



# PENISTONE GRAMMAR SCHOOL

Achieving Excellence through a Values Driven Education

Aim High

Be Determined

Be Brave

Be Supportive

Be Proud

# ESSENTIAL KNOWLEDGE SHEETS CURRICULUM BOOK

YEAR 8 BOOK 1



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To make the most of your essential knowledge book, you must:

1. Bring it to school every day and have it available on your desk in every lesson.
2. Keep all your essential knowledge sheet books as they provide you with the essential knowledge for each topic and subject you learn.
3. Take pride in your book, keeping it in excellent condition.
4. Write your name on the front of the book.
5. Be aware that if you lose or damage your book it is your responsibility to replace it at a cost of £4.

### What is an Essential Knowledge Book?

An effective learning tool to help you retain, revise and retrieve the essential knowledge of a topic within your subjects. The Essential Knowledge Sheet for each topic is usually no more than two sides of information that includes core facts, concepts, diagrams, vocabulary and quotations that you need to know and understand to master a topic.

### Why Essential Knowledge Sheets?

They provide you, your teachers and parents/carers with an overview of a topic by having the core knowledge, diagrams, explanations and key terms in one place. They allow you to routinely refer to and 'check off' what you know and understand as you are taught a topic.

Research evidence shows that the regular retrieval of knowledge helps us to know more, remember more and do more. This then allows you to store knowledge in, and recall it from your long-term memory, freeing up space in your working memory to take in new knowledge and information. The better you know the essential knowledge of a subject, the better you will be able apply to it to problems, questions, assessments, home learning, and further increase your independence within lessons and at home.

### How to use your Essential Knowledge Sheets

The most powerful use of an Essential Knowledge Sheet is as a self-quizzing tool. For example:

#### 1. READ → COVER → WRITE → CHECK → QUIZ

Read a chunk of information from your essential knowledge sheet (more than once is most effective), Cover it up, Write what you remember, Check to see if you have remembered the information correctly. If you haven't remembered it all correctly then re-do the process. When you are confident in your retention of the knowledge, quiz yourself (or ask a friend or family member) to see if you can apply the knowledge learned to questions, problems and practice tasks.

#### 2. Mind Maps

Mind mapping is a diagram to visually represent information. It is a graphic technique you can use to translate what you know of a topic/concept into a visual picture. Use knowledge learned from your Essential Knowledge Sheet to create mind maps. Make sure to use colours and images and keep writing to a minimum. This technique embeds essential knowledge into your long-term memory.

#### 3. Flash Cards

Use your Essential Knowledge Sheets to create flash cards. Write the question/key term on one side and the answer/definition on the other. Most importantly you need to quiz yourself on each question/key term until you can remember them all correctly.

#### 4. Revision Clock

Start by drawing a basic clock face. Break your Essential Knowledge Sheet into 12 sub-categories. Make notes from your Essential Knowledge Sheet in each section of the revision clock. Your brain will retain more information if you include images as well as key words and definitions. Read and Revise each section for 5 minutes, turn the clock over and then try to write out as much information as you can from one of the 12 sections on the revision clock. Repeat the process until you are confident in your learning of the essential knowledge on the revision clock.

## Key Words

## Definition

### Composition

Composition is the arrangement or placement of visual elements in a piece of artwork. You might consider this exactly the same as the 'layout' of a piece. Composition is a big part of what makes a piece eye-catching and dynamic, or calm and soothing, or disorienting.

### Layout

Layout refers to the arrangement of elements on a page usually referring to specific placement of image, text and style. Proper layout enhances the look of the particular object and the objects as a whole piece of design in order to create a strong composition.

### Proportion

Proportion refers to the dimensions of a composition and relationships between height, width and depth. How proportion is used will affect how realistic or stylised something seems. Proportion also describes how the sizes of different parts of a piece of art or design relate to each other.

### Line

A line is an identifiable path created by a point moving in space. It is one-dimensional and can vary in width, direction, and length. Lines often define the edges of a form. Lines can be horizontal, vertical, or diagonal, straight or curved, thick or thin.

### Tone

Tone refers to the lightness or darkness of the colours used. Artists use light and dark colours to create a mood or emotion. In art, the term 'tone' describes the quality of colour. It also has to do with whether a colour is perceived as warm or cold, bright or dull, light or dark.

### Tonal Range

Tonal Range defines how light or dark a given colour or hue can be. Tonal range is best understood when visualised as a scale or gradient, from dark to light. The more tonal variants in an image, the lower the contrast. When shades of similar value are used together, they also create a low contrast image.

### Shading

Shading is used traditionally in drawing for depicting a range of darkness by applying media more densely or with a darker shade for darker areas, and less densely or with a lighter shade for lighter areas. Light patterns, such as objects having light and shaded areas, help when creating the illusion of depth on paper.

### Cross Hatching

Cross Hatching is a method of line drawing that shows light and shadows by drawing two or more sets of lines that cross one another. Hatching and cross hatching are linear drawing techniques that can be used to create texture, value, and the illusion of form and light. Hatching and cross hatching are often used together.

### Elements

Elements of art are stylistic features that are included within an art piece to help the artist communicate. The seven most common elements include line, shape, texture, form, space, colour and value, with the additions of mark making, and materiality.

### Perspective

Artists use perspective to represent three-dimensional objects on a two-dimensional surface (a piece of paper or canvas) in a way that looks natural and realistic. Perspective can create an illusion of space and depth on a flat surface (or the picture plane.)

## Examples



Composition



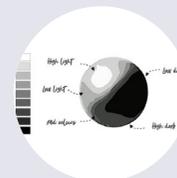
Layout



Proportion



Line



Tone



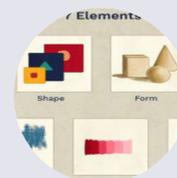
Tonal Range



Shading



Cross Hatching



Elements



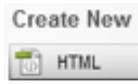
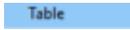
Perspective

## 8.1- Essential Knowledge Sheet

During the project you will be introduced to new terminology you may not understand straight away. The purpose of the Essential Knowledge Sheet is to allow you to clarify any terminology throughout the project.

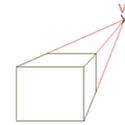
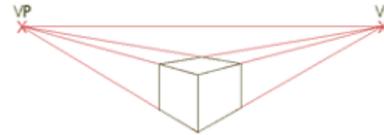
	Key term	Definition
2B	Mind Map	A way of exploring or generating ideas using text.
2B	Mood Board	A way of exploring or generating ideas using visuals.
2B	Assets	An element of a digital graphic, which is combined with other assets to create a product.
3A	Client Requirements	This is the information given by the client about how they would want their product to be presented.
3A	Audience	Who the product is aimed at. This can impact on the presentation of the final product.
3A	Design	A plan/drawing produced to show the look/function of the product.
3A	Layout	The ways in which the assets/parts are laid out.
4B	Branding	The promotion of a particular product.
6B	Rollover	The feedback on a button/image in which the appearance changes when the mouse rolls over it.
7A	Visualisation Diagram	A diagram drawn using shapes and annotation to show the design intentions of a product.
8B	Master Template	A template that is repeatedly used to keep consistency throughout a product, for example; a website.
9A	Hyperlink	This is applied to an image or text, when clicked will move the user between web pages.
10B	User Form	A form which can be completed with text and submitted once complete.

### Tools you will master during 8.1:

Adobe Fireworks		Adobe Dreamweaver	
	Hold the square down to access more shapes including circles and arrows.		When you open Dreamweaver, ALWAYS select HTML on a new document.
	The T tools allows you add text.		The Images button lets you add an image placeholder and create a rollover image/button.
	This tool allows you to add effects including a glow.		The Hyperlink button allows you to add links to text and images.
	The outline tool allows you to add a border to text to help it stand out.		The Template button will allow you to create a template page but also manage your site.
	The magic wand lets you select colours and remove them by pressing delete. Great for removing backgrounds.		A table is a great tool to organise your presentation of your page, this is because it can be hidden.

**Key Terms****Definition**

<b>Vanishing Point</b>	Point(s) at which all lines in a perspective drawing appear to meet.
<b>Horizon</b>	The line on which the vanishing point(s) sit.
<b>Logging</b>	The harvesting of trees for paper production.
<b>Deforestation</b>	The removal of large areas of forest.
<b>Pulp</b>	Wood fibre reduced chemically or mechanically to pulp used in the manufacture of paper.
<b>Raymond Loewy</b>	'The father of industrial design'- Loewy is famous for designing logos such for Shell and BP. He is also famous for 'streamlining' the design of vehicles.
<b>Typeface</b>	A set of fonts with shared characteristics.
<b>Serif</b>	A typeface with 'feet', or 'flicks' at the end of the letters stems. <b>SERIF</b>
<b>Sans Serif</b>	This typeface has no feet or flicks (just like the letters you are reading now!). <b>SANS SERIF</b>
<b>Script</b>	This typeface will have a handwritten look - think ' <i>Coca Cola</i> '.
<b>Decorative</b>	This typeface will be designed to have a theme incorporated into it. <b>DECORATIVE</b>
<b>Wordmark Logo</b>	A logo consisting of only lettering.
<b>Symbolic Logo</b>	A logo consisting of only images.
<b>Sublimation</b>	The process of transferring a printed image onto an item. The process uses heat to evaporate ink which condenses when it hits the surface of the object to be printed onto.
<b>Heat Transfer Paper</b>	Special paper used in the sublimation process. Dye particles sit on the top surface of the paper, the water from the dye is absorbed into the second layer of the paper.
<b>Polymer Coating</b>	A polymer coating (plastic) that absorbs the evaporated ink during the sublimation process.

**One Point Perspective****Two Point Perspective****Logos designed by Raymond Loewy****Die Cutter****Laser Cutter****Heat Press**

## Mechanisms

Mechanical devices change an input force and movement into a desired output force and movement. They can change the magnitude and direction of force.

**Input** – Force and movement are input into a mechanism.

**Mechanism** – The mechanism converts or transmits the input force and movement into an output force and movement.

**Output** – Force and movement are output to satisfy a need.

Mechanisms can be used to make a force bigger or smaller.

## Movement

Mechanical devices can be used to produce different types of movement.



**Linear:** Movement in a straight line in one direction



**Rotary:** Rotational movement on or around an axis



**Reciprocating:** Movement in a straight line in two directions



**Oscillating:** Movement back and forth along a curved path

## Cams & Followers

Cam mechanisms are used to convert rotary motion into reciprocal motion. Mechanisms consist of a cam and a follower.

A cam is a specially shaped piece of material attached to a rotating shaft.

A rod known as a **follower** rests on the **cam** and rises and falls as the cam rotates, creating a reciprocating motion.

Depending on the shape of the cam, the follower will either rise, fall or dwell (remain stationary).

A cam mechanism will often also include:

A **slide** to prevent the follower from slipping

A **crank** (handle) to manually rotate the camshaft

A **wheel follower** to reduce friction between the cam and follower

## Types of Cam

**Eccentric (Circular)** – The pivot (rotating shaft) is positioned off-centre, causing the follower to steadily rise and fall.

**Peak-Shaped** – The follower dwells (remains stationary for half a turn). It then rises as the point approaches for a quarter of a turn before falling for the last quarter rotation.

**Snail** – The follower gradually rises and then suddenly drops. It can only rotate in one direction.

**Heart-Shaped (Constant Velocity)** – The follower rises and falls with no dwell period. It is said to have constant velocity.

## Standard Components – Screws

Wood screws are used to temporarily join two pieces of wood together. They are available in different lengths and diameters and are usually made from brass or steel. They also have different shaped heads for different applications.

## Natural Timbers

Wood is an organic material that is the main substance in the trunk and branches of a tree. Wood prepared for use in building and carpentry is known as timber.

**Hardwoods** - Most hardwoods come from broad-leaved, deciduous trees (trees that shed their leaves annually). They are generally slow growing and are therefore usually more scarce and expensive than softwoods.

