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 7 BOOK 2

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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.

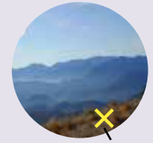
How to use your Essential Knowledge Sheets

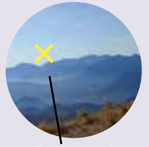
The most powerful use of an Essential Knowledge Sheet is as a self-quizzing tool. For example:

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
Foreground	Foreground is the area of a picture, scene or design that appears nearest to the viewer. The foreground of a composition is the visual plane that appears closest to the viewer.
Background	Background is the area of a picture, scene or design that appears the furthest away from the viewer.The ground or parts, as of a scene, situated in the rear (as opposed to foreground).
Colour Theory	Colour theory is both the science and art of using colour. The colour wheel arranges colours into 3 categories; primary, secondary and tertiary. It explains how humans perceive colour; and the visual effects of how colours mix, match or contrast with each other.
Primary Colours	Primary colours are 'pure' colours and cannot be mixed from other colours. The primary colours are RED, YELLOW and BLUE. They combine to create secondary colours, which in turn combine to create tertiary colours. In effect, all colours stem from the three primaries.
Secondary Colours	Secondary Colours are colours which are made by mixing two Primary Colours. A secondary colour is produced by mixing two additive primary colors in equal proportions. They are ORANGE, PURPLE and GREEN.
Tertiary colours	Tertiary Colours are colours which are made by mixing equal amounts of a primary colour and a secondary colour together. On the colour wheel, they sit between the primary and secondary colour they are mixed from.
Hue	Hue is the different shades of a colour; also called a spectral colour. The hue is the traditional colour name given to a specific wavelength of light in the light spectrum. In painting colour theory, the term colour encapsulates several factors, including hue, chroma and value.
2D	2D stands for two dimensional, meaning an image has height and width but not depth. Examples of two dimensional artworks are drawings, paintings and photography.
3D	3D stands for three dimensional, meaning an image has not only height and width but also depth. Three dimensional artworks include sculptures and ceramics.

Examples


Foreground


Background


Colour Theory

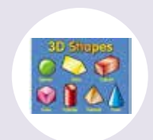
Primary Colours

Secondary Colours

Tertiary colours


Hue

2D



3D

Tools and Equipment

Cutting Mat Self healing, Non-slip cutting surface. Used to prevent work surfaces getting damaged and scalpel blades becoming blunt.

Scalpel A hardened steel blade used for cutting papers and boards. It can cut internal corners unlike scissors, however takes more skill.

Safety Ruler This ruler has a raised edge for cutting along. This is for safety as it helps to prevent a sharp blade slipping and cutting the user.

Scissors A cost effective and widely available cutting method. Products and prototypes can be quickly cut and tested.

Pencil The pencil is probably the most commonly used drawing tool. The B range indicates blackness, the H range indicates hardness.

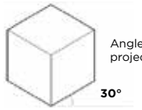
Isometric Drawing

Isometric projections are commonly used by engineers in technical drawings and illustrations and sometimes by architects. Early video games such as SimCity used isometric projection.

Line Weighting Enhances a drawing to make it appear more realistic.

Line Weighting An edge that is connected to two visible faces stays thin.

Line Weighting An edge that is connected to only one visible face becomes thick.



Name	Properties	Description	Applications	Advantages	Disadvantages
Copier Paper	• 80 GSM. • Thin. • Lightweight. • Inexpensive.	• Bright white paper. • Smooth bleached uncoated surface.	• Writing. • Sketching and drawing. • Office and admin work. • Photocopying.	• Takes colour well (highly printable). • Good surface for pencils, pens and markers. • Available in a range of colours.	• Can be prone to jamming printers.
Cartridge Paper	• 120-150 GSM. • Creamy white. • Smooth but has a slightly textured surface.	• Completely opaque (no light passes through). • Accepts most drawing media - paints, as well as pens and pencil.	• Painting. • Mixed-media design and art work.	• Can be used with water colours without buckling (waviness caused by water).	• More expensive than copier paper.
Tracing Paper	• 60-90 GSM. • Strong. • Translucent.	• Smooth surface texture.	• Making copies. • Overlays.	• Translucency allows underneath image to be seen for copying.	• Has low absorbency (this means ink can smudge easily). • More expensive than copier paper.
Solid White Board	• Rigid board. • Excellent printing surface. • Smooth texture.	• Made from pure, bleached wood pulp. • Bright white colour conveys quality.	• Book covers. • Food packaging.	• Strong. • Rigid. • Accepts ink well.	• Can be expensive compared to other boards.

Adhesives

Glue Stick A quick method of bonding papers and boards. They are easy to apply, however they are not as strong as other glues, meaning edges can lift over time. Longer setting time means that materials can be moved before they are dry.

Double Sided Tape Tapes keep the surface of the materials dry, this prevents any warping. Instant adhesion speeds up the time taken to assemble a model or product. No setting time means that care and attention is needed when assembling. There is also no risk of spilling the adhesive tape.

Properties of Papers and Boards

Flexibility The amount a material bends when a force is applied. If a paper doesn't flex it will jam printer mechanisms.

Printability The ability to accept ink onto its surface. If a paper is too absorbent, the printed image will not appear crisp, it will look blurred and blotchy.

Biodegradability The ability to accept ink onto its surface. If a paper is too absorbent, the printed image will not appear crisp, it will look blurred and blotchy.

Health & Safety

Design & Technology involves a lot of practical work, some of which involves significant risks. Therefore, it is vital to implement safe working practices to ensure a positive health and safety culture.

Safety in the Workshop Rooms must be clean, tidy and in a safe condition. Workstations should be clean and clear of excess materials and tools. After use, tools and materials should be stored correctly, with blades and sharp edges protected. Floors should be clear of obstructions and trip hazards, such as bags and scrap off-cuts.

Clothing and Protective Equipment Ensure you have no loose clothing; tie back long hair, remove loose jewellery; and tuck in ties and apron strings.

Hazardous materials: Wear an apron or overalls, goggles and the correct gloves.

Hot materials: Wear an apron and the correct gloves; a face shield is required for some jobs.

