat  
 à la tête – head  
 à l'épaule – shoulder  
 à l'oeil – eye  
 aux yeux – eyes  
 à l'oreille – ear



## 9. Au médecin = at the doctors



Vous allez bien? – Are you well?

Depuis quand? – for how long?

Depuis (trois) jours – for three days

Depuis hier – since yesterday

**Il faut....**

rester au lit – stay in bed

utiliser une crème – use a cream

mettre un pansement – put on a bandage

pratiquer des exercices modérés – do moderate exercise

prendre des anti-douleurs – take painkillers

**Je me suis blessé – I've hurt my ...**

**J'ai la grippe / un rhume – I have the flu / a cold**

## 10. Allez les champions! Asking and answering questions about sport

**Qu'est-ce que tu fais comme sport? - What do you do for sport?**

Je fais de l'équitation .. - I do horse-riding

**Est-ce que tu as commencé ton sport à un très jeune âge? - Did you start your sport at a very young age?**

J'ai commencé le foot à ... - I started football at ...

**Qu'est-ce qu'il faut faire pour être champion(ne)? - What do you need to do to become a champion?**

Il faut manger bien – you have to eat well

**Est-ce que tu as participé à une compétition récemment? - Have you participated in a competition recently?**

J'ai participé à la Marathon des Sables – I took part in the Marathon des Sables

**Qu'est-ce que tu vas faire à l'avenir ? - What are you going to do in the future?**

Je vais m'entraîner tous les jours – I am going to train every day

**Est-ce que tu as un héros sportif ou une héroïne sportive? - Do you have a sporting hero/heroine?**

j'admire.... parce que ... - I admire ... because ...



**11.** The MARATHON DES SABLES is a foot race, open to runners and walkers, with several stages, free style, and with food self-sufficiency over a distance of about 250 Km.

Each participant must carry his/her own backpack containing food, sleeping gear and other material.

1st day: Departure for Morocco\*, arrival, transfer bivouac.

2nd day: Administrative, medical and technical formalities.

from 3rd to 8th day: The race with food self-sufficiency.

9th day: Timed Solidary stage with food self-sufficiency

10th day: Free day, Ouarzazate

11th day: Return to France.\*

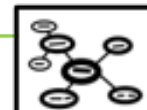


### (Extra) How did it begin?

**1984:** Patrick Bauer alone in the Sahara 1984:

At 28 years of age, Patrick Bauer decided to head for the Sahara to try to traverse a 350km expanse of uninhabited desert, on foot, alone, where he wouldn't come across a single village, oasis or watering place. Totally self-sufficient, with a rucksack weighing 35kg and containing water and food, he set off on a journey which was to last 12 days.

It was the starting point of what was to become the MARATHON DES SABLES.



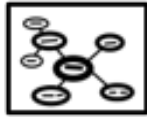
### (Extra) Key statistics

Over 22 000 competitors since 1986

- 30 % repeat competitors
- 70 % international
- 30 % French
- 20 % women
- 45 % veterans
- 30 % in teams of three or more
- 10 % walkers
- 90 % alternate walking and running
- 14 km/hr: average maximum speed
- 3 km/hr: average minimum speed
- Age of youngest competitor: 16
- Age of oldest competitor: 83



## 1. Graffiti Art



### What is Graffiti?

Graffiti art as a term refers to of images or lettering scratched, scrawled, painted or marked in any manner on property.

### Where would you find it?

Typically, in a public space such as on the sides of buildings, on trains, buses, bridges, fences etc.

### How is it made?

Spray paint, stencils, wall paint and marker pens are commonly used.

### Why is it made?

- To tell a story
- Self-expression
- Highlight a certain moment in time
- Express opinions about people, politics and culture
- To celebrate people or places



## 2. Keywords



**Graffiti:** Refers to of images or lettering scratched, scrawled, painted or marked in any manner on property.

**Street Art:** Artwork that is created in a public place, typically without official permission.

**Stencil:** a form of graffiti that makes use of cutting out a design on paper, cardboard, or other media to create an image or text that is quickly produced.

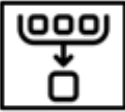
**Vandalism:** action involving deliberate destruction of or damage to public or private property.

**Irony:** expressing something by using language that normally signifies the opposite, typically for humorous or emphatic effect. Many graffiti artists use irony to speak truths.