### Beech

Hard, tough, strong and finishes well  
Warps easily - close, straight grain - expensive - pinkish-brown

**Uses:** - flooring - furniture - tool handles

### Oak

Very strong, heavy, durable and hard  
Grain varies but is generally open - over 400 species  
Light brown

**Uses:** - flooring - furniture - barrels

### Mahogany

Hard, strong, easy to work and resistant to rot - fine, straight  
Grain - some species are protected - reddish-brown

**Uses:** - flooring - fine furniture - instruments

### Balsa

Very light and soft, but has great strength-to-weight ratio -  
straight grain with distinct velvety feel - pale cream to white

**Uses:** - surfboards - construction and aircraft models

Other hardwoods include ash, birch, maple and willow.

*Remember: Not all hardwoods are hard, and not all softwoods are soft.*

**Softwoods** come from coniferous trees that have long needle-like leaves and are generally found in cold climates. They are quick growing and can therefore be replaced quicker than hardwoods.

### Cedar

Contains a chemical that makes it durable and resistant to weather - short, notable grain - light cream to reddish-brown

**Uses:** - outdoor furniture - cupboards - fencing

### Scots Pine

Easy to work with, reasonably strong and lightweight - straight grain with lots of knots - pale to reddish-brown

**Uses:** - furniture - construction - door frames

### Larch

Tough and strong, but easy to work - resistant to rot, but prone to splitting - yellow to reddish-brown

**Uses:** - decking - cladding - fencing

**Spruce** - good strength-to-weight ratio - can contain small knots - creamy white to pinkish-brown

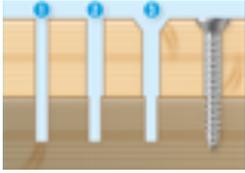
**Uses:** - construction - stringed musical instruments

Other softwoods include Douglas fir, yew and western hemlock.

## Timbers: Stock Forms, Types & Sizes

Timber is available in a range of stock forms and sizes to suit different purposes.

### When joining two pieces of wood together using wood screws...



1: Drill a pilot hole through both pieces of wood. This hole should be slightly narrower than the thread of the screw.

2: Drill a clearance hole through the top piece of wood. This hole should be slightly larger than the shank or thread of the screw.

3: If using a countersunk screw, a countersunk hole should be drilled to the depth of the screw.

Self-drilling screws that negate the need for pilot and clearance holes are also available. They have a sharp end (like a drill bit) and a tapered thread to create a hole.

## Planks, Boards & Strips

Timber planks, boards and strips are available in a range of stock sizes, with set lengths, widths and thicknesses. Measurements are usually listed as **length x width x thickness (mm)**.

Timber is available rough-cut and planed. Planed timber is smoother than rough-cut timber, but it is also more expensive.

Planing removes around 2-3mm of material from each side of the timber, so planed timber is slightly smaller than rough-cut timber.

### Planed Timber



### Rough-cut Timber



## One-Off Production



In one-off production, bespoke products are made to meet specific customer requirements. Every product is unique.

### Key Points:

- One-off production is often labour intensive.
- It usually involves highly skilled workers who command relatively high wages.
- Each item is individually made so production can be time-consuming and costly. However, the finished product is usually of a high quality.

**Examples: bespoke clothing, furniture and jewellery.**

A prototype is an early, working version of a product or system that is usually made using one-off production. It is used to test different aspects of a design and find ways to improve it.

## Mass Production



In mass (or flow) production, the production process is broken down into stages, with different tasks being performed as the products move along the assembly line.

### Key Points:

- Mass production is used to produce large quantities of identical products quickly.
- Productivity is high, so unit cost of production is low. This allows the business to benefit from economies of scale and offer competitive prices.
- Workers or machines perform a simple dedicated task at each stage of the production process so little skilled labour is required.

**Examples: newspapers, drinks bottles and cars.**

## Batch Production



In batch production, a set number of products are passed through the production process together, one stage at a time.

### Key Points:

- Batch production is useful when making small quantities of a product or variations of similar products.
- Machines can be programmed to carry out specific tasks, and the use of templates, jigs and moulds ensures that the products are identical.
- Machinery often has to be stopped and reconfigured for each batch. This is known as downtime. It can be inefficient, especially when lots of batches are required.
- Materials can be purchased in large quantities, enabling the business to benefit from economies of scale (lower unit costs when larger quantities are purchased).

**Examples: a bakery making different types of bread or cake.**

## Templates, Jigs and Patterns

Templates, jigs and patterns are tools that help to improve the accuracy and consistency of repetitive designs. They are ideal for batch production because they can be used over and over again.

### Patterns

Patterns are templates that can be used in textiles or casting.

### Templates

Templates are shapes that can be drawn or cut around to produce a specific shape. Using a template ensures that all designs are identical, and it is far quicker than drawing a design to scale every time.

### Textiles

Patterns are used to trace outlines onto textiles so that they can be cut out and sewn together. Tracing can be done by hand or by using CAD/CAM technology.

## Blended and Mixed Fibres

**Blended fabrics** are made by spinning two or more types of fibre together to produce a yarn (thread). Fabrics are blended to combine different fibres with desirable properties.

**Polycotton** (cotton and polyester) is more durable, cheaper and stronger than cotton alone and is less likely to crease or shrink. However, it is not as breathable and is highly flammable.

## Woven Fabrics

**Weft**      **Width**      **Warp**      **Length**



The plain weave is the most basic and cheapest weave to produce. It is made by passing the weft yarn over and under warp yarns. It is strong, hard-wearing and holds its shape well. Its pattern is identical on both sides of the fabric.

## Non-Woven Fabrics

Non-woven fabrics are made directly from fibres that have not been spun into yarns.

## Bonded Fabric

Bonded fabric is made from webs of fibres that are bonded together with glue, heat, stitches or needle-punching. Fabrics do not fray but are weak. Uses: disposable cloths, tea bags, clothing

## Felted Fabric

Felt is made from matting wool fibres together by using moisture, heat and pressure. It is inelastic and pulls apart easily. Uses: jewellery, hats, crafts, carpet underlay

## Knitted Fabrics

**Weft Knitting:** Weft-knit fabric is made by hand or machine using a yarn that forms interlocking loops across the width of the fabric. It is stretchy and warm. However, it can lose its shape and unravel easily.

**Warp Knitting:** Warp-knit fabric is made by machine using yarn that forms vertical interlocking loops. It is less stretchy than weft-knitted fabric, but it retains its shape better and is less likely to unravel.

- Targeted at the correct age range and ability**
- Who will purchase the product?**
- Cost of the materials and overall product**
- Skills developed – learn numbers, colours, etc.**
- What considerations are required to make a good educational toy?**
- Size, shape and weight are OK for the age range and safe?**
- Tactile and sensory development – different textures and sounds**
- Lifespan of product**
- Fillings inside the toy to add different textures**
- Safety – all safe toys that are tested carry the Lion mark logo**
- Timescale to complete the product**

## Essential Knowledge in Drama Y8

Actors and characters

What are contemporary scripts about?

How do actors develop our improvisation and imagination?

### Rehearsal Skills

Context  
Actions  
Games  
Motivation  
Exploration

How can actors explore and show feelings and emotions?

Engaging the Audience

Relaxation and focus

**Stanislavski:**  
Actor Training  
Truth and believability  
Naturalism

### Performance skills

Duologues  
Literacy  
Scripts  
Actions and reactions

**Devising** and improvising techniques

### Non naturalistic theatre

Practitioners  
Chair duet  
Working from a stimulus

Beginnings and endings

Safe Stage Combat

Creating the world of Othello: jealousy, love and lies

Choreography and the fight scene

Creating movement for meaning

Developing characters in conflict situations

Entertaining and challenging the audience



<b>Truth and Contemporary Drama: Essential Vocabulary</b>	
<b>Stanislavski and Naturalism</b>	Study of Stanislavski's legacy of truthful acting and actor training (The System)
<b>Confidence and Self Awareness</b>	Self knowledge and ability to present and take part well
<b>Improvising</b>	Drama created by performers through improvising, experimenting and rehearsing
<b>Imagination</b>	Ability to be creative, intelligent and make things up
<b>Contemporary Theatre</b>	Modern theatre
<b>Motivation</b>	The reason why a character acts or speaks
<b>Exploration</b>	Finding out through play and activities
<b>Dynamics</b>	Using your voice and body expressively for deliberate effect
<b>Empathy</b>	To understand and feel another person's situation and put yourself in their shoes without judgement
<b>Truth and Believability</b>	To be authentic, informed and truthful in your performance
<b>Showing Complex Emotion</b>	To portray a range of complicated emotions truthfully
<b>Rehearsal Games and Skills</b>	Games that help actors develop skills and confidence
<b>Context</b>	The circumstances around a moment or story
<b>What's My Action</b>	Exercise to help actors explore their character
<b>Free Body</b>	Exercise to help actors explore relaxation and imagination
<b>Success With Script</b>	Ways to work effectively with a playscript

<b>Devising and Stage Combat Essential Vocabulary</b>	
<b>Devising from a Stimulus</b>	Making up drama from a given starting point
<b>Non-Naturalistic Theatre</b>	Theatre that breaks the fourth wall and uses multi-role, chorus, and other techniques
<b>Theatre Practitioners</b>	Specialists who have done significant work in drama and theatre
<b>Beginnings</b>	How to make the start of a piece effective
<b>Endings</b>	How to make the endings effective
<b>Safe Stage Combat</b>	Creating fights and physical conflict on stage
<b>Character Development</b>	Ways to develop a role more fully
<b>Choreography</b>	Creating movement sequences with meaning
<b>Verbal Conflict</b>	Conflict in dialogue- characters argue
<b>Tension States</b>	The level of energy and tension in the body
<b>Spatial Awareness</b>	Knowing your stage and your cast's positions
<b>Victim and Aggressor</b>	One attacked or attacking



## Descriptive Techniques:

**Simile** – comparing something to something else using 'like' or 'as'

**Metaphor** – saying something IS something else

**Alliteration** – words begin with the same letter

**ONE of the 5 senses** – I can smell, see, hear, touch/feel, taste

**Personification** – giving non-human objects human characteristics

**Imagery** – where the writer's words help to give the reader a picture in their head

**Adjective** – describing word

**Adverb** – describes the 'doing' word

## Useful Websites:

[thejohnfox.com/2015/07/short-sentences](http://thejohnfox.com/2015/07/short-sentences)

[www.englishhints.com/compound-sentences.html](http://www.englishhints.com/compound-sentences.html)

[www.grammar-monster.com/glossary/complex\\_sentence.htm](http://www.grammar-monster.com/glossary/complex_sentence.htm)

## Introduction:

### Describe an overview of the setting -

Atmosphere – oppressive, eerie, silent

Briefly describe the sky, buildings, floor

Try to convey the mood of the image – sinister

### Focus in on key areas -

Describe the buildings

Describe the burnt-out car

Describe the burning fire

Describe the man stood on the large structure

### Narrative journey -

Set the scene by conveying the dystopian setting and suggest something bad has happened to cause the destruction.