Dust: Wear a face mask and safety goggles. Ensure there is adequate extraction.

Machine Tools Do not use machine tools with permission or training.
It is important to understand:

- The design of the machine and the names of the main parts.
- How to set up the machine and use guards, running speeds and cutter settings.
- How to use the machine safely (learn where the emergency stop button is located).
- Keep machines and guards clean and in good condition, and never touch moving parts. If a machine has a dust extractor, ensure it is running when in use.

Hand Tools Perform practical work standing up and ensure materials are held securely in place using the appropriate holding device, usually a vice or a clamp. Use the correct tools and technique for the job and materials used. Carry tools with their cutting edges pointing down, and return them to their racks when not in use.

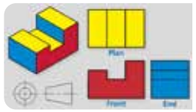
Properties

Timbers Different types of wood have varying properties (e.g. strength, hardness, durability) that make them suited for different purposes and commercial products. In addition to considering the properties of wood, designers must also consider how easy the materials are to manufacture.

Metals Metals have varying properties (e.g. strength, hardness, toughness, malleability) that make them suited for different purposes and commercial products. However, as well as considering the properties of the product it is also important to consider cost, availability and the environment.

Working Drawings (Orthographic Projection)

Orthographic projection is used to depict 3D objects as a set of 2D drawings. It shows the front view, plan view and end view drawn to scale, and measurements are given in millimetres. A third angle orthographic projection is shown below:

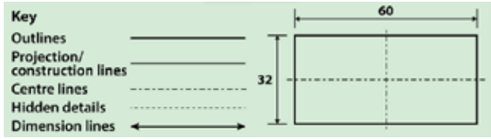


The plan view is drawn at the top, the front view is directly below this and the end view is positioned next to the front view.

Orthographic drawings are often used in manufacturing because they provide detailed information about the design.

Orthographic Drawing Conventions

For clarity, lines and dimensions must conform to British Standards.



Timbers, Metals & Polymers: Shaping & Forming

Wood, metals and polymers can be shaped and formed through cutting, abrasion and addition using a variety of tools, equipment and processes.

Cutting - Wood, metals and polymers can be cut to size with a variety of tools.

Rip Saw/Cross-Cut Saw

Rip saws are used to cut parallel to the grain, whereas cross-cut saws are used to cut against the grain. **Used to cut wood.**

Tenon Saw

Cuts accurate straight lines in small pieces of wood and provides a smooth cut. **Used to cut wood.**

Hacksaw

Has a hard, high-carbon steel blade so it can cut through metal; also available in a junior size for smaller cuts. **Used to cut metal and plastic.**

Coping Saw

Can cut intricate curves in thin materials but is difficult to control; has a blade that can snap easily. **Used to cut wood and plastic.**

When cutting materials, follow the steps outlined below.

1: Secure the material with a clamp, or by placing it in a vice to prevent it from moving while the material is being cut.

2: Make a mark in the material you want to cut by dragging the saw backwards a few times; this will provide you with a guide to start sawing.

3: Use the full length of the blade when sawing, and don't press down too hard. Let the blade do the work!

4: When coming to the end of the cut, support the end piece to stop it from falling off and spoiling the cut.

Chiselling

Chisels are used to cut or shape wood (special types are also used to cut or shape stone and metal). They are long-bladed, bevel-edged hand tools that are struck with a hammer or mallet to remove material. Chiselling involves forcing the blade into the target material to carve or cut it.

Safety tip: When chiselling, ensure that the blade is sharp and that the wood is securely held in place.

Planing, Sanding & Filing

Materials can be shaped through planing, filing and sanding.

Planing

Planing is used to shape and smooth material (usually wood). It involves shaving off thin layers of the material until the desired shape and feel are achieved.

Manual hand planers and electric planers are available. Electric planers are quick and require much less effort than manual hand planers, but they are not as accurate.

Sanding

Sanding involves rubbing an abrasive paper against the surface of the material to shape and smooth it. It can be performed by hand or using machines.

Sandpaper is available in different grades. Coarse paper is ideal for heavy sanding and stripping. Conversely, extremely fine sandpaper is used for smoothing a surface and removing small imperfections.

Different versions, such as wet and dry paper, are also available for different materials. This type of sandpaper is ideal for removing paint from painted metal and wood.

Belt Sander

This is a powerful machine used to smooth wood, metals and plastics more quickly and effectively than hand sanding. It contains a motor that drives a pair of drums on which a belt of abrasive paper is held.

Disc Sander

This is a machine that has a powered disc of abrasive paper that is spun at high speed. It smooths surfaces and removes old finishes (e.g. paint) when wood, metals or plastics are pressed up against it.

Safety tip: Sanders create a lot of dust, so dust extractors must be switched on to reduce the risk of fire and inhalation. Goggles must also be worn to protect the eyes, and fingers should be kept away from abrasive materials on power sanders.

Filing

Files have a serrated (toothed) surface so when they are rubbed over a material, some of the target material is removed. They can be used on a variety of materials and are available in different forms.

Files with larger teeth remove more material than those with smaller teeth, which are better suited for smoothing.

The Design & Manufacturing Specifications

The main purpose of developing a new product is to solve a problem, thus satisfying a want or need. To ensure a new product is capable of this, it must go through a series of stages.

Design Brief

Once a problem or an idea has been identified, a design brief needs to be put together. This is a statement of intent that addresses how the product will solve the problem and satisfy a want or need. It also acts as a point of reference for the client and designer.

The design brief will usually contain a description of:

- Budget.
- What the product should do (function).
- Target market.
- How the product should look (aesthetics).
- Timescale.
- Why the product is needed.

The design brief can be as simple or as complex as the client wishes. However, the best design briefs have plenty of detail to inform and guide the design process. At this stage, the important thing is to outline what is needed rather than how the item will be produced.

Design Specification

The design specification is shaped through research and product analysis. It expands upon the design brief with specific details and ensures that the product meets its requirements.

The specification document should answer the following questions:

- How will the product work?
- What materials will be used?
- How will the design be produced?
- How much will it cost to produce?
- What are the safety requirements?