**Sociopolitical Art:** art used to help the public understand a particular social or political issue.

**Graffiti Tag:** a graffiti artist's signature – usually a pseudonym or logo, all one colour, in a public place.

## 3. Graffiti Fonts



A **font** is the specific style of text. The design of letters, numbers and other symbols, to be used in printing or for electronic display.

**Graffiti fonts** are often exaggerated and display surreal outlines and shapes, together with vivid colours.



## 4. Colour blending



A **colour blend** in graffiti terms is where a colour smoothly moves into another colour and then another.

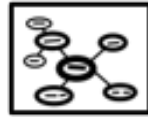


Often, graffiti lettering features two or more colour blends.

### Blending Coloured Pencils

1. Begin with first colour, fading it out slowly.
2. When a gradual change is needed slowly overlap the next colour and repeat.

## 5. A Graffiti Tag



A tag is a graffiti artist's signature – usually a pseudonym or logo, all one colour, in a public place.



*Tag by Cornbread*

Tags are one of the primary forms of graffiti, the act of writing a tag is known as tagging.

The first tags originated in Philadelphia by the young graffiti artist, **Cornbread**, who became hugely popular in New York City in the 1960s and 70s.

**Task:** Write your name or create your own graffiti 'tag' in your books. See some examples below.



## 6. Free Hand Graffiti



Although many Graffiti artist's use stencils to create work quickly, many free hand their designs.

**Mr Doodle** a UK born graffiti artist, famous for his free doodle-pattern style. His work features clusters of characters, objects and patterns that grow and multiply in public spaces.



*Graffiti by Mr Doodle*

**Keith Haring** an American born graffiti artist and activist, is known for his iconic work, featuring simplistic shapes and figures, with bold black outlines. His work explores power, love and individuality.



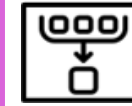
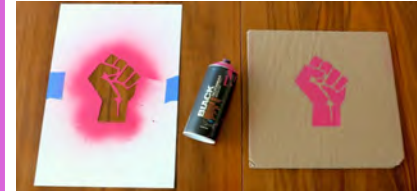
*'Tuttomondo' by Kieth Haring*

## 7. Stencil Graffiti



Once the design is cut out of the selected medium, the image is transferred to a surface through the use of spray paint or roll-on paint.

Banksy's piece '**Gansta Rat**' was made with stencil and spray paint.



## 8. Positive & Negative Space

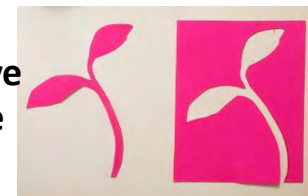
Both positive and negative space can be used when stenciling.



**Positive space** is the area in a work of art that are the subjects, or areas of interest (the shape you cut out).

**Negative space** is the area left around the subjects.

**Positive space**



**Negative space**

## 9. Power of Graffiti



Graffiti is a way of **communicating** and expressing ideas and thoughts.

It can be an **expression of hope**, a demand for justice, and a representation of community solidarity. It allows those who need their voices to be heard.



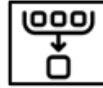
'Dove of Peace', Banksy, 2005



'The Flower Thrower', Banksy, 2003

## 10. Graffiti & the Law

Graffiti is a form of **artistic expression** and can have positive outcomes for people, however some forms of graffiti are also illegal.



The laws on public property are very strict and anyone caught doing graffiti can be arrested and prosecuted under the **Criminal Damage Act 1971**.

Many businesses also employ graffiti artists to create imagery for promotional purposes, as it appeals to a youth culture.



## 11. Graffiti Colour Task



**Task:** Using coloured pencils, colour in these graffiti fonts. Try to blend two or more colours together, using the knowledge from box 7.



### 1. Phases of industry

What industry or industries a country focuses on changes over time and can be shown using the **Clark Fisher model**.

The model is split into three phases:

1. The pre-industrial phase – a country is mostly focused on the primary sector and the main activity is likely to be agriculture.
2. The industrial phase – secondary and tertiary sectors increase in importance. Primary sector activities start to decline. For example, in cities such as Manchester and later Liège in Belgium during the Industrial revolution.
3. The post-industrial phase – manufacturing starts to decline as the tertiary sector becomes the most important sector and quaternary industries start to develop. Only a very small percentage of the overall population will now be involved in primary industries.



### 2. Types of industry

Industry is any economic activity which creates jobs and generates income. There are four main types of industry:

**Primary industry** involves the production or extraction of raw minerals

**Secondary industry** is the manufacturing of goods. For example, the northwest of England used to have a thriving textile industry making cloth from cotton, China has a thriving manufacturing sector producing electronics, and Germany is one of the largest manufacturer of cars.