## Useful Verb Synonyms

**Argue** - quarrel/row/squabble/bicker/fall out/fight/disagree/dispute/have words/tiff

**Cried** - sobbed/wept/blubbed/bawled/howled/wailed/moaned/snivelled/whinged/whimpered

**Fall** - trip/stumble/slip/tumble/lose/balance/drop/nose/dive/plummet/plunge/collapse

**Jump** - leap/bound/spring/hurdle/vault/flinch/fright/jerk/start/recoil

**Hit** - slap/spank/smack/whack/strike/wallop/punch/thump/belt/clout/beat/batter/pound/pummel/thrash/clobber/assault/attack/bash/crash

**laugh** - smile/grin/beam/smirk/giggle/chuckle/titter/snigger/cackle/guffaw

**Look** - watch/observe/stare/gaze/gawp/peer/peep/peek/glimpse/squint

**Ran** - hurried/raced/sprinted/dashed/darted/bolted/scarpered/scampered/scattered/fled

**Said** - asked/enquired/answered/replied/expained/described/moaned/groaned/complained/whined/begged/pleaded/retorted/snapped/whispered/murmured/mutter/grumbled

**Shout** - call/cry out/scream/yell/exclaim/holler/roar/shriek/bawl/bellow

**Smell** - stink/pong/whiff/stench/niff/reek/hum/odour/scent/fragrance

**Steal** - take/pinch/whip/pocket/lift/make off with/thieve/rob/shoplift/burgle

**Talk** - conversation/discussion/debate/gossip/chat/speak/chinwag/natter/jabber/rattle on/rant/babble/prattle

**Try** - attempt/struggle/strive/aim/seek/endeavour/have a shot/have a stab/have a crack/make an effort

**Walk** - stroll/saunter/shuffle/hobble/toddle/totter/hike/march/stride/tread/tiptoe/creep/sneak/skulk/strut/swagger/trudge/trek/stagger/stumble

**Want** - feel like/would like/wish for/yearn for/hanker after/fancy/crave/desire/need/require

**Went** - left/departed/set-off/started out/head-out/hit the road/took off/travelled/journeyed/visited

- The sinister man is the protagonist. He has a dog that rejoins him towards the end of the narrative, before they go off together.
- Hint that there is hope for the man through his intention to leave this place and head towards somewhere that may have others. He has heard a jumbled message over an old walkie-talkie, maybe calling him towards another town.
- As he heads off there is a distant rumble of thunder. Suddenly it begins to pour down as he limps away with his dog at his side. In the distance there is a slither of sunlight trying to pierce through the heavy sky - suggests there's hope.

## Spag

### Short Sentences

Used for impact, the short sentence isn't necessarily simple. There is no minimum word requirement – it just has oomph! Remember, you can use one word too.

### Compound Sentences

A compound sentence is a sentence that has at least two independent clauses joined by a comma, semicolon or conjunction. An independent clause is a clause that has a subject and verb and forms a complete thought. An example of a compound sentence is, 'This house is too expensive, and that house is too small.'

### Complex Sentences

A complex sentence is a sentence with an independent clause and a dependent clause. It is one of the four main types of sentence structures. In a complex sentence, the independent clause shares the main information, and the dependent clause(s) provide details. Complex sentences let us share lots of information with just one sentence.

As far as the eye can see there are silhouettes of huge twisted metal structures; they tower into the murky sky like giants. The floor is littered with debris – bits and pieces of cars, bikes, people. Most of the windows have been smashed in, probably from when the troubles began... when there was widespread looting. The atmosphere is oppressive, like the heavy grey sky; it creeps into wheezing lungs... every breath an effort in this opaque backdrop. Far away in the distance a dog is barking, over and over, the hunger in its voice is evident; it probably hasn't eaten more than a few scavenged scraps in weeks.

Along the street, houses are huddled together, their frontages no longer welcoming. Though most of the windows are now empty voids, there is the odd frame clinging onto tatters of fabrics that were once richly coloured and opulent.

## How to...

### Step by step:

- Annotate the image with ideas. Draw 3 or 4 boxes within the image that you can 'zoom' in on.
- Create a clear and succinct plan that helps you decide where your narrative is going – it has to have SOMETHING happen to be engaging.
- Try to incorporate some example sentences that use a range of devices.
- Once you are happy with your plan, write your narrative.

### Remember...

You can deviate from the plan as long as the ideas are similar. Start in the middle of the action and avoid trying to write a full story!

Show what is happening rather than telling!

They flutter softly in the early evening breeze drawing the eye inwards to the shadows that slowly merge into familiar shapes: table, upturned chair, portrait, sofa.

Partly mounted on the pavement adjoining the houses is the shell of a burnt-out car. In places the metal has warped giving it a grotesque appearance. Scattered across the road is an array of blackened blankets and bags, as well as the remains of a filthy child's seat. The partly charred cover has splashes of blood on it, they trail a path between the faded dinosaurs and volcanoes.

Listening intently, there is a dark figure standing on a large wooden box. Its head, partly hidden by a tattered hood, is cocked over to the left. A sudden flicker of a nearby street light briefly illuminates the figure, highlighting an unruly beard. In his left hand he clutches a large bat, the splintered wood battered, and blood spattered.

## Context

- John Steinbeck was born in Salinas, California in 1902. Although his family was wealthy, he was interested in the lives of the farm labourers and spent time working with them. He used his experiences as material for his writing.
- On October 29 1929, millions of dollars were wiped out in the Wall Street Crash. It led to the people losing their life savings and a third of America's population became unemployed.
- A series of droughts in southern mid-western states like Kansas, Oklahoma and Texas led to failed harvests and dried-up land. Farmers were forced to move off their land: they could not repay the bank- loans which had helped buy the farms and had to sell what they owned to pay their debts.
- Racism/sexism were common, especially in Southern states due to economic climate, & history of slavery.

Characters	
<b>George</b>	Frustrated, devoted, a dreamer
<b>Lennie</b>	Childlike, unassuming, physically powerful
<b>Candy</b>	Unloved, an outcast, aging
<b>Curley</b>	Insecure, unmerciful, jealous
<b>Curley's wife</b>	A seductive temptress, objectified, lonely, nameless
<b>Crooks</b>	Cynical, proud, isolated
<b>Slim</b>	Compassionate, wise, respected
<b>Carlson</b>	Heartless, insensitive

Literary techniques		Examples
<b>Metaphor</b>	A figure of speech, which is not literal.	My aunt is a diamond.
<b>Animal imagery</b>	Whereby animal attributes are imposed upon non-animal objects and humans.	"He walked heavily, dragging his feet a little, like a bear drags his paws."
<b>Foreshadowing</b>	To give an indication of what is to come.	We get a hint of the final death through the killing of the mouse and puppy.
<b>Symbolism</b>	The use of symbols to represent ideas or qualities.	Lennie's puppy represents the victory of the strong over the weak. Lennie kills the puppy as he fails to recognise his own strength.

## 4 Cs

Food hygiene is necessary in order to make food which is safe to eat. This involves more than just being clean. A simple way to remember all the important areas where safety could be an issue are the **4 Cs**:

- **Cooking**
- **Cleaning**
- **Chilling**
- **Cross Contamination**



## 4 Steps to food safety



Nutrient	Food Examples	Main Function in Body
<b>Macronutrients – We need these in large amounts.</b>		
<b>Starchy Carbohydrates</b>	Cereals, bread, rice, potatoes, pasta etc.	Gives us slow release energy (wholegrain versions are higher in fibre).
<b>Protein</b>	Meat, fish, eggs, nuts, seeds, pulses, lentils	Growth, repair and maintenance of muscles.
<b>Fat</b>	Butter, lard, margarine, sunflower oil, olive oil, etc.	Insulated our vital organs (heart, lungs etc.) and keeps us warm

[www.foodafactoflife.org.uk](http://www.foodafactoflife.org.uk)  
[www.bbc.com/food/techniques](http://www.bbc.com/food/techniques)  
[www.ifst.org/lovefoodlovescience/resources](http://www.ifst.org/lovefoodlovescience/resources)

Key Word	Meaning
<b>Bacteria</b>	Micro-organisms with can grow and multiply on food. Some can cause food poisoning.
<b>Chilling</b>	Reducing temperature 0-4C to slow down growth of bacteria.
<b>Cooking</b>	Using different methods to kill bacteria, e.g. boiling, grilling, baking
<b>Cross contamination</b>	Transfer of bacteria from one thing to another, e.g. equipment
<b>Danger Zone</b>	Temperature between 5-63C when bacteria multiply quickly.
<b>Food Poisoning</b>	Caused by eating food infected with bacteria. Symptoms include sickness, fever and diarrhoea.
<b>Food Spoilage</b>	When bacteria causes food to decay. Food will start to smell, lose texture or flavour.
<b>Gluten</b>	Protein in wheat flour, which makes dough stretchy.
<b>High Risk Food</b>	Foods which may cause food poisoning if bacteria can multiply quickly.

## Raising Agents

**Biological:** Yeast, used in bread making.



**Mechanical:** Folding, beating, whisking, sieving, creaming, rubbing in.



**Chemical:** Bicarbonate of soda, baking powder, self-raising flour.



<b>Weather</b>	The day to day conditions of the atmosphere
<b>Climate</b>	The average weather conditions taken over a number of years.
<b>The UK's Climate</b>	The UK has a Temperate climate. This means it is mild all year with a chance of rain any time of year.
<b>Factors affecting UK Weather</b>	Explanations as to how the UK climate is affected
<b>Wind direction</b>	The UK's prevailing (dominant) wind direction is from the West/South West, coming over the Atlantic.
<b>Types of rainfall (Frontal &amp; Relief)</b>	Frontal rainfall: Warm and cold air do not mix, warm air is forced to rise, it cools, condenses and then forms clouds & rainfall. Relief rainfall: Air is forced to rise over mountains, as it rises it cools and condenses.
<b>The tilt of the earth</b>	The earth is tilted 23.5° on its axis. We are tilted towards the sun in summer and away from the sun in winter.
<b>Altitude</b>	There is a 1° drop in temperature for every 100m rise in height.
<b>Latitude</b>	Temperatures drop the further you are from the equator due to the curvature of the earth.
<b>Distance from the sea</b>	Oceans heat up and cool down much more slowly than land. Coastal locations tend to be cooler in summer and warmer in winter.
<b>Tropical Climates:</b>	
<b>Tropical Climates</b>	These are found around the Equator, between the Tropics of Capricorn and Cancer (tropical rainforests).
<b>On average 27°C all year round</b>	Rainforests are located in the tropics on and near the equator. They receive 12 hours of sunlight daily all year round.
<b>2000mm of rainfall per year</b>	Convictional rainfall occurs frequently. The sun heats the ground, the warm air rises, cools, condenses to form heavy clouds and thunderstorms.

<b>How vegetation is adapted to tropical climates:</b>	
<b>Buttress roots</b>	They can grow up to 15m high. They prop up the emergent trees to stop them from falling due to their weight.
<b>Drip tip leaves</b>	These leaves are thick and waxy. The shape channels water away from the leaf to stop it snapping and dying.
<b>Pitcher plants</b>	Are carnivorous. They have sweet tasting nectar to attract insects and small mammals. It has water in the bottom and the insects drown and then are digested.
<b>Animal adaptations to tropical climates and rainforests:</b>	
<b>Tree frog</b>	These are found around the Equator, between the Tropics of Capricorn and Cancer (tropical rainforests).
	Green so camouflages into the canopy.
<b>Flying Lemur</b>	Flaps of skin attached to arms and legs to enable it to glide from branch to branch.
	They are nocturnal which allows greater protection from predators.
<b>Capuchin Monkey Capuchin Monkey</b>	They have tails as long as their bodies (up to 50cm) which enable them to balance and climb with ease.
	They are omnivores live in the canopy along with 50% of other species meaning they have a plentiful food supply.
<b>Human uses of Tropical Rainforests:</b>	
<b>Logging</b>	The cutting down of trees for timber
<b>Hydro-Electric Power</b>	HEP is the generation of electricity from water often involving huge reservoirs and dams
<b>Mineral Mining</b>	The extraction (removal) of natural resources such as gold and aluminium
<b>Road building</b>	Building roads for transport e.g. The Trans-Amazonian Highway
<b>Agriculture</b>	Farming such as soya beans and palm oil
<b>Cattle ranching</b>	The farming of cattle for beef.
<b>Tribal homelands</b>	The Kayapo tribe live along the Xingu river in the Amazon rainforest. There are over 8,000 of them but tend to live in small villages of about a dozen (12) huts.