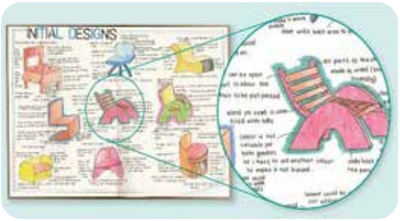
Having measurable specifications, such as weight and size dimensions, allows the product to be tested against the outlined requirements throughout the design process.

Annotated Drawings

Annotations are used to describe, explain or specify certain aspects of a design. For example, labels can be added to show sizes, materials, processes, weights and tolerances.

Annotations show good use of planning, decision-making and development in the design process.

Annotations can communicate in simple terms the designer's view about a certain aspect of the design. They can also be used to note how the design fulfils criteria within the specification.



Natural Fibres

Natural fibres come from biological sources (plants and animals). They are renewable and biodegradable.

Name	Image	Properties	Uses
Cotton Sourced from the cotton plant.		Strong, highly absorbent and cool to wear in hot weather. It is also easy to dye and wash. However, it creases easily, can shrink and is flammable.	Clothing, upholstery and towels.
Wool Sourced from animal fleece (mainly sheep).		Soft, warm and absorbent. It is also crease-resistant and has low flammability. However, it can shrink and takes a long time to dry.	Jumpers, rugs, blankets, coats, carpets.
Silk Sourced from silkworm cocoons.		Lightweight, smooth and soft. It has a lustre due to its fibre's triangular structure. However, it is expensive, weak when wet and creases easily.	Dresses, ties, soft furnishings and upholstery.

Synthetic Fibres

Synthetic fibres are polymers manufactured from chemical sources or fossil fuels. Therefore, most synthetic fibres are not sustainable or biodegradable.

Name	Image	Properties	Uses
Polyester		Strong and durable with low flammability. It is also non-absorbent and resistant to creases and biological damage. However, it is not very warm.	Sportswear, raincoats, bedsheets, rope, bedding.
Polyamide (nylon)		Lightweight but strong and hard-wearing. It is also crease-resistant, warm and non-absorbent. However, it is easily damaged by sunlight.	Ropes, sportswear, tights, swimwear.
Elastane (Lycra®)		Smooth, strong and very stretchy (elastic). It keeps its shape well and is crease resistant. However, it is highly flammable.	Sportswear, swimwear, leggings, underwear.

Cutting and Shearing

There are a range of tools available for cutting and shearing fabrics.

Fabric Shears

Also known as dressmaking scissors, these have long, sharp blades to cut fabric quickly and neatly.

Pinking Shears

These have serrated blades that are used to cut a zigzag edge into certain fabrics to stop them from fraying.

Embroidery Scissors

These have short, sharp blades that are suited to delicate work such as cutting threads. The blades are slightly curved to prevent them from piercing the fabric.

Seam Rippers

These have a small, forked blade that is used to unpick seams. The prongs help to grip tight threads to that the blade can cut them.

Teamwork means enjoying working together	**What makes an excellent freeze frame?** (levels, stillness, focus, expression, contact, dynamics, shapes)	**Techniques Angel Devil Pause Play Pause Multi Role Choral Speech**	**Being Creative**	**What kind of character is Big Bad Bun?**	**Games, trust and team building activities**	**Techniques Shared narration Devising Line learning**	**Playing a character Moving/thinking in character. Reactions. Relationships**	**Line learning**

Big Bad Bun Essential Vocabulary

Actor	Person on stage performing.
Character	The person in the story the actor pretends to be – e.g. Hermione is a heroic character in Harry Potter.
Characterisation	To pretend to be another personality, person using acting skill, insight, and creativity. Modern actors often play several characters in the same play.
Creative Skills	A complex and brilliant set of skills mixing intelligence and imagination with other people and tasks.
Devising	Making up a scene or story with others.
Expressing emotions	How actors show specific emotions using body, face and movement. Everyone expresses a huge range of emotions.
Freeze Frames	A still image of a point in the story, a character or location made of the performers in interesting shapes.
Multi-role	The actor plays more than one character, or narrator. Actors can also play elements of a picture or objects/ moods.
Rehearsal Skills	Where actors use time to develop, explore and improve their scene. They might practice, try things, add detail, change parts, memorise work, and improve their vocal and movement skills.
Actions and Reactions	Action – what one character does. Reaction – how another responds.
Story Theatre	Non-naturalistic, very physical theatre using the whole team, choral speech, actions, comedy and movement to tell a story.
Teamwork Skills	Working as a company with communication, creative and fantastic group skills awareness as a team.
Shared Narration and Choral Speech	Speaking in unison with accuracy and expression.
Unison	Moving or talking together in a synchronised way.
Non-Verbal Communication	Everything we convey through movement, stillness, gesture and expression.
Transitions	The sections linking freezes. Ideally these are in unison, quick and creative.
Angel Devil	A technique to show a character's internal conflict.
Pause-Play-Pause	A technique to bring a moment to life between freeze frames.

Actors and characters	Shakespearean rom-com: Midsummer Night's Dream • Love • Mischief • Magic	The Tragedy of Macbeth • Greed • Ambition • Betrayal • Love	How can actors convey complex emotions?	Rehearsal Skills Physical theatre Actions Interpretation	Audience understanding	Non verbal communication	Transitions between ensemble images	Performance skills • Line security • Literacy • Emotions • Characters • Relationships

Midsummer Night's Dream Essential Vocabulary

Line Learning	A collection of strategies we use to actively learn lines with repetition, social learning and home learning.
Themes	The central idea or message explored by a play e.g. Big Bad Bun explores choices and consequences.
Romantic Comedy	A rom-com explores the search for love as a series of comic problems that need to be solved (MND/Love, Actually).
Interpretation	How individuals see a character or story. For example, how David Walliams plays Bottom is different to how Pearce Quigley does!
Relationships	How a character interacts with other characters, and the audience.
Physical Theatre	Theatre where movement is key at creating meaning.
Performance Skills	These skills include how actors use their voice, their bodies, their faces, their understanding and their energy and effort.
Literacy	How well an actor can 'read' scripts, stories and emotions.
Dialogue	Speech between two or more characters in a play.
Imagery	This is how actors create the images of love, fun and magic in the woods in Midsummer Night's Dream.