**Tertiary industry** involves providing services to people, for example a cleaner or a doctor.

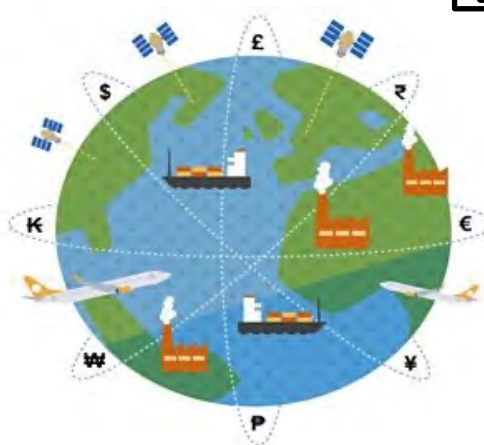
**Quaternary industry** is the newest sector and focuses on knowledge-based industries or high-tech industries such as ICT (information and communication technologies) and research and development.



### 3. Globalisation

Globalisation is the process by which countries and people are becoming more connected. Improvements in transport and communications enable people, goods, capital and information to move between countries.

As a result of globalisation, some corporations, or large companies, now operate in more than one country. These corporations are called (transnational corporations)



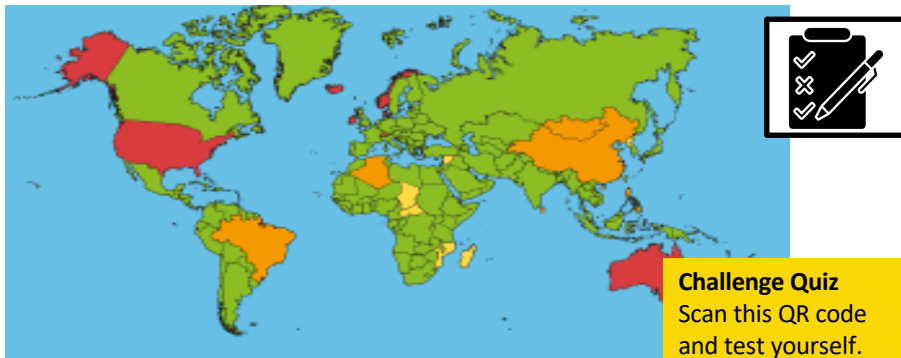
**Challenge**  
Scan these QR codes and watch these clips.






#### 4. Transnational corporations

TNCs have traditionally had their headquarters in the *Triad* which is made up of the *HICs* (high income countries) in Europe as well as the United States and Japan. Companies in the Triad have had an advantage as many of these countries were once *colonial powers*. Colonial powers grew richer through *exploiting the resources* of their colonies. This wealth has enabled large companies to grow.

More recently, some MIC countries, such as China, have grown wealthier over time. These countries have become known as *NEEs* (newly emerging economies). This has led to larger companies and TNCs developing in these countries too. TNCs often manufacture products in LICs or MICs where *wages* are lower. This allows them to make more *profit* from the *products* that they sell, but it can mean that workers in LICs are *exploited*. The relocation of factories has led to *industrialisation* in many LICs and MICs and *deindustrialisation* in many HICs.



-  Low income countries
-  Middle income countries
-  High income countries

**Challenge Quiz**  
Scan this QR code and test yourself.



#### 5. Impacts of globalisation

Globalisation has had both positive and negative impacts. Remember: not all the impacts listed here are equal. Some may be more serious than others.

##### Employment and resources

- Job opportunities have led to economic growth in LICs and NEEs.
- Deindustrialization in HICs has led to job losses.
- There is improved access to resources as countries trade with one another.
- Some resources have been overexploited, which means they may run out.

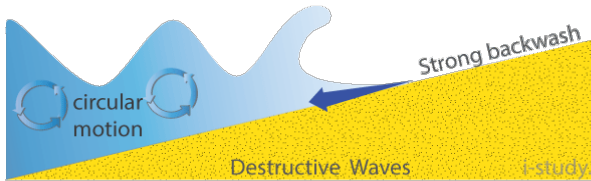


##### Relationships and trade

- Countries rely on one another and are more likely to work together.
- Manufacturing and transportation processes can lead to higher levels of pollution.
- Ideas and skills are shared between countries. This can lead to greater progress.
- Unequal flows of people or capital can lead to some countries having less power. In some cases, TNCs are more powerful than the countries they operate in.