<b>The advantages (positives) and disadvantages (negatives) of using the rainforest:</b>	
<b>Positive</b>	Agriculture employs 15% of people in Brazil
<b>Positive</b>	Massive economic earner: \$1.5 billion from beef sales and \$1 billion from leather
<b>Positive</b>	Belo Monte Dam HEP projected to cost \$18.5billion but will save \$19 billion per year in electricity costs
<b>Positive</b>	Gold is a very expensive mineral, which can earn miners between \$20-\$30 per gram!
<b>Negative</b>	Land must be cleared (often by slash & burn) every 2 years due to the poor quality of the soil
<b>Negative</b>	Clearance of land reduces habitat space leading to species endangerment & extinction
<b>Negative</b>	Often mining is open cast (just digging a big hole in the ground) this leaves a massive scar on the landscape and nothing is able to grow.
<b>Negative</b>	Often poisonous chemicals like cyanide are used to mine. This is toxic to people, plants & animals.
<b>Using the rainforest sustainably:</b>	
<b>Sustainable</b>	Long lasting, doesn't damage the environment and benefits local people
<b>Sustainable tourism</b>	Use locally sourced materials (perhaps already confiscated deforested trees)
	Limit developments to a small size
	Use materials that blend in with surroundings
	Teach conservation and stewardship to visitors
	And employ locals



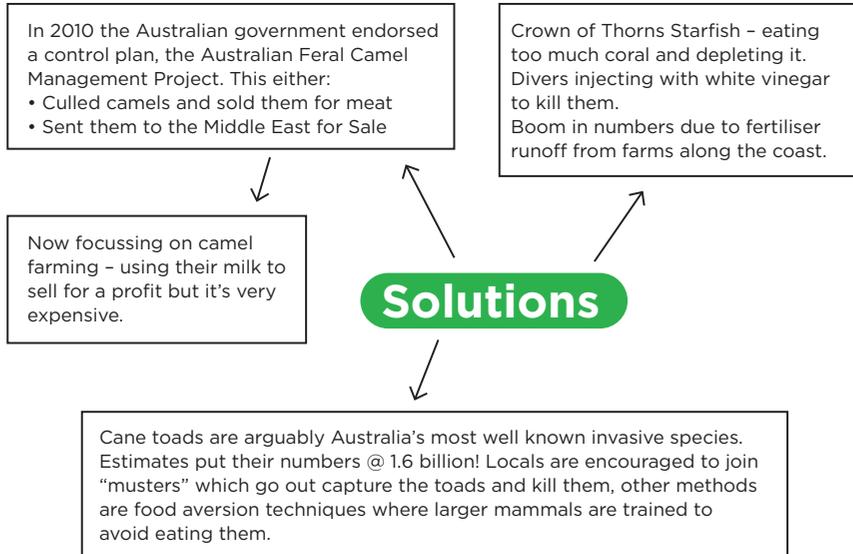


**56 Species have been introduced to Australia!**

Location	Essential Knowledge
<b>The Outback</b>	Climate change and drought are having a significant impact in the region Agriculture is over abstracting water exacerbating the problem <b>Average temperature</b> = 35°C <b>Average PPT</b> = 150mm per year <b>Flora (plants)</b> = Stuart's Desert Pea, Kangaroo Paws <b>Fauna (animals)</b> : kangaroo, salt-water crocodile & dingo
<b>The Daintree Tropical Rainforest</b>	Deforestation for farms and private residences are the main threat. Feral animals and invasive species are putting native species at risk. <b>Average temperature</b> = 26°C <b>Average precipitation</b> = 2,000mm <b>Flora (plants)</b> : Many of the plants are poisonous like the idiot fruit <b>Fauna (animals)</b> : estuarine Crocodile and musk rat
<b>Uluru</b>	Tourism on a large scale, climbing the rock, polluting the local water supplies and erosion are the main environmental problems. <b>Average temperature</b> = 35°C <b>Average precipitation</b> = 308mm annually <b>Flora (plants)</b> : there are over 416 species of native plants in Uluru-Kata Tjuta National Park alone. <b>Fauna (animals)</b> : spinifex hopping mouse, wallaby, red kangaroo.
<b>The Great Barrier Reef</b>	Climate change causing the bleaching of coral, water pollution runoff and over fishing are the main threats here. • <b>Average temperature</b> = 24-33° in summer and 14-26° in the winter • <b>Average precipitation</b> = 2010 mm • <b>Flora (plants)</b> : seaweeds and grasses • <b>Fauna (animals)</b> : dolphins, sharks, including 1400 coral reef species

Invasive	Feral	Pests
Species has a tendency to spread their range into new areas or plague their range	Defined as animals for domestic purposes (i.e. pets, recreational use – such as hunting – or beasts of burden) which have gone wild.	Animals which have a direct effect on human standard of living or the environment/ecosystems in areas where they are present, have a high rate of reproduction and are difficult to control
Cane toad – over 200 million in Northern Queensland alone. Kill native species with their bufotoxin.	Camels – introduced to help farm in the Outback and some escaped.	Rabbits – estimated 200 million living in Australia!

<b>Climate</b>	The long term weather conditions over a period of time. Temperatures and precipitation levels are a large part of this.
<b>Flora</b>	Vegetation
<b>Fauna</b>	Wildlife
<b>Adaptation</b>	How animals are modified/enhanced to ensure the survival of their species.



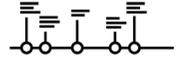
### Key dates and events you should know.

1066	William of Normandy conquered England
1215	The Magna Carta was signed. This was the first document to set out the rights and freedoms of English people.
1295	The first parliament met. This was made up of the king, the Lords (barons and bishops) and the Commons (knights and rich men).
1381	The Peasants' Revolt: A large group of peasants set off to London to meet the king and demand for higher wages and lower taxes.
1534	Henry VIII replaced the Pope as the head of the Church of England
1558-1603	Elizabeth 1's reign—Attempted invasion by Spain (The Spanish Armada)
1642-6	The English Civil War. Parliament challenged the king, Charles I, for power and control of the country.
1649	The execution of the king, Charles I.
1653-59	The rule of Oliver Cromwell; Lord protector of England
1660	The monarchy is restored, Charles II becomes king.
1819	The Peterloo Massacre; A mass meeting calling for rights for working class men led to the deaths of many by government soldiers
1832	Middle class men gained the vote through the Great Reform Act
1918	The end of World War One: Women over the age of 30 and men over the age of 21 are given the vote

Objective: to be able to describe and give examples of the way power has shifted in Britain over the last 1000 years. To be able to explain the causes and consequences of these changes

### Key historical skills covered in this topic:

- Chronology** - ordering historical events
- Inference** - making conclusions from historical sources
- Cause and consequence** - giving reasons why events happened and their effects
- Explanation** - Sharing your understanding using historical knowledge



### Key historical skills covered in this topic:

**Parliament** - the place where politicians (MPs) meet to decide laws and make decisions for the United Kingdom.

**House of Lords** - a group within Parliament made up of people who have inherited or been given titles. They double check new laws to make sure they are fair and will work.

**House of Commons** - 659 members who have been elected to represent their area. They discuss issues and make new laws.

**Election** - where somebody is chosen to represent the people in their area. This is done through voting.

**Political** - the way a country is run and organised, including how laws are made

**Social** - anything to do with the daily life of people, how they live, what they believe in and how they communicate

**Economic** - anything to do with money, this includes trade and business.

Home learning project

#### **Henry VIII and his wives**

Your task will to find out about the women who married Henry VIII.

Who were they?

Where did they come from?

What impact did they have on British history?

This will be set by your class teacher on MS Teams

## What do I need to be able to do?

You should be able to:

- Understand and use factors.
- Understand and use multiples.
- Recognise prime numbers.
- Recognise square/triangular numbers.
- Find common factors, including HCF.
- Find common multiples, including LCM.
- Express a number as the product of its prime factors.

## Key Words

<b>Multiple</b>	Found by multiplying any number by a positive integer.
<b>Factor</b>	Integers that multiply together to get another number.
<b>Prime</b>	An integer with only two factors (1 and itself).
<b>HCF</b>	The highest common factor of two or more numbers.
<b>LCM</b>	The lowest common multiple of two or more numbers.
<b>Product</b>	Multiply terms.

## Factors

### A number can have many factors!

Example: what are the factors of 12?

- 1 x 12
- 2 x 6
- 3 x 4

So the factors of 12 are 1, 2, 3, 4, 6, 12

### How to find factors

Be systematic! Always find your factor pairs and then write them in ascending order. This way you can be sure you've not missed any out!

## Multiples

'The multiples of a number make up its times table'

E.g. What are the multiples of 4?

4 x 1, 4 x 2, 4 x 3, 4 x 4 etc..

4, 8, 12, 16, 20...

This list never ends!

### NON-EXAMPLE

Why is 10 not a multiple of 4?

4 X 2.5 = 10 but 2.5 is not an integer therefore 10 cannot be a multiple of 4!

Is 15 a multiple of 3?

**5 5 5**

As 1 can share 15 into 3 equally sized parts, 15 is a multiple of 3!

3 x 5 = 15

## Prime Numbers

- Always an integer
- Has only two factors; 1 and itself

Not in any other times tables apart from its own

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

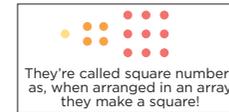
**2 is the smallest, and only even prime number**

1 is not a prime number

A prime number has 2 factors, 1 and itself. 1 only has 1 factor (itself/1) therefore it isn't prime!

## Square Numbers

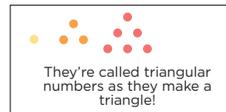
They're called square numbers as, when arranged in an array they make a square!



1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225...

Square numbers have an odd number of factors.

## Triangular Numbers



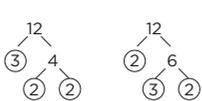
1, 3, 6, 10, 15, 21, 28, 36, 45, 55, 66, 78, 91, 105, 120...

Square numbers have an odd number of factors.

### Product of Prime Factors

#### Example 1

Write 12 as a product of its prime factors

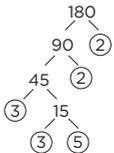


Both of these trees represent the same decomposition

$$12 = 2 \times 2 \times 3 \\ = 2^2 \times 3$$

#### Example 2

Write 180 as a product of its prime factors



$$180 = 2 \times 2 \times 5 \times 3 \times 3 \\ = 2^2 \times 3^2 \times 5$$

Always try to write your final answer in ascending order using index notation

Using prime factor decomposition.

If we know that 12 written as a product of its prime factors, how does that help us to write 36 as a product of its prime factors?

We know  $12 \times 3 = 36$  therefore we can multiply our answer by three and  $36 = 2 \times 2 \times 3 \times 3 = 2^2 \times 3^2$

What about 120?

Well 120 is  $10 \times 12$  so we can say

$$120 = 2 \times 2 \times 3 \times 10 \\ = 2^3 \times 3 \times 5$$

Remember  $10 = 2 \times 5$

### Highest Common Multiple (HCF)

#### Example 1

What is the HCF of 6 and 8?

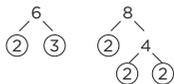
$$6 - 1, 2, 3, 6$$

$$8 - 1, 2, 4, 8$$

The biggest number which is a factor of both 6 and 8 is 2, therefore the HCF of 6 and 8 is 2

#### Example 2

What is the HCF of 6 and 8?



As we are looking for the highest common factor we are looking for the factors which the two numbers share.

These can be found in the overlap in the Venn diagram!

$$\text{HCF of 6 and 8} = 2$$

### Lowest Common Multiple (LCM)

#### Example 1

What is the LCM of 6 and 8?

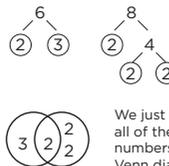
$$6 - 6, 12, 18, 24, 30$$

$$8 - 8, 16, 24, 32, 40$$

The first time their multiples match is 24 therefore: the LCM of 6 and 8 is 24

#### Example 2

What is the LCM of 6 and 8?



We just multiply all of the numbers in the Venn diagram together to find the LCM!

$$\text{LCM of 6 and 8} = 3 \times 2 \times 2 \times 2 \\ = 24$$

#### Example 3b

What is the LCM of 12 and 15?



$$\text{LCM of 12 and 15} = 3 \times 4 \times 5 \\ = 60$$

#### Example 3b

What is the HCF of 12 and 15?



$$\text{HCF of 12 and 15} \\ = 3$$

#### Example 3a

What is the LCM of 24 and 16?

Choose any factor of 24 and 16 (here we chose 2!)

Then we divide 24 and 16 by 2!