Macbeth Essential Vocabulary

Tragedy	A serious work with an unhappy ending.
Protagonist	Main character.
Antagonist	Adversary of the main character.
Anti-Hero	Main character who lacks convention heroic qualities.
Chorus	A chorus comments on the action. They narrate, argue, warn, agree, encourage, and talk to the audience. They can represent lots of points of view.
Inner Conflict	Struggle in the mind of a protagonist.
Exploring Character	Exercises that help us understand character better.
Supernatural	Forces beyond rational understanding – ghosts, witches, vampires.
Power	Ability to control events or people, status or leadership.
Audience	The people who watch the show.
Staging	How the stage is set out and what is on it.
Ensemble	The team of actors working closely together.
Symbols and Representation	Images that have deeper meanings in art and drama e.g. red represents blood and danger, a dove is a symbol of peace.

Forms of Poetry

Form, in poetry, can be understood as the physical structure of the poem: the length of the lines, their rhythms, their system of rhymes and repetition.

Auto-biographical	A poem about the poet's life and experiences.
Ballad	A form of poetry often set to music.
Blank verse	Verse with no rhyme – usually ten syllables
Dramatic monologue	A character speaks to the reader.
Epic poem	Tragic/heroic story poems
First person	Poem written from the poet's viewpoint or perspective using 'I'.
Free Verse	No regular rhyme/rhythm
Lyrical	Emotional and beautiful
Narrative	A form of poetry that tells a story
Ode	Lyrical poem often addressed to one person.
Rhetoric	Persuasive
Sonnet	14 line poem often to do with love
Third person	A detached perspective (someone who isn't directly involved in the action) explains everything that is happening.

Poetry Terminology (Structure)

Anaphora	A device that consists of repeating a sequence of words at the beginning of neighbouring sentences.
Caesura	A pause in a line of poetry.
Enjambment	A thought or sense, phrase or clause, in a line of poetry that does not come to an end at the line break, but moves over to the next line.
Epistrophe	A device that can be defined as the repetition of phrases or words at the ends of the clauses or sentences.
Juxtapostion	The act of placing two things side by side for comparison.
Quatrain	A set of four lines.
Rhyme	Close similarity in the final sounds of two or more words or lines of writing.
Stanza	A stanza is a division of four or more lines in a poem.
Volta	The turning point of a poem.

Poetry Terminology (Language)

Abstract	An idea rather than a real thing.
Alliteration	The occurrence of the same sound at the beginning of adjacent or closely connected words.
Assonance	Resemblance of sound between syllables of nearby words, arising particularly from the rhyming of two or more stressed vowels, but not consonants
Authentic	Seems genuine or truthful
Colloquial Language	Informal, casual language
Emotive Language	Language used to make you feel a specific emotion.
Euphemism	Alternative words to make something nasty sound less harsh or blunt.
Extended Metaphor	Refers to a comparison between two unlike things that continues throughout a series of sentences in a paragraph, or lines in a poem.
Hyperbole	Exaggerated statements or claims not meant to be taken literally.
Imagery	Descriptive or figurative language.
Irony	A device or event in which what appears, on the surface, to be the case, differs radically from what is actually the case.
Metaphor	A way of comparing by saying something is something else, even though it isn't,
Mood	Another word for atmosphere.
Onomatopoeia	The formation of a word from a sound associated with what is named.
Personification	The attribution of a personal nature or human characteristics to something non-human, or the representation of an abstract quality in human form.
Plosive	A consonant that is produced by stopping the airflow using the lips, teeth, or palate, followed by a sudden release of air.
Rhetorical Question	A question that does not have an answer.
Semantic field	Groups/categories of words
Sibilance	Sibilance is a more specific type of alliteration that relies on the repetition of soft consonant sounds in words to create a hissing sound in the writing.
Simile	Comparing something using the words 'like' or 'as'.
Symbolism	The use of symbols to represent ideas or qualities.
Tone/Voice	Attitude of a writer toward a subject or audience.

Tier 2 Vocabulary

Armistice (n)	an agreement to stop fighting
Antagonism (n)	active hostility or oppression
Ephemeral (adj)	lasting for a very short time
Futility (n)	pointlessness of a situation
Harrowed (adj)	to be distressed
Incessant (adj)	continuing without pause or interruption.
Obscene (adj)	offensive or disgusting by accepted standards of morality and decency
Patriotic (adj)	expressing devotion to one's country
Poignant (adj)	evoking a sense of sadness or regret
Strife (n)	angry or bitter disagreement over fundamental issues
Vulnerability (n)	a state of being exposed to the possibility of being

Themes & Topics

-The glory and honour of war vs the reality of war

-Vulnerability of humans

-The sacrifices made by men and families

-Conflict between men and nature

-The irrationality of war

-The long term effects of war (PTSD, mental health)

-'Forgotten heroes'- those that survive war but live with the experience/consequences of it

-Big question: What inspires poetry? Why were writers compelled to write about war?

Provenance

Seasonality

Time of year when the harvest or flavour of a food is naturally at its peak

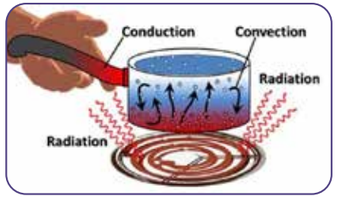
Food Miles

Distance travelled by food commodities from producer to consumer - farm to fork

Buy Local

Buying food that has been farmed or produced in local area, region or country.