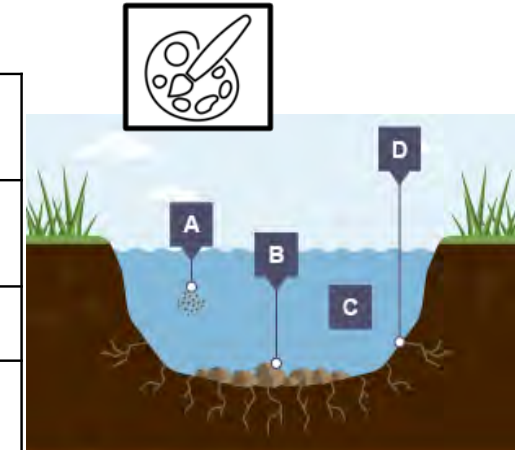


## 6. Coasts - Types of waves and erosion

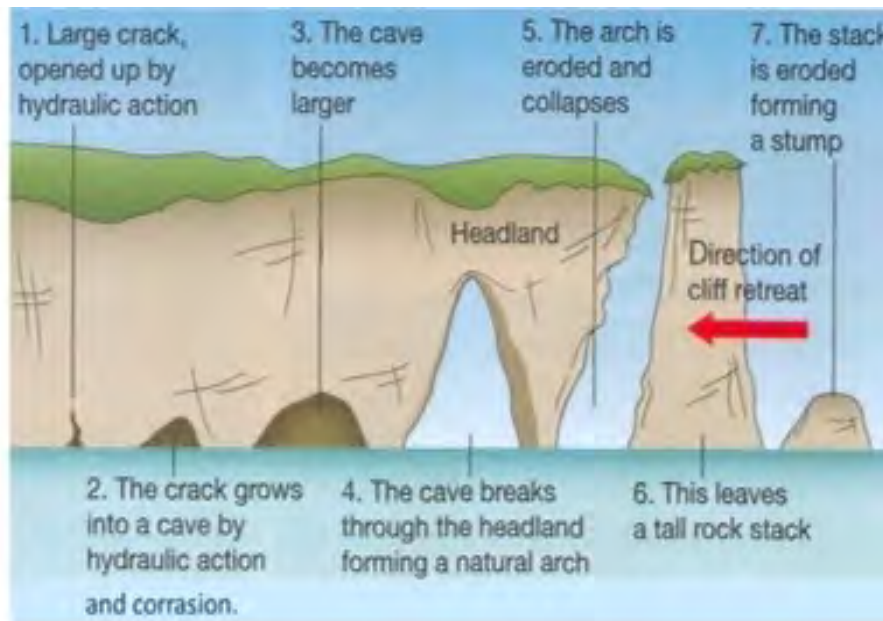


There are 4 processes of erosion:

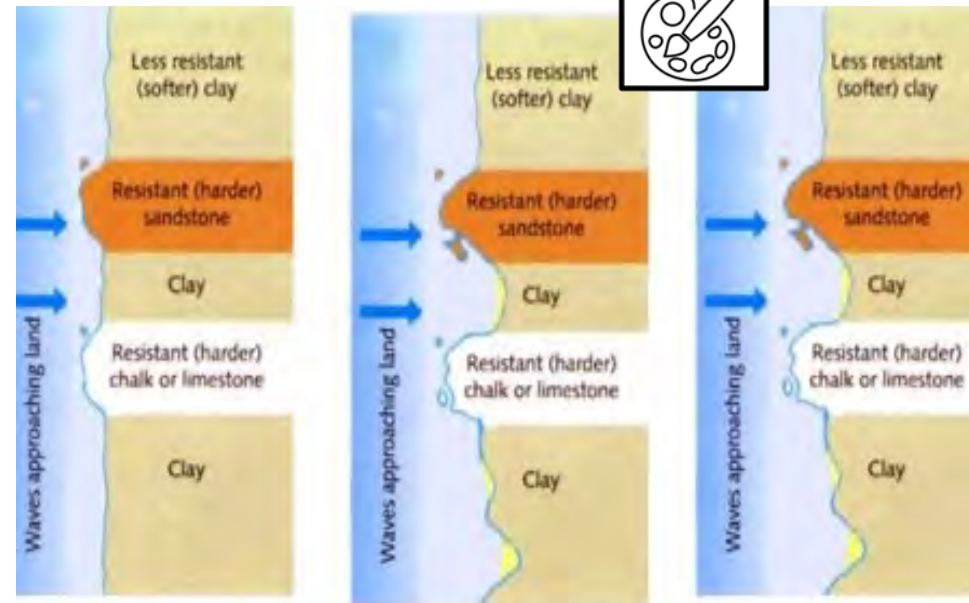
<b>D - Hydraulic action</b>	Waves force air into cracks in the rock. This force causes rocks to eventually break.
<b>B - Abrasion</b>	Sediment carried by waves wears surface of rock away almost like sandpaper
<b>C - Solution</b>	Chemicals in water dissolve certain types of rock such as limestone.
<b>A - Attrition</b>	Rocks crashing into each other result in them becoming smoother and more rounded.