Then repeat until we cannot take out any more common factors

$$\text{LCM of 16 and 24} = 2 \times 2 \times 2 \times 3 \times 2 \\ = 48$$

## What do I need to be able to do?

You should be able to:

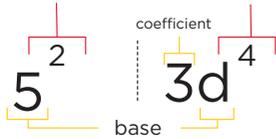
- Add/subtract with indices
- Multiply expressions with indices
- Divide expressions with indices
- Know the addition law for indices

### HIGHER TIER ONLY

- Work with fractional exponents

- Know the subtraction law for indices
- Be familiar with the key results
- Work with negative exponents

## Power/Exponent/Index



## Addition Law for Indices

$$a^m \times a^n = a^{m+n}$$

Examples

$$2^2 \times 2^3 = 2 \times 2 \times 2 \times 2 \times 2 = 2^5$$

$$k^4 \times k^2 = k \times k \times k \times k \times k \times k = k^6$$

## Subtraction Law for Indices

$$a^m \div a^n = a^{m-n}$$

Examples

$$5^3 \div 5 = \frac{5 \times 5 \times 5}{5} = 5^2$$

$$d^5 \div d^2 = \frac{d \times d \times d \times d \times d}{d \times d} = d^3$$

## Square and Cube Numbers

When working with indices, it is helpful to know your square and cube numbers!

### Square Numbers

1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225..

### Cube Numbers

1, 8, 27, 81, 125, 216, 343, 512...

You are expected to know these!

## Key Words

<b>Base</b>	The number that gets multiplied by a power.
<b>Power</b>	The number of times the number is used in a multiplication.
<b>Exponent</b>	Power (see above).
<b>Index</b>	Power (see above).
<b>Coefficient</b>	a number used to multiply a variable
<b>Variable</b>	A letter which represents an unknown number.
<b>Commutative</b>	Changing the order of the operations doesn't change the result.

## FRACTIONAL INDICES

### HIGHER TIER ONLY

$$\frac{1}{a^m} = \frac{1}{a^m} = a^{-m}$$

Examples

$$25^{\frac{1}{2}} = \sqrt{25} = 5 \quad 8^{\frac{1}{3}} = \sqrt[3]{8} = 2$$

$$\frac{1}{a^m} = \frac{1}{a^m} = a^{-m}$$

Examples

$$25^{\frac{3}{2}} = \sqrt{25^3} = 5^3 = 125$$

Remember that  $\frac{1}{(2^5)^3}$  this is the same as  $(2^5)^{-3}$

Harder Examples

$$(81x^2)^{\frac{1}{2}} = \sqrt{81x^2} = 9x$$

$$(9c^4)^{\frac{3}{2}} = (\sqrt{9c^4})^3 = (3c^2)^3 = 27c^6$$

Remember this means we cube EVERYTHING inside the brackets

$$(32f^{20})^{\frac{3}{5}} = \sqrt[5]{32f^{20}}^3 = (2f^4)^3 = 8f^{12}$$

It is really helpful to know the powers of 2;

2	16
4	32
8	...

Refer to the ladder on the right if you're struggling to spot the patterns!

### Further Examples

$$1. 4w \times 5z = 4 \times 5 \times w \times z = \underline{20wz}$$

$$2. 3a \times 4a^2 \times 2a = 3 \times 4 \times 2 \times a \times a \times a \times a = \underline{24a^4}$$

$$3. (t^3)^2 = t^3 \times t^3 = t \times t \times t \times t \times t \times t = \underline{t^6}$$

$$4. 3p^2 \times 4p^3 \div 6p^4 = \frac{3p^2 \times 4p^3}{6p^4} = \frac{12p^5}{6p^4}$$

$$= 2p$$



Don't forget about the order of operations!

Using the subtraction law,  $5-4=$

Remember it is best to write your variables in alphabetical order!

Multiply the coefficients together and then consider the variables!

Remember if there is no power written, it is to the power of 1

Don't forget that if you square something, you multiply it by itself!

### Key things to remember

$$a^m \times a^n = a^{m+n}$$

$$a^m \div a^n = a^{m-n}$$

$$a^0 = 1$$

$$a^{-m} = \frac{1}{a^m}$$

### HIGHER TIER ONLY

$$\frac{1}{a^m} = \sqrt[m]{a^{-1}}$$

$$\frac{a^n}{a^m} = \sqrt[m]{a^n}$$

### Further Examples

$$2^3 = 2 \times 2 \times 2 = 8$$

$$2^2 = 2 \times 2 = 4$$

$$2^1 = 2$$

$$2^0 = 1$$

$$2^{-1} = \frac{1}{2}$$

$$2^{-2} = \frac{1}{4} = \frac{1}{2^2}$$

$$2^{-3} = \frac{1}{8} = \frac{1}{2^3}$$

Each time I add one to the power, I multiply by 2

Each time I take one from the power, I divide by 2

Therefore, 2 to the power of 0 is 1. Remember anything to the power of 0 is 1.

If we carry this on, we can even say what 2 to the power of a negative number is!

We can even spot that 2 to the power of -2 is the same as 1 over 2 to the power of 2 (or 2 squared)

### Negative Fractional Indices

#### HIGHER TIER ONLY

##### Example 1

$$8^{-\frac{1}{3}} = \frac{1}{8^{\frac{1}{3}}}$$

Remember this means the cube root of 8!

##### Example 2

$$25^{-\frac{2}{5}} = \frac{1}{25^{\frac{2}{5}}}$$

Remember this is the same as  $(25^{\frac{1}{5}})^2$

$$= \frac{1}{5^2}$$

$$= \frac{1}{25}$$

##### Example 3

$$(343x^9)^{-\frac{2}{3}} \div x^3$$

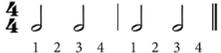
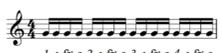
$$= \frac{1}{(343x^9)^{\frac{2}{3}}} \div x^3$$

$$= \frac{1}{(7x^3)^2} \div x^3$$

$$= \frac{1}{49x^6} \times \frac{1}{x^3} = \frac{1}{49x^9}$$

Don't forget the order of operations!

Remember instead of dividing x cubed, we can multiply by the reciprocal

Symbol	Name	Value	How to Count
	Semibreve	4	<p>Counting Whole Notes Hold the note for four beats.</p>  <p>Count: 1 2 3 4</p>
	Minim	2	 <p>1 2 3 4 1 2 3 4</p>
	Crotchet	1	 <p>1 2 3 4 1 2 3 4</p>
	Quaver	$\frac{1}{2}$	<p>Counting Eighth Notes</p>  <p>Hold each note for half a beat.</p>
	Semiquaver	$\frac{1}{4}$	 <p>1 e &amp; a 2 e &amp; a 3 e &amp; a 4 e &amp; a</p>

Try tapping out some of these rhythms while you count:

8th Notes Example 1



1 2 and 3 4 1 and 2 and 3 and 4 1 and 2 3 and 4



1 e and a 2 e and a 3 e and a 4 e and a

## Pitch Visual Representation

### Low Pitch



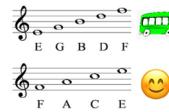
### Low Pitch Notes



### High Pitch



### High Pitch Notes



### Low and High Voices

Acronym:  
SATB



## Features

Bass, Cello, Tuba, Trombone use this clef.

There is an easy way to remember the lines and spaces:

**Great Big Dogs Frighten Auntie.**

**All Cows Eat Grass.**

Violin, clarinet, right hand piano.

There is an easy way to remember the lines and spaces:

**Every Green Bus Drives Fast.**

**F A C E.**

Peoples singing voices range from low to high. Male voices are lower, female voices are higher.

## Description

This is the bass clef, sometimes called the F clef.

The bass clef is used to notate low pitch instruments.

This is the treble clef, sometimes called the G clef.

The treble clef is used to notate higher pitch instruments.

**Soprano:** Highest female voice.

**Alto:** High female voice.

**Tenor:** Mid-range male voice.

**Bass:** Low male voice.

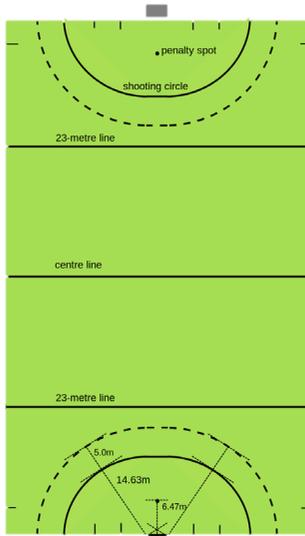
## Self-Test Questions

- Which clef would a bass guitar use?
- Which is the highest pitch female voice?
- What does SATB stand for?
- Which clef does higher sounding notes use?
- A clarinet would use which clef?

## Super Challenge Question

- Which clef would a piano use?

## Pitch Markings



## Key Rules/Fouls

<b>Feet</b>	The ball cannot make contact with the feet at any time.
<b>Shooting Circle</b>	You must be inside this area to shoot.
<b>Non-Contact</b>	Contact with another player cannot be made at any time.
<b>Obstruction</b>	Blocking the ball with your body from an opponent.
<b>Back Stick</b>	Only the flat side of the stick can be used to hit the ball.
<b>Sticks</b>	You cannot hit another player's stick with your own.
<b>High Stick</b>	Stick cannot be above the hip if another player is around you.

## Key Skills

<b>Dribbling</b>	Basic and Indian dribble.
<b>Tackling</b>	Block, jab and reverse.
<b>Shooting</b>	Hit, push, flick and slap.
<b>Passing</b>	Hit, push, flick and slap.
<b>Jockeying</b>	Pushing towards the line.
<b>Receiving the Ball</b>	Trapping and on the move.

## Penalties Awarded

<b>Free Hit</b>	All players 5m away from the ball. Can be a pass of taken to yourself.
<b>Penalty Corner</b>	Awarded when the defence commits a foul in the shooting circle or purposefully hits the ball over the back line.
<b>Penalty Stroke</b>	Awarded when a foul is committed which would have prevented an almost certain goal.

## Personal Skill Development

- Communication.
- Teamwork.

## Theoretical Links

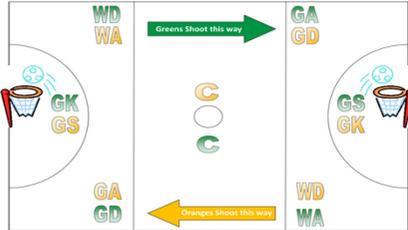
- Importance of a warm up and its stages.
- Importance of a cool down and its stages. Key muscles used and joint types.
- Fartlek training.
- Components of fitness required for successful performance.

## Health Benefits

- Improves cardiovascular endurance.
- Improved co-ordination.



## Pitch Markings



This shows the position on the court that each netball player must start at for every centre pass.

## Key Rules/Fouls

<b>Held Ball</b>	You can hold the ball for a maximum of 3 seconds.
<b>Contact</b>	With another player cannot be made at anytime.
<b>Feet</b>	You cannot move with the ball.
<b>Shooting Circle</b>	The shooters must be fully in the semi-circle to shoot.
<b>Positional Play</b>	You must stick to your positions areas of play on court.
<b>Obstruction</b>	You cannot be less than 0.90m/3ft away from the player with the ball.
<b>Centre Pass</b>	Must be received in the centre third.

## Personal Skill Development

- Communication.
- Teamwork.
- Spatial awareness.

## Theoretical Links

- Short and long term effects of exercise on the body.
- Feedback.
- Nutrition for a netballer and other sports performers.

## Health Benefits

- Improves cardiovascular fitness.
- Improves agility.
- Improves balance.

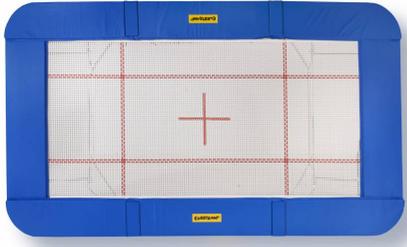
## Penalties Awarded

<b>Free Pass</b>	For a player going out of their set playing areas/ centre pass not received in the centre third/ footwork.
<b>Penalty Pass/Shot</b>	Awarded for contact or obstruction. The ball is given to the opponent and the infringing player stands at their side until the pass is made. Within the D it becomes a penalty pass or shot.
<b>Sideline/Backline Passes</b>	Ball given to the team that did not throw it out of court.