Heat Transfer



Useful Websites:

www.foodafactoflife.org.uk www.bbc.com/food/techniques www.ifst.org/lovefoodlovescience/resources

Knife Safety

Bridge hold

Claw grip

Sensory Analysis

A way of evaluating food

The appearance of the food

What it tastes like

What it feels like

What it smells like

(1) Mon autoportrait (my self-portrait)

les animaux (mpl)	animals
les araignées (fpl)	spiders
les chats	cats
les chiens	dogs
le cinéma	cinema
les consoles de jeux (fpl)	games consoles
la danse	dance
le foot	football
les gâteaux (mpl)	cakes
le hard rock	hard rock
l'injustice (f)	injustice
les insectes (mpl)	insects
les jeux vidéo (mpl)	video games
les livres (mpl)	books
la musique	music
les mangas (mpl)	mangas
les maths (fpl)	maths
les pizzas (fpl)	pizzas
la poésie	poetry
le racisme	racism
le rap	rap
le reggae	reggae
les reptiles (mpl)	reptiles
le roller	roller-skating
le rugby	rugby
le skate	skateboarding
les spaghettis (mpl)	spaghetti
le sport	sport
la tecktonik	tecktonik (dance)
la télé	television
le tennis	tennis
le théâtre	theatre/drama
les voyages (mpl)	holidays
la violence	violence

Tu aimes...?	Do you like...?
Oui, j'aime ça	Yes, I like it
Non, je n'aime pas ça	No, I don't like it
C'est... / ce n'est pas...	It's... / It's not...
génial	great
cool	cool
bien	good
ennuyeux	boring
nul	rubbish

et	and
aussi	also
mais	but

Aimer - To like

Singular		Plural	
J'aime	I like	**nous aimons**	we like
Tu aimes	you like	**vous aimez**	you like
Il aime	he likes	**ils aiment**	they like
Elle aime	she likes	**elles aiment**	they like

(2) Mon kit de survie (my survival kit)

un appareil photo	a camera
une barre de céréales	a cereal bar
un bâton de colle	a glue stick
des chips (fpl)	some crisps
des clés (fpl)	some keys
une clé USB	a USB stick
une gourde	a water bottle
des lunettes de soleil	some sunglasses

Avoir - to have

Singular		Plural	
J'ai	I have	**nous avons**	we have
tu as	you have	**vous avez**	you have
il a	he has	**ils ont**	they have
elle a	she has	**elles ont**	they have

très	very	**assez**	quite

un magazine	a magazine
un miroir	a mirror
un portable	a mobile phone
un portemonnaie	a purse
un paquet de mouchoirs	a packet of tissues
un sac	a bag
des surligneurs (mpl)	some highlighters
une trousse	a pencil case
un crayon	a pencil
une règle	a ruler
une calculatrice	a calculator
un stylo	a pen
Dans mon kit de survie	In my survival kit
j'ai / je n'ai pas de...	I have / I don't have
c'est.../ ce n'est pas...	It is / It isn't
essentiel	essential
important	important

(3) Comment je me vois (how I see myself)

branché(e)	trendy
charmant(e)	charming
curieux / curieuse	curious
drôle	funny
généreux / généreuse	generous
gentil(le)	nice/kind
intelligent(e)	intelligent
modeste	modest
poli(e)	polite
beau / belle	good-looking
grand(e)	tall
petit(e)	small
de taille moyenne	average height
je suis / je ne suis pas	I am / I am not

très	very
assez	quite
un peu	a bit

être - to be

Singular		Plural	
Je suis	I am	**nous sommes**	we are
tu es	you are	**vous êtes**	you are
il est	he is	**ils sont**	they are
elle est	she is	**elles sont**	they are

mon ami/mon copain	my friend (male)
mon amie/ma copine	my friend (female)

(4) Et les autres? (and others?)

j'ai les yeux...	I have....eyes
bleus/verts/gris/marron	blue/green/grey/brown
j'ai les cheveux...	I have.....hair
longs/courts/mi-longs	long/short/medium-length
frisés/raides	curly/straight
blonds/bruns/noirs/roux	blonde/brown/black/red

C'est...	It is...
un garçon/une fille	a boy/a girl
il/elle a...	he/she has...
il/elle est...	he/she is...
pour la vie	for life
il/elle habite...	he/she lives
toujours	always
les sorties	outings

(5) Il est hypercool! (He is supercool!)

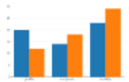
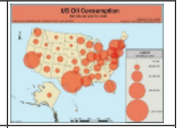
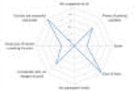
il/elle s'appelle...	he/she is called...
il/elle a...	he/she has...
il/elle est...	he/she is...
il/elle aime...	he/she likes...
il/elle chante	he/she sings
il/elle joue...	he/she plays...
...de la batterie	...the drums
...de la guitare	...the guitar
sa voix	his/her voice
beaucoup de	a lot of
vraiment	really/truly
la cuisine	cooking
bravo!	well done!
mon frère	my brother
mon père	my dad
ma sœur	my sister
ma mère	my mum
et	and
aussi	also
mais	but
très	very
assez	quite
un peu	a bit

the

masculine	feminine	before vowel or silent 'h'	plural
le	la	l'	les

a/an

masculine	feminine
un	une

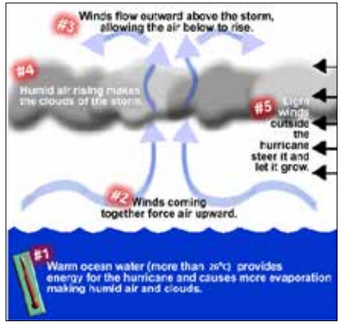
Key vocabulary	Definition	
Hypothesis	A specific testable prediction	
Primary data	Data you have collected yourself as a geographer.	
Secondary data	Data collected by someone else. Aim to use reliable sources.	
Bipolar survey	Data collection method that looks at the extreme viewpoints about an area	
Bar chart	a diagram in which the numerical values of variables are represented by the height or length of lines or rectangles of equal width	
Proportional symbols map	The size of the symbols is proportional to the value of the date	
Radial diagram	A graphical method of displaying multivariate data in the form of a two-dimensional chart	

Key vocabulary	Definition
Place	A space that has meaning and attachment to people.
Places can be...	Places we've seen in the media, home, places we've been on holiday or where family & friends live.
Near place	Could be geographically, culturally near or somewhere you feel comfortable, like an insider.
Far place	The opposite of a near place, it could be geographically far away or culturally very different.
Placeless	Somewhere that is not unique. It could be anywhere.
Topophillia	A strong sense of place
Topophobia	A fear of places or situations
Insiders	Feel like they belong to a place e.g. you as a student at PGS
Outsiders	Feel like they are "out of place" e.g. a student from another school visiting PGS
Positionality	People having different perspectives depending on whether they are insiders or outsiders
Culture	Ideas, customs and behaviour of society.