## 7. Formation of sea stacks



## 8. Formation of headlands and bays



Sea attacking a coastline of varying resistance will erode the weaker rock more quickly

The result is that a series of headlands form on the harder rocks.....

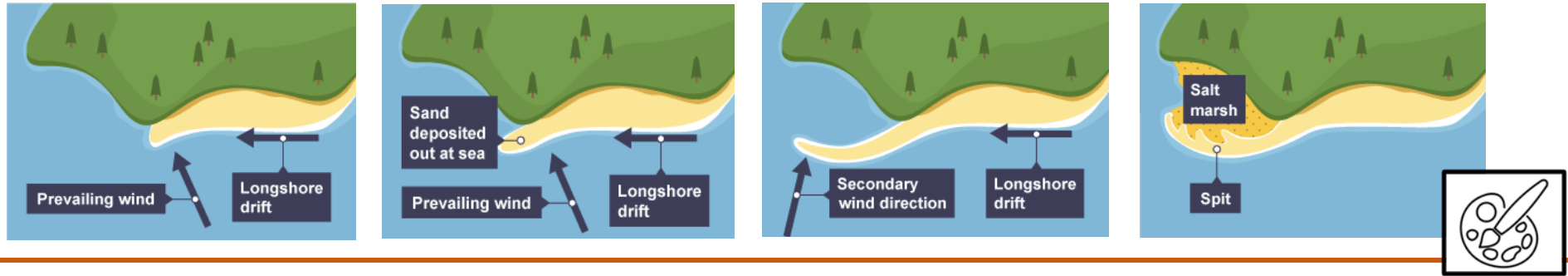
.....and sheltered bays form in the weaker rocks

## 9. Formation of Spits

The diagram shows the building of a spit by longshore drift across the mouth of a river.

Spits often have a curved or hooked end as a secondary wind and wave direction curves the end of the spit as waves strike from this second and different direction. A series of such hooks can develop over time.

The spit creates an area of calmer water, sheltered by the spit. A lagoon, salt marsh and finally dry land can develop in this sheltered area.



## 10+11. Using soft engineering

Soft engineering options use natural processes to protect the coast. Here are some examples:

### **Beach nourishment**

Sand or shingle is placed on a beach to create a higher and wider beach. This will absorb more wave energy and protect the land behind.

**Advantages** - The beach looks natural and it can help to attract more tourists.

**Disadvantages** - The new sand and shingle will wash away and so the process needs to be repeated over time.



### **Dune regeneration**

Sand dunes provide natural protection against storms and flooding. By planting in the area, sand is trapped and large dunes form, providing a barrier between the sea and the land.

**Advantages** - Sand dunes provide natural protection from the sea. It is relatively cheap to carry out planting projects.

**Disadvantages** - There is no guarantee that the sand dunes will stay in place. They may be damaged by storms or by people walking over them.



# WHAT?WHEN?

## KS3 Homework Timetable

Monday	Tuesday	Wednesday	Thursday	Friday
English	Maths	Science	D and T	Art
Music	Drama	PE	History	Geography
		RPE	French	
Your personal reading every day				

Week beginning	Box number
20 <sup>th</sup> April	1
27 <sup>th</sup> April	2
4 <sup>th</sup> May	3
11 <sup>th</sup> May	4
18 <sup>th</sup> May	5
Summer half term	
1 <sup>st</sup> June	6
8 <sup>th</sup> June	7
15 <sup>th</sup> June	8
22 <sup>nd</sup> June	9
29 <sup>th</sup> June	10
6 <sup>th</sup> July	11
Activities Week	
Summer Holidays begin	

## Sparx Maths Homework

Aim to complete 30-45 minutes on Sparx each week. You could do this during the extra slots on Mondays and Fridays.



For Computing only, complete your keyword definitions on the ePortfolio as per your teacher's direction.