## Key Skills

<b>Footwork and Movement</b>	One foot/two feet landing/pivoting.
<b>Passing</b>	Chest, shoulder, bounce, overhead.
<b>Attacking Dodging Skills</b>	Feint/single dodge and double dodge.
<b>Signalling</b>	Receiving the ball.
<b>Marking a Player</b>	Defending.
<b>Interception</b>	Gaining possession.
<b>Shooting</b>	Close/distance.
<b>Rebounding</b>	Attacking/defending.

## Markings



## Key Safety Rules

- Minimum of 2 spotters per side.
- 1 person on the trampoline at a time.
- No jewellery
- Do not go under the trampoline.
- Do not attempt skills you haven't been instructed to do.
- Always wear socks/jump socks
- A member of staff must be present before you get on the trampoline.
- You must show all progressions before you advance onto more difficult skills.

## Key Skills

- Basic Shapes – Straight, Tuck, Straddle, Pike
- Body Landings – Seat Landing, Front Landing, Back Landing
- Twists – ½ Twist, Full Twist
- Linking skills – Swivel Hips, Seat to Front, Front to Seat, Front to Back, Back to Front, Roller, Turntable, Cradle, Cat Twist.
- Rotation – ¾ Turnover, Back Pullover, Front S/S, Back S/S.

## Safety Techniques

- Always start and finish every skill on the centre cross.
- Keep your eyes focused on the end deck in front of you to remain central.
- Learn skills from a low height then increase this when you are more confident and you can perform the skill consistently using the correct technique.
- Take your time, don't rush through the progressions, everyone progresses at different rates, this is OK!

## Personal Skill Development

- Resilience.
- Courage.
- Communication.

## Theoretical Links

- Planes and Axis.
- Components of fitness required/used.
- Psychology.
- Plyometrics.

## Health Benefits

- Improves balance.
- Improves co-ordination.
- Improves flexibility.

## Components of Fitness

<b>Strength</b>	The amount of force a muscle can exert against a resistance.
<b>Cardiovascular Fitness</b>	The ability of the heart, lungs and blood to transport Oxygen.
<b>Muscular Endurance</b>	The ability to use voluntary muscles repeatedly without tiring.
<b>Flexibility</b>	The range of movement at a joint.
<b>Positional Play</b>	You must stick to your positions areas of play on court.
<b>Body Composition</b>	The percentage of the body that is fat, muscle and bone.

## Key Skills

<b>Circuit Training</b>	An interval way of training.
<b>Fartlek Training (Speed Play)</b>	Develops aerobic and anaerobic fitness.
<b>Continuous Training</b>	Develops Cardiovascular Fitness.
<b>HIIT</b>	Develops strength, speed and muscular endurance.
<b>Fitness Testing</b>	A way of gaining information about health and skill related fitness.

## Personal Skill Development

- Resilience
- Competitiveness (both individually & amongst others)

## Key Rules

- Always complete a thorough warm up which includes a pulse raiser, skill based practice, mental preparation and stretching.
- After exercising complete a sufficient cool down which allow a gradual reduction in intensity and stretching.
- Footwear and Clothing should be appropriate to the activity being completed.
- Prepare appropriate hydration, for use during the sessions.
- Ensure the environment and the area you are using are safe, taking into consideration things such as; weather and the ground you are training on.

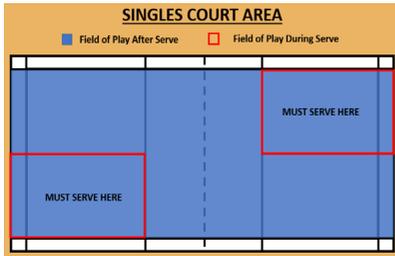
## Theoretical Links

- Health, fitness & exercise definitions.
- Anatomy & physiology links.
- Types of training.
- Energy systems.
- Principles of training.

## Health Benefits

- Cardiovascular fitness.
- Muscular strength/endurance.
- Improved mental health - including mood, concentration and self esteem.

## Court Markings



## Key Rules/Fouls

- A match consists of the best of 3 games of 21 points.
- Every time there is a serve – there is a point scored.
- The side winning a rally adds a point to its score.
- To score a point the shuttle must land on the opponents side inside the court.
- If the shuttle lands on the line, it is in.
- If the shuttle hits the net you play on even on a serve. If it lands in, it is a point.
- If the shuttle is hit outside of the court area, it is the opponents point.
- Serving must be hit in an upwards direction with an underarm hitting action.
- There are no second serves.

## Theoretical Links

- Interval training.
- Energy systems.
- Components of fitness – power, agility, coordination.

## Serving - LORE

- At the beginning of the game (0-0) and when the server's score is even, the server serves from the right service court.
- When the server's score is odd, the server serves from the left service court.
- Left Odd.
- Right Even.

## Key Skills

<b>Serving</b>	Short/long, flick serve (forehand/backhand).
<b>Overhead</b>	Clear, drop (forehand and backhand).
<b>Underarm</b>	Clear, drive, drop (forehand/backhand).
<b>Net Play</b>	
<b>Smash</b>	

## Personal Skill Development

- Sportsmanship.
- Intrinsic motivation.
- Resilience.

## Health Benefits

- Improves cardiovascular endurance.
- Improves aerobic and anaerobic fitness.

**Lesson 1: Faith in Society**

<b>Atheist</b>	A person who disbelieves or lacks belief in the existence of God or gods.
<b>Agnostic</b>	A person who believes that nothing is known or can be known of the existence or nature of God.
<b>Theist</b>	A person who believes in the existence of a god or gods, specifically of a creator who intervenes in the universe.
<b>Census</b>	An official count or survey which measures different aspects of the population. For example, religion, ethnicity, etc.

**Lesson 2: Faith in the Community**

<b>Faith in Sheffield</b>	53% of the population of Sheffield are Christian, followed by Muslim (6%), Hindu (0.6%), Buddhist (0.4%), Sikh (0.2%) and Jewish (0.1%). More than 31% have no religion while 7% declined to state a religion.
<b>Faith in Barnsley</b>	Barnsley is 68.5% Christian, 23.7% No religion, 0.4% Muslim, 0.1% Buddhist, 0.1% Hindu, 0.1% Sikh

**Lesson 3: Faith in the Wider World**

<b>Worship</b>	The feeling or expression of adoration for a deity (God/ a creator). For example, prayer or meditation.
<b>Christian views</b>	'Faith without action is dead' meaning that it is not enough to simply pray, believers are encouraged to volunteer and give to charity.
<b>Muslim views</b>	The Qur'an considers life as a test of deeds and in Islamic tradition all good deeds are considered 'ibaadah, a form of worship.
<b>CAFOD</b>	CAFOD is the Catholic Agency for Overseas Development. A charity who provides aid for those living in poverty - whatever their religion or culture.

**Lesson 4: Faith in Action - Christianity**

<b>Peaceful Protests</b>	The practice of achieving goals such as social change through non violent protests.
<b>Discrimination</b>	The unjust or prejudicial treatment of different people, especially on the grounds of race, age, or sex.
<b>Segregation Laws</b>	A law which forced separation between white and black people. E.g, schools/public transport.

**Lesson 5: Faith in Action - Islam**

<b>Islamophobia</b>	The fear, hatred of, or prejudice against the Islamic religion or Muslims.
<b>The five pillars of Islam</b>	The five bases of the Islamic faith: shahada (confession of faith), salat (prayer), zakat (almsgiving), sawm (fasting, especially during the month of Ramadan), and hajj (the pilgrimage to Mecca).
<b>Fasting</b>	During the month of Ramadan, Muslims won't eat or drink between dawn and sunset. They also avoid smoking, bad language or sexual activity. It allows Muslims to devote themselves to their faith and come closer to Allah.

**Lesson 6: Faith in Action - Hinduism**

<b>Caste</b>	Classes into which the Hindu people of India were formerly divided based on their wealth, occupation and or rank.
<b>The British Empire</b>	About one-quarter of all the people and land in the world were part of the British Empire in 1900. Britain called them their colonies and viewed them as a way to make money. Colonies gave Britain raw materials, like spices from India and tobacco from North America.
<b>Gandhi</b>	The leader of India's non-violent independence movement against British rule and in South Africa who campaigned for the civil rights.

## Lesson 1: Healthy Relationships

### Types of relationships

- Romantic relationships
- Sexual relationships
- Friendships
- Professional relationships
- Colleagues
- Acquaintances
- Signs of a negative relationship
- Doesn't trust you to go out alone
- Comments negatively on your appearance
- Ignores your decisions if they know better
- Does not tell their friends about your relationship

## Lesson 2: Internet safety and grooming

<b>Ages for social media accounts</b>	Facebook, twitter and Instagram requires everyone to be at least 13 years old before they can create an account.
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## Lesson 3: The media and body image

<b>Body image</b>	A person's perception of how attractive their body is, how we feel we look and how this influences our behaviour.
<b>Mental Wellbeing</b>	When an individual is happy, content and can cope with the normal stresses of life.
<b>Physical health</b>	The condition of our bodies, how healthy we eat and the physical exercise we do.

## Lesson 4: Bullying

<b>Bullying</b>	When someone is being hurt either by words or actions on purpose, usually more than once.
<b>Bystander</b>	A person who is present at an event or incident but does not take part.
<b>Upstander</b>	Is someone who sees what happens and intervenes, interrupts, reports or speaks up to stop the bullying.

## Lesson 5: Racism and hate crime

<b>Prejudice</b>	A negative prejudgement of a person that is not based on reason.
<b>Discrimination</b>	Acting on that prejudice.
<b>Equality Act 2010</b>	The law which protects children, young people and adults against discrimination, harassment and victimisation.
<b>Hate Crime</b>	Verbal abuse like name-calling and offensive jokes, harassment, bullying or intimidation by children, adults, neighbours or strangers, physical attacks such as hitting, punching, pushing, spitting, threats of violence,

## Lesson 6: Islamophobia

<b>Islamophobia</b>	An irrational fear or prejudice towards Muslims.
<b>Jihad</b>	Jihad is an Arabic word which literally means striving or struggling, especially with a praiseworthy aim.

## Lesson 7: LGBTQ Stonewall

<b>Homophobia</b>	Classes into which the Hindu people of India were formerly divided based on their wealth, occupation and or rank.
<b>LGBTQ</b>	Lesbian, gay, bisexual, transgender, questioning/ queer.

## Lesson 8: Transgender

<b>Transgender</b>	Denoting or relating to a person whose sense of personal identity and gender does not correspond with their birth sex.
<b>Agender</b>	A term used for individuals 'without gender'. May be termed gender neutral.
<b>Gender-fluid</b>	Relating to a person who does not identify themselves as having a fixed gender. May be termed Genderqueer.
<b>Cisgender</b>	A term for people whose gender identity matches the sex that they were assigned at birth.

# 8B3 Microbes and Disease - Essential Knowledge Sheet

### Types of pathogen

1. Bacteria enter the body and multiply rapidly. Are living cells that produce toxins which make us feel ill.
2. Virus are not living. Infect our cells and reproduce inside them. The cells burst open and cause us to feel ill.
3. Fungi Are thread like structures that infect people and plants.

### Disease transmission

Transmission Route	Example of pathogen
Airborne droplets	Influenza
Contaminated food	Salmonella
Direct contact	Fungi athletes foot
Contaminated water	Cholera
Blood barrier (unborn babies)	HIV

### Defence against disease

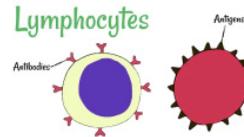
Feature	How it protects us from disease
Tears	Antibacterial properties
Stomach	Contains acid to kill micro-organisms
Hairs in nose	Trap micro-organisms
Cilia	Wafts the micro-organisms away from the respiratory system
Skin	Wafts the micro-organisms away from the respiratory system

### Growing microbes

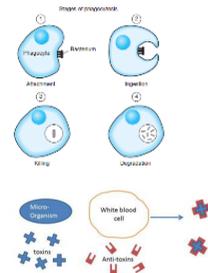
1. Use aseptic technique to culture microbes.
2. Wipe down all work surfaces with disinfectant.
3. Light a Bunsen burner to create a clear zone.
4. Transfer the bacteria onto an agar plate.
5. Lift the lid slightly so that the plate isn't contaminated with other bacteria.
6. Seal the lid of the petri dish and incubate the bacteria at 37°C for 3 days.