Key Words

Weather	The state of the atmosphere at a particular place and time as regards heat, cloudiness, dryness, sunshine, wind, rain, etc.
Human effect	This is something impacting humans e.g. a house being destroyed or people dying.
Physical/ environmental effect	This is something that impacts the natural environment e.g. rivers being polluted or 10m high waves.
Tropical storm	Also known as hurricanes, typhoons etc. are large, swirling storms with wind speeds of 74 mph or higher.
Distribution	Distribution refers to the way something is spread out or arranged over a geographic area.
Connective	A word or phrase whose function is to link other parts of a sentence and create more complex sentences.
Equator	An imaginary line at 0° dividing the earth into the northern and southern hemispheres
Evaporation	The process of turning a liquid into gas e.g. water vapour.
Saffir-Simpson Scale	A scale of 1 to 5 based on a hurricane's sustained wind speed. (5 being the highest).
Storm surge	The rising of the sea as a result of wind and atmospheric pressure changes associated with a storm or hurricane.

How do tropical storms (hurricanes) form?



Hurricane Katrina Case Study

Human Effects

1800 dead.

Dead bodies left to rot in the streets.

$108 billion worth of damage.

Louis Armstrong International Airport closed.

800,000 houses were destroyed.

Insurance companies have either raised the cost or stopped insuring homeowners in the area because of the high pay out costs.

Racial tensions were exposed as many of the victims were black African Americans.

Thousands of jobs disappeared due to the area being destroyed.

Environmental/Physical Effects

85% of New Orleans flooded.

11m high storm surge.

145mph winds.

Rivers and lakes were contaminated with sewage.

Flooding reached 6m high in places.

The lands that were lost were breeding grounds for marine mammals, brown pelicans, turtles and fish.

Hurricane Katrina was a category 4 storm.

The storm caused oil spills which resulted in over 26 million litres of oil being leaked.

Local Responses

33,500 people were rescued by the Coast Guard.

People searched for their loved ones amongst the flood waters and damaged buildings.

½million people ordered to evacuate.

20,000 people were evacuated to the Superdome.

Regional/National Responses

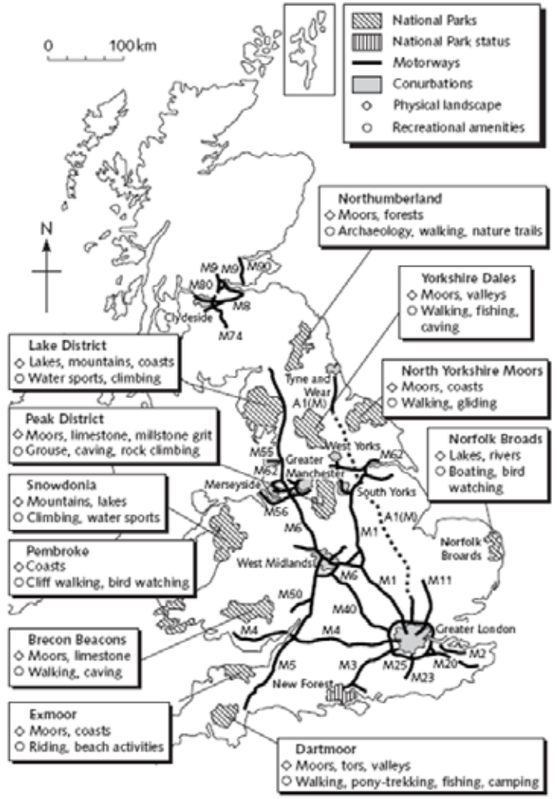
Spend $20 billion on the levees to protect against a category 5.

60,000 people moved over 1,200km away and were still there one month after the storm.

FEMA paid for temporary hotel costs of 12,000 individuals.

58,000 of the national guard were activated to deal with aftermaths of the storm.

Key Words/ Key Concepts/ Processes	Definition
Tourism in the UK? Why stay in the UK?	Easy travel, more affordable, may have a fear of flying.
Different types of holiday	Beach, skiing, horse riding, safari, cruise, city break etc.
National Parks	Are areas protected by the government, people live and work in National parks.
The Country Code	The concept used to protect our countryside e.g. keep dogs on a lead, shut gates behind you.
Tourism Advantages	Creates jobs, improves opportunities in the local area, supports economic development.
Tourism Disadvantages	Can create litter, loss of culture in the area, creates environmental impacts.
Sustainable Tourism	Meeting the need of the present without reducing the ability of future generation to meet their own needs. It is good for the environment, good for local people and is long lasting.
Motorways	A road designed for fast traffic, with relatively few places for joining or leaving.
Conurbation	An extended urban area, typically consisting of several towns merging with a central city e.g. Manchester.
Recreation	An activity done for enjoyment e.g. walking, horse riding.
Range	Difference between the highest and lowest value.
Mean	The average – add up all the data set and divide by the number of data.
Mode	The most common piece of data – the one that occurs the most
Median	The middle value – Put the data sets in order and identify the middle value.



1607	Britain sets up its first colony in America
1612	Britain sets up its first trading post in India
1619	the British began transporting people form African colonies as slaves to the Ameri-cas
1770	Captain Cook sailed to Australia and claimed it for the British
1775-1783	The American War of Independence: America fought to become independent from the British Empire
1787	The British start to use Australia as a penal colony (somewhere to send criminals)
1857	Indian mutiny against the British
1833	Slavery ends in British colonies
1947	India gained freedom from Britain

The British Empire covered 1/3 of the world

Objective:

to be able to explain the causes for and consequences of the British Empire. To be able to explain the way that the Empire had shaped modern Britain.

Key words

Empire	A group of countries ruled over by one monarch
Native	Someone born in a particular place, rather than moving there later
Resources	Items of value which can be used or traded
Settlers	People who go to a new country to live there permanently
Significant	Being important or having a big effect over time
Sepoy	Inian men serving in the British army
Mutiny	Members of the armed forces refusing to fight
Oppression	Controlling a group of people in a way that takes away their freedoms and choices
Independence	Having the ability to make decisions about your own life ra-ther than doing what somebody tells you
Conquer	To take control of an area using force

Key historical skills we are developing:

Interpretation—a view on a specific event. What do they think? Why do they have that view? How is their view different to someone else's? Why?