37°C bacteria slightly 3 lid  
aseptic technique Bunsen burner

### Immune System



1. Produce antibodies specific to the antigen on the pathogen. Target the cell for destruction.



2. The white blood cell engulfs the pathogen. It digests it and uses the products inside the body.

3. White blood cells may produce antitoxins which bind to toxins produced by the microbe.

## Vaccines

### Pros

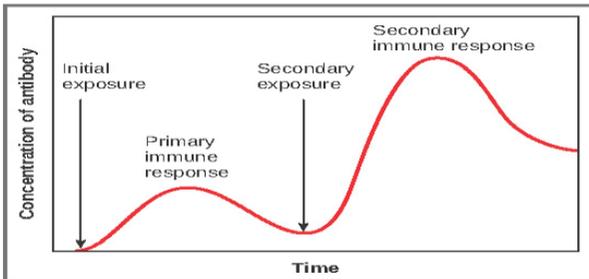
- Cannot die from some diseases
- Cannot pass on diseases to others
- May only feel ill for a short period of time

### Cons

- May cause some side effects
- May have a phobia of needles
- Can feel ill when you first have the vaccine

## Immunity

Explain the difference in antibody production before and after a vaccination.



## Antibiotics

Fill in the gaps

Antibiotics only work on **bacteria** . They do not kill **viruses** as these pathogens live inside our own cells. We can test antibiotics on bacterial plates and look at their clear zone. The **bigger** the clear zone indicates the better the antibiotic. Some pathogens are resistant to antibiotics .

Some pathogens mutate and which means they are not killed when treated with certain **antibiotics**. Patients may need to go back to the doctors to get another type of antibiotic MRSA is an example of a superbug that is resistant to multiple types of **antibiotic**.

When given a vaccine the number of antibodies in the blood stream increase as the white blood cells are stimulated to produce them against the pathogen. Some of the antibodies are stored in memory cells. When you come into contact with the pathogen your antibodies are produced at a faster rate to kill the pathogen. They also remain in the blood for longer.

## 8C1—Atoms and Elements - Essential Knowledge Sheet

From the 6 following substances identify:

**Silver, Hydrogen, Water**

**Carbon Dioxide, Air, Sulfur**

Metal Element - **Silver**

Compound - **Carbon Dioxide/Water**

Gas Element - **Hydrogen**

Mixture of Gases - **Air**

**Copper Sulfate has the formula  $\text{CuSO}_4$ :**

How many elements are in copper sulfate? **3**

Name the elements in copper sulfate? **Copper/Sulfur/Oxygen**

How many atoms are there in copper sulfate? **6**

**Complete the word equations when the following elements react together.**

Iron + Oxygen  $\longrightarrow$  **Iron Oxide**

Sodium + Chlorine  $\longrightarrow$  **Sodium Chloride**

Potassium + Sulfur  $\longrightarrow$  **Potassium Sulfide**

**All the elements are arranged in the periodic table.**

Which side are the metals on? **Left and Centre**

Which side are the non-metals on? **Right**

Which is the first element in the periodic table? **Hydrogen**

What order are the elements in the periodic table? **Atomic Number**

**What are the symbols for the following elements:**

Sulfur - **S**

Oxygen - **O**

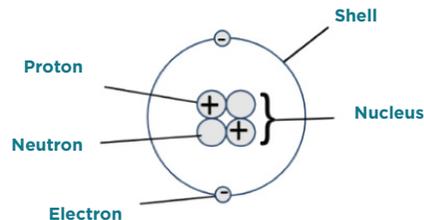
Sodium - **Na**

Potassium - **K**

Gold - **Au**

**Label the diagram with the following 5 terms**

Nucleus Proton Neutron Electron Shell



**Label the diagram with the following 5 terms**

Define the following three word.

Atom - **A small particle that can't be broken into any-thing smaller**

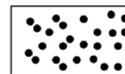
Element - **A substance made from 1 type of atom**

Compound - **A substance made from two or more-different types of atoms joined together in a fixed proportion**

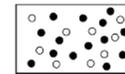
**Identify the element, compound and mixture diagrams.**



**Compound**



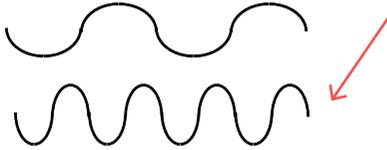
**Element**



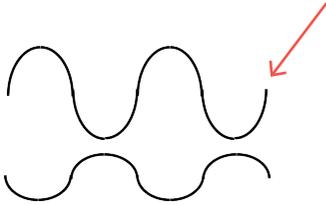
**Mixture**

## 8P3—Magnetism & Sound

Which one of these waves would have the highest pitch?



Which one of these waves would have the loudest volume?



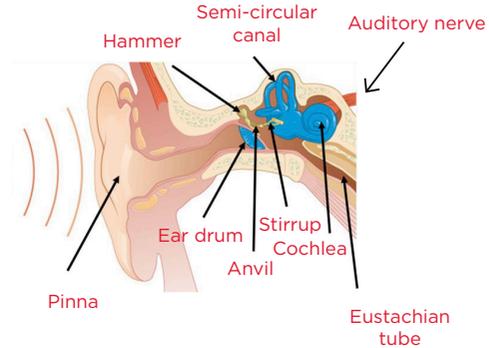
### How we hear sound

- Vibrating air **particles** are funnelled into the ear through the **pinna**
- This causes the **ear drum** to vibrate. These vibrations are passed to the **bones** of the middle ear.
- Then the tiny **hairs** in the cochlea vibrate. The hairs are connected to **nerve** cells that carry the signal to the **brain** Where it is processed as sound.

Words : Hairs, ear drum, particles, hairs, brain, bones

Label the ear diagram with the following:

- Pinna Hammer
- Anvil Cochlea
- Stirrup
- Semi-circular canals
- Ear drum
- Eustachian tube



If two identical magnets attract each other, label the poles.

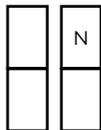
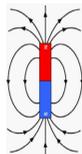
N	S
S	N

Draw the magnetic field on the bar magnet.

Where is the magnetic field strongest? **At the poles**

What materials will stick to the magnet?

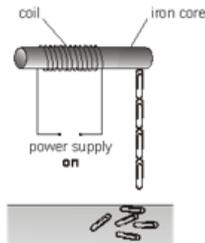
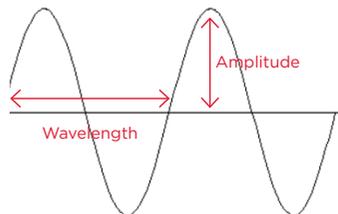
Iron  
Nickel  
Cobalt



One of the magnets has its poles labelled. Describe how you could find out which pole is which on the other, unlabelled magnet.

Put the magnets together. You know the north pole of one of the magnets, so if you put the end of the other next to it and it repels, then it is the north pole. If it attracts, it is the South pole.

Add the following to the diagram:  
Wavelength, Amplitude



An electromagnet is made when a wire carrying an electric current is wrapped around an iron nail.

What is an advantage of using an electromagnet rather than a permanent magnet?

It can be switched off and made stronger and weaker.

How could the electromagnet be made stronger?

Add more coils

Increase the diameter of the wire

Increase the diameter of the core

Change the shape of the core to a horseshoe

The frequency of sound is measured in **Hertz (Hz)**

The range of human hearing is about ...**20Hz**. To about **20,000Hz**.

Sounds that have a higher frequency than this are known as ...**ultrasounds**...

## ¿Qué hay en tu ciudad?

Hay...	There is...
un castillo	a castle
un centro comercial	a shopping centre
un estadio	a stadium
un mercado	a market
un museo	a museum
un parque	a park
una piscina	a swimming pool
una plaza	a square
un polideportivo	a sports centre
un restaurante	a restaurant
una tienda	a shop
una universidad	a university
En...	In...
mi barrio	my neighbourhood
mi ciudad	my town, my city
mi pueblo	my village, my town
No hay museo.	There isn't a museum.
No hay nada.	There's nothing.
unos museos	some museums
unas tiendas	some shops
muchos museos	a lot of museums
muchas tiendas	a lot of shops

## ¿Te gusta vivir en...?

Me gusta mucho vivir en...	I like living in... a lot.
No me gusta nada vivir en...	I don't like living in... at all.
porque hay/es...	because there is/it is

## What is there in your town?

There is...
a castle
a shopping centre
a stadium
a market
a museum
a park
a swimming pool
a square
a sports centre
a restaurant
a shop
a university
In...
my neighbourhood
my town, my city
my village, my town
There isn't a museum.
There's nothing.
some museums
some shops
a lot of museums
a lot of shops

## Do you like living in...?

I like living in... a lot.
I don't like living in... at all.
because there is/it is

## Gramática

The words for 'a', 'some' and 'many' in Spanish are:

	a/an	some	many/a lot of
masculine	masc un museo	unos museos	muchos museos
feminine	fem una tienda	unas tiendas	muchas tiendas

## ¿Qué haces en la ciudad?

Salgo con mis amigos.	I go out with my friends.
Voy...	I go...
al cine	to the cinema
al parque	to the park
a la bolera	to the bowling alley
a la cafetería	to the cafeteria
a la playa	to the beach
de compras	shopping
de paseo	for a walk
No hago nada.	I do nothing.

## What do you do in town?

## ¿Qué hora es?

Es la una.	It's one o'clock.
Son las dos.	It's two o'clock.
Es la una y cinco.	It's five past one.
Son las dos y diez.	It's ten past two.
Son las tres y cuarto.	It's quarter past three.
Son las cuatro y veinte.	It's twenty-five past five.
Son las seis y media.	It's half past six.
Son las siete menos veinticinco.	It's twenty-five to seven.
Son las ocho menos veinte.	It's twenty to eight.
Son las nueve menos cuarto.	It's quarter to nine.
Son las diez menos diez.	It's ten to ten.
Son las once menos cinco.	It's five to eleven.
Son las doce.	It's twelve o'clock.
¿A qué hora?	At what time?
a la una	at one o'clock
a las dos	at two o'clock

## Skills

### Making Your Writing Interesting

- Using two tenses (the present and the near future) adds variety and raises your level.
- Including both tenses in the same sentence is even better!
- Always use connectives, intensifiers and time expressions.

**En la cafetería**

<b>Yo quiero...</b>	I want...
<b>bebidas</b>	drinks
<b>un batido de chocolate/de fresa</b>	a chocolate/strawberry milkshake
<b>un café</b>	a coffee
<b>una Coca-Cola</b>	a Coca-Cola
<b>una Fanta limón</b>	a lemon Fanta
<b>un granizado de limón</b>	an iced lemon drink
<b>un té</b>	a tea
<b>raciones</b>	snacks
<b>calamares</b>	squid
<b>croquetas</b>	croquettes
<b>gambas</b>	prawns
<b>jamón</b>	ham
<b>pan con tomate</b>	tomato bread
<b>patatas bravas</b>	spicy potatoes
<b>tortilla</b>	Spanish omelette
<b>¿Algo más?</b>	Anything else?
<b>No, nada más.</b>	No, nothing else.
<b>¿Y de beber?</b>	And to drink?
<b>¿Cuánto es, por favor?</b>	How much is it, please?
<b>Son cinco euros setenta y cinco.</b>	That's 5,75 €

**In the café****¿Qué vas a hacer?**

<b>Voy a salir con mis amigos.</b>	I am going to go out with my friends.
<b>Vas a ver la televisión.</b>	You are going to watch TV.
<b>Va a ir de paseo.</b>	He/She is going to go for a walk.
<b>Vamos a jugar al voleibol.</b>	We are going to play volleyball.
<b>Vais a chatear.</b>	You are going to chat.
<b>Van a hacer los deberes.</b>	They are going to do their homework.

**Ir (to go) - present tense**

<b>Voy</b>	I go
<b>Vas</b>	you go
<b>Va</b>	s/he goes
<b>Vamos</b>	we go
<b>Vais</b>	you (pl) go
<b>Van</b>	they go

**Querer (to want) - present tense**

<b>Quiero</b>	I want
<b>Quieres</b>	you want
<b>Quiere</b>	s/he wants
<b>Queremos</b>	we want
<b>Queréis</b>	you (pl) want
<b>Quieren</b>	they want

**What are you going to do?****¿Cuándo?**

<b>este fin de semana</b>	this weekend
<b>el sábado por la mañana</b>	on Saturday morning
<b>el domingo por la tarde</b>	on Sunday afternoon/evening
<b>primero</b>	first
<b>luego</b>	then
<b>finalmente</b>	finally
<b>a las tres de la tarde</b>	at three o'clock in the afternoon
<b>(un poco) más tarde</b>	(a little) later

**Palabras muy frecuentes**

<b>aquí/here</b>	here
<b>a ver</b>	let's see
<b>con</b>	with
<b>hasta</b>	until
<b>más</b>	more

**When?****High-frequency words****Skills****Using sequencers**

<b>primero</b>	first
<b>luego</b>	then
<b>finalmente</b>	finally



**De vacaciones**

<b>¿Adónde fuiste de vacaciones?</b>	Where did you go on holiday?
<b>el año pasado</b>	last year
<b>el verano pasado</b>	last summer
<b>Fui a...</b>	I went to...
<b>Escocia</b>	Scotland
<b>España</b>	Spain
<b>Francia</b>	France
<b>Gales</b>	Wales
<b>Grecia</b>	Greece
<b>Inglaterra</b>	England
<b>Irlanda</b>	Ireland
<b>Italia</b>	Italy
<b>¿Con quién fuiste?</b>	Who did you go with?
<b>Fui con...</b>	I went with...
<b>mis amigos/as</b>	my friends
<b>mi clase</b>	my class
<b>mi familia</b>	my family
<b>mis padres</b>	my parents
<b>¿Como fuiste?</b>	How did you get there?
<b>Fui/Fuimos en...</b>	I/We went by...
<b>autocar</b>	coach
<b>avión</b>	plane
<b>barco</b>	boat/ferry
<b>coche</b>	car
<b>tren</b>	train
<b>No fui de vacaciones</b>	I didn't go on holiday.

**Looking Up New Words**

Dictionaries can tell you a lot about new words. Most of them use these abbreviations: *nm*, *nf*, *adj*, *vt*, *prep*, *adv*. For example, *nm* tells you a word is a masculine noun; *vt* tells you it's a verb.

**On holiday****¿Qué hiciste?**

<b>¿Qué hiciste en tus vacaciones de verano?</b>	What did you do on your summer holiday?
<b>Bailé.</b>	I danced.
<b>Compré una camiseta.</b>	I bought a T-shirt.
<b>Descansé en la playa.</b>	I relaxed on the beach.
<b>Mandé SMS.</b>	I sent texts.
<b>Monté en bicicleta.</b>	I rode my bike.
<b>Nadé en el mar</b>	I swam in the sea.
<b>Saqué fotos.</b>	I took photos.
<b>Tomé el sol.</b>	I sunbathed.
<b>Visité monumentos.</b>	I visited monuments.
<b>No nadé en el mar.</b>	I didn't swim in the sea.
<b>El último día de tus vacaciones, ¿qué hiciste?</b>	What did you do on the last day of your holiday?
<b>Bebí una limonada.</b>	I drank a lemonade.
<b>Comí paella.</b>	I ate paella.
<b>Conocí a un chico/a guapo/a.</b>	I met a cute boy/girl.
<b>Escribí SMS.</b>	I wrote texts.
<b>Salí con mi hermano/a.</b>	I went out with my brother/sister.
<b>Vi un castillo interesante.</b>	I saw an interesting castle.

**Visitar (to visit) – preterite tense**

<b>Visite</b>	I visited
<b>Visitasté</b>	you visited
<b>Visitó</b>	s/he visited
<b>Visitamos</b>	we visited
<b>Visitasteis</b>	you (pl) visited
<b>Visitaron</b>	they visited

**What did you do?****Exclamaciones**

<b>¡Qué bien!</b>	How great!
<b>¡Qué bonito!</b>	How nice
<b>¡Qué divertido!</b>	What fun!/How funny!
<b>¡Qué guay!</b>	How cool!
<b>¡Qué rico!</b>	How tasty!
<b>¡Qué suerte!</b>	What luck!/How lucky!
<b>¡Qué aburrido!</b>	How boring!
<b>¡Qué horror!</b>	How dreadful!
<b>¡Qué lástima!</b>	What a shame!
<b>¡Qué mal!</b>	How bad!
<b>¡Qué rollo!</b>	How annoying!

**Skills****Using adjectives in exclamations**

You can use adjectives like **divertido** and **aburrido** in exclamations: **¡Qué divertido!** (What fun/How funny!) or **¡Qué aburrido!** (How boring!).

## ¿Como te fue?

<b>Fue divertido.</b>	It was fun/funny.
<b>Fue estupendo.</b>	It was brilliant.
<b>Fue fenomenal.</b>	It was fantastic.
<b>Fue flipante.</b>	It was awesome.
<b>Fue genial.</b>	It was great.
<b>Fue guay.</b>	It was cool.
<b>Fue regular.</b>	It was OK.
<b>Fue un desastre.</b>	It was a disaster.

<b>Fue horrible.</b>	It was horrible.
<b>Fue horroroso.</b>	It was terrible.
<b>Fue raro.</b>	It was weird.

<b>Me gustó.</b>	I liked (it).
<b>Me encantó.</b>	I loved (it).

<b>¿Por qué?</b>	Why?
<b>porque</b>	because

<b>Hizo buen tiempo</b>	The weather was good.
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<b>Comí algo malo y vomité.</b>	I ate something bad and vomited.
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<b>Llovió.</b>	It rained.
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<b>Perdí mi pasaporte/ mi móvil.</b>	I lost my passport/my mobile.
--	-------------------------------

*Ser* and *Ir* are **exactly** the same in the preterite

**me gusta**

<b>me encanta</b>	I like	<b>me gustó</b>	I liked
	I love	<b>me encantó</b>	I loved

## How was it?

## Ser (to be) – preterite tense

<b>Fui</b>	I was
<b>Fuiste</b>	you were
<b>Fue</b>	s/he was
<b>Fuimos</b>	we were
<b>Fuisteis</b>	you (pl) were
<b>Fueron</b>	they were

## Ir (to go) – preterite tense

<b>Fui</b>	I went
<b>Fuiste</b>	you went
<b>Fue</b>	s/he went
<b>Fuimos</b>	we went
<b>Fuisteis</b>	you (pl) went
<b>Fueron</b>	they went

## ¿Cuándo?

<b>luego</b>	then
<b>más tarde</b>	later
<b>después</b>	afterwards
<b>el primer día</b>	on the first day
<b>el último día</b>	on the last day
<b>otro día</b>	another day
<b>por la mañana</b>	in the morning
<b>por la tarde</b>	in the afternoon

## When?

## Skills

## Using sequencers

Use sequencers to make your sentences longer and more interesting:

**el primer día** on the first day

**luego** then

**más tarde** later

**después** afterwards

**El primer día** visité monumentos y **luego** descansé en la playa.

When using two tenses, check you are using the correct ending or it may not be clear whether you're talking about the present or the past!

## Palabras muy frecuentes

## High-frequency words

**a/al/a la** to (the)

**en** by

**con** with

**mi/mis** my

**¿Cómo...?** How...?

**¿Dónde...?** Where...?

**¿Adónde...?** Where... to?

**¡Qué...!** How...!

**ademàs** also, in addition

**pero** but

## ¿Qué haces con tu móvil

**Chateo con mis amigos.**

**Comparto mis vídeos favoritos.**

**Descargo melodías o aplicaciones.**

**Hablo por Skype.**

**Juego.**

**Leo mis SMS.**

**Mando SMS.**

**Saco fotos.**

**Veo vídeos o películas.**

## What do you do with your mobile?

I chat with my friends.

I share my favourite videos.

I download ringtones or apps.

I talk on Skype.

I play.

I read my texts.

I send texts.

I take photos.

I watch videos or films.

## ¿Con qué frecuencia?

**todos los días**

**dos o tres veces a la semana**

**a veces**

**de vez en cuando**

**nunca**

## ¿Qué tipo de música te gusta?

**el rap**

**el R'n'B**

**el rock**

**la música clásica**

**la música electrónica**

**la música pop**

**¿Qué tipo de música escuchas?**

**Escucho rap**

**Escucho la música de...**

**Escucho de todo.**

## Palabras muy frecuentes

**así que**

**más...que...**

**mi/mis**

**su/sus**

**normalmente**

**no**

**nunca**

**o**

**porque**

**también**

**y**

## How often?

every day

two or three times a week

sometimes

from time to time

never

## What type of music do you like?

rap

R'n'B

rock

classical music

electronic music

pop music

What type of music do you listen to?

I listen to rap

I listen to ...'s music

I listen to everything

## High-frequency words

so (that)

more... than...

my

his/her

normally

no/not

never

or

because

also, too

and

## Skills

### Making everything match up

When you use the he/she/it form, you often need to change other elements of the sentence:

**me gusta** (I like)

**le gusta** (he/she likes)

**mi programa favorito** (my favourite programme)

**su programa favorito** (his/her favourite programme)

**mis amigos** (my friends)

**sus amigos** (his/her friends)

### Skills

Use a range of opinion-giving phrases to make your sentences more interesting:



**Me encanta...**



**No me gusta nada...**

Give a reason: **porque es guay/triste/horrible...**

**porque me gusta el ritmo...**

Make an exclamation: ¡Qué va! ¿Estás loco/a?

## Gramática

You use the present tense to talk about what usually happens.

There are three groups of regular verbs:

**-ar verbs**

<b>hablar</b>	to talk	<b>hablamos</b>	we talk
<b>hablo</b>	I talk	<b>habláis</b>	you (pl.) talk
<b>hablas</b>	you talk	<b>hablan</b>	they talk
<b>habla</b>	he/she talks		

**-er verbs**

<b>leer</b>	hablar	<b>leemos</b>	hablar
<b>leo</b>	hablo	<b>leéis</b>	hablo
<b>lees</b>	hablas	<b>leen</b>	hablas
<b>lee</b>	habla		

**-ir verbs**

<b>compartir</b>	to share	<b>compartimos</b>	we share
<b>comparto</b>	I share	<b>compartís</b>	you (pl.) share
<b>compartes</b>	you share	<b>comparten</b>	they share
<b>comparte</b>	he/she shares		

Forming the present tense:

Step 1: Take off the infinitive ending.

Step 2: Add the relevant present tense ending

## ¿Qué hiciste ayer? What did you do yesterday?

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

Infinitive	Present	Preterite (past)
Bailar (to dance)	Bailo (I dance)	Bailé (I danced)
Hacer (to do)	Hago	Hice
Jugar (to play)	Juego	Jugué
Salir (to go out)	Salgo	Salí
Ver (to watch)	Veo (I watch)	Vi (I watched)

### Gramática

The verb hacer (to do/to make) is irregular. Learn its preterite form by heart.

<b>hice</b>	I did
<b>hiciste</b>	you did
<b>hizo</b>	he/she did
<b>hicimos</b>	we did
<b>hicisteis</b>	you (plural) did
<b>hicieron</b>	they did

### Opiniones

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

### Me gustan las comedias

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

### Opinions

### Gramática

When you want to compare two things, you use the comparative.

**más + adjective + que...** more... than...

The adjective must agree with the noun.

**Los** realitys son **más divertidos que** los concursus.

Reality shows are funnier than game shows.

**Las** series policíacas son **más aburridas que** las telenovelas.

Police series are more boring than soaps.

Make sure you use the correct article and remember to change singular to plural.

Es **un** concurso. - Me gustan **los** concursus.

Es **una** comedia. - Me gustan **las** comedias.

Note: The word programa is masculine (**un** programa de.../**los** programas de...).



Aim High  
Be Determined  
Be Brave  
Be Supportive  
Be Proud