Usefulness—How can an historical source be used by an historian? What can it tell us about the past? Who produced it and why? Does this effect it's usefulness? What else do you know about the subject of the source? Does it tell us everything we need to know?

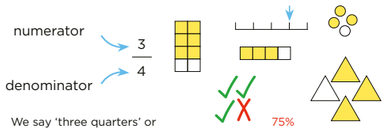
Extended writing to explain—Give more than one reason why an event happened. Write in paragraphs. What extra knowledge/ detail could you include to develop your writing? Can you add a conclusion about the most important reason for an event?

What do I need to be able to do?

You should be able to:

- • Understand different representations of fractions
- Fully simplify fractions
- Recognise and find equivalent fractions
- Convert between mixed numbers and
- improper fractions
- Add/subtract any fractions
- Add/subtract mixed numbers

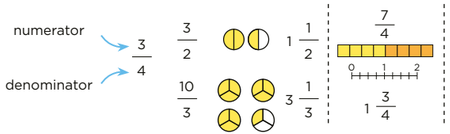
Representing Fractions



We say 'three quarters' or 'three out of four'

All of these show $\frac{3}{4}$

Mixed Numbers and Improper Fractions



Fractions can represent more than one whole.

The denominator tells us how many parts make up one whole

$\frac{9}{5}$

This tells us that one whole is made up of 5 parts. We have 9 parts, so we can make one whole plus 4 parts.

$1\frac{4}{5}$

Key Words

- Numerator: the top number of a fraction
- Denominator: the bottom number of a fraction
- Equivalent: of equal value
- Mixed Number: a number with an integer and a proper fraction
- Improper Fraction: a fraction where the numerator is larger
- than the denominator
- Coprime: two numbers which share no common factors (except 1)

Adding/Subtracting Fractions

Common denominators

$\frac{2}{7} + \frac{4}{7} = \frac{6}{7}$

Remember that the denominator doesn't change

$\frac{2}{7} + \frac{4}{7}$

$\frac{5}{8} - \frac{4}{8} = \frac{1}{8}$

We can just subtract 4 from 5!

$\frac{1}{10} + \frac{3}{10}$

$\frac{1}{10} + \frac{3}{10} = \frac{4}{10} = \frac{2}{5}$ ÷2

4 and 10 have a common factor (2)

You must always fully simplify your fractions

Adding/Subtracting Fractions

Different denominators

$\frac{1}{5} + \frac{3}{4}$

We need to find a common denominator using equivalent fractions

$\frac{1}{5} \times\frac{4}{4} \frac{4}{20}$

$\frac{3}{4} \times\frac{5}{5} \frac{15}{20}$

$\frac{4}{20} + \frac{15}{20} = \frac{19}{20}$

$\frac{3}{11} + \frac{2}{3} = \frac{9}{33} + \frac{22}{33} = \frac{31}{33}$

the LCM of 3 and 11 is 33, so our equivalent fractions are;

$\frac{3}{11} = \frac{9}{33}$ $\frac{2}{3} = \frac{22}{33}$

$\frac{5}{7} + \frac{4}{9} = \frac{45}{63} + \frac{28}{63} = \frac{73}{63}$

Let's convert it to a mixed number

Remember you can find the LCM of 7 and 9 by listing their multiples;

7 , 14, 21, 28, 35, 42, 49, 56, 63, 70

9, 18, 27, 36, 45, 54, 63, 72,

$=1\frac{10}{63}$

Equivalent Fractions

Two fractions are equivalent if they represent the same quantity

Each of these diagrams represents an equivalent amount

They all show '2 out of every 3' or $\frac{2}{3}$ $\frac{6}{9}$ $\frac{2}{3}$ $\frac{4}{6}$ $\frac{8}{12}$ $\frac{6}{9}$

If the numerator and denominator have the same multiplier, they are equivalent

$\frac{5}{7} \times5 = \frac{25}{35} \times5$ $\frac{1}{4} \times2 = \frac{2}{8} \times2$

Simplifying Fractions

$\frac{2}{4} \div2 = \frac{1}{2} \div2$

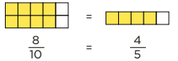
HCF of 2 and 4 is 2 so to fully simplify the fraction by dividing the numerator and denominator by 2.

$\frac{4}{12} \div2 = \frac{2}{6} \div2 = \frac{1}{3} \div2$

$\frac{4}{12} \div12 = \frac{1}{3} \div12$

Both ways get us to the right answer, just one takes a bit longer

$\frac{8}{10}$ Sometimes a picture can help visualise the problem



Once you cannot find a common factor, the fraction is fully simplified

$\frac{7}{10}$

This fraction is fully simplified as 7 and 10 have no common factors. We can say that 7 and 10 are COPRIME

Adding/Subtracting Fractions

Common multiples

$\frac{3}{5} + \frac{1}{10}$

10 is a multiple of 5 (5 x 2) so, using equivalent fractions we can say: $\frac{3}{5} = \frac{6}{10}$

$\frac{6}{10} + \frac{1}{10} = \frac{7}{10}$

$\frac{3}{4} - \frac{1}{12}$

12 is a multiple of 4 (4 x 3) so, using equivalent fractions we can say: $\frac{3}{4} = \frac{9}{12}$

$\frac{9}{12} - \frac{1}{12} = \frac{8}{12} = \frac{2}{3}$

Remember you must always fully simplify your fractions

$\frac{1}{2} + \frac{2}{3} + \frac{1}{6}$

Here, we know that 2 and 3 share a common multiple of 6, so we can say: $\frac{1}{2} = \frac{3}{6}$ and $\frac{2}{3} = \frac{4}{6}$

$\frac{3}{6} + \frac{4}{6} + \frac{1}{6} = \frac{8}{6}$

We need to give our answer as a mixed number

$\frac{4}{3}$ Simplify $= 1\frac{1}{3}$

Adding/Subtracting Mixed Numbers

Method 1

$1\frac{3}{4} + 2\frac{1}{2}$

We have three 'wholes' + $\frac{3}{4} + \frac{1}{2}$

$\frac{3}{4} + \frac{2}{4}$

$= \frac{5}{4}$

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

So we have:

$3 + 1\frac{1}{4} = 4\frac{1}{4}$

Method 2

$1\frac{3}{4} + 2\frac{1}{2}$

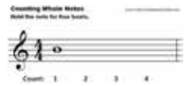
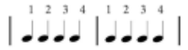
$1\frac{3}{4} =$ ⊕⊕ $= \frac{7}{4}$

$2\frac{1}{2} =$ ⊕⊕◑ $= \frac{5}{2} \times2 = \frac{10}{4} \times2$

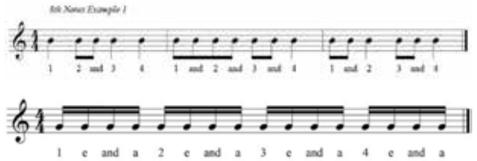
$\frac{7}{4} + \frac{10}{4} = \frac{17}{4} = 4\frac{1}{4}$

How many times does 4 go into 17? 4,8,12,16,20...

4 with a remainder of 1

Symbol	Name	Value	How to Count
𝅝	**Semibreve**	4	
𝅗𝅥	**Minim**	2	
♩	**Crotchet**	1	
♪	**Quaver**	1/2	
𝅘𝅥𝅯	**Semiquaver**	1/4	

Try tapping out some of these rhythms while you count:



Pitch	Visual Representation	Features	Description
Low Pitch		Bass, Cello, Tuba, Trombone use this clef.	This is the bass clef, sometimes called the F clef.
Low Pitch Notes		There is an easy way to remember the lines and spaces: **G**reat **B**ig **D**ogs **F**righten **A**untie. **A**ll **C**ows **E**at **G**rass.	The bass clef is used to notate low pitch instruments.
High Pitch		Violin, clarinet, right hand piano.	This is the treble clef, sometimes called the G clef.
High Pitch Notes		There is an easy way to remember the lines and spaces: **E**very **G**reen **B**us **D**rives **F**ast. **F A C E**.	The treble clef is used to notate higher pitch instruments.
Low and High Voices Acronym: **SATB**		Peoples singing voices range from low to high. Male voices are lower, female voices are higher.	**S**oprano: Highest female voice. **A**lto: High female voice. **T**enor: Mid-range male voice. **B**ass: Low male voice.

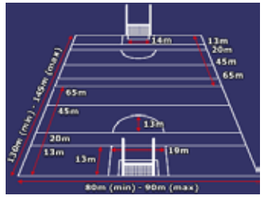
Self-Test Questions

1. Which clef would a bass guitar use?
2. Which is the highest pitch female voice?
3. What does SATB stand for?
4. Which clef does higher sounding notes use?
5. A clarinet would use which clef?

Super Challenge Question

1. Which clef would a piano use?

Pitch Markings



Key Skills

Passing	feet and hands – hand slap, kick pass
Kicking	Punt, drop, freekick
Tackling	intercepting, blocking
Shooting	long, short, feet and hands45s
Moving with the ball	solo, toe to hand, pick up, bouncing
Receiving the ball	one hand, two hand catch,
Pick up	getting the ball from the floor must be done by scooping the ball up with your feet

Key Rules/Fouls

Running with the ball in the hands	Can only take 4 sets before you must bounce or solo the ball.
Shooting	You can score in the football net or hit the ball over the bar between the posts (with feet and hands)
Passing with the hands	strike the ball with the fist, not thrown
Moving with the ball in the hands	cannot bounce it twice in row
Contact	shoulder contact and slapping the ball out of an opponents hand is allowed

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.

Fouls are awarded for the following

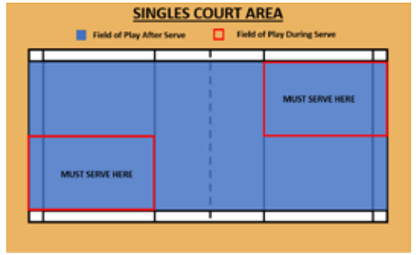
- Blocking a shot with the foot
- Pulling an opponent's jersey
- Pushing an opponent
- Sliding tackles
- Striking an opponent
- Touching the goalkeeper when he/she is inside the small rectangle
- Tripping
- Using both hands to tackle
- Wrestling the ball from an opponent's hands

Restarting play

A match begins with the referee throwing the ball up between the four mid fielders.

Kick out	after the attacker has shot wide or scored, goalkeeper kicks the ball out.
Freekick	after a foul is committed – kicked from ground or hands
Penalty kick	from the ground if a player is fouled inside the large rectangle
Sideline kick	kicked from the ground or hands where the ball went out

Court Markings



Key Skills

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

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 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

Personal Skill Development

- Sportsmanship
- Intrinsic motivation
- Resilience

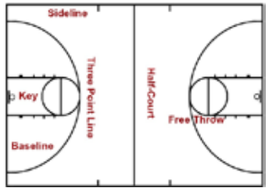
Theoretical Links

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

Health Benefits

- Improves cardiovascular endurance
- Improves aerobic and anaerobic fitness

Court Markings



Key Rules/Fouls

Teams	Played with 5 players on each team
Non-contact	Basketball is a non-contact. Deliberate contact results in a foul
Travelling	Taking more than 'two steps' when in possession of the ball or moving your pivot foot once you've stopped
Double Dribble	You must dribble the ball bouncing with one hand in one continuous motion. Two handed dribbling or start-stop dribbling is not allowed

Scoring	You score by shooting the ball through the basket. Two points inside the circle, 3 points from outside the circle. 1 point from a free throw
Moving/ handling the ball	Once you cross the halfway line you cannot go back into your half during possession. You can only hold onto the ball for a maximum 5 seconds then you must pass, dribble or shoot
Duration / Format	4 quarters of 12 minutes. Allowed to call 'time outs' up to six times in a game for tactical and recovery purposes

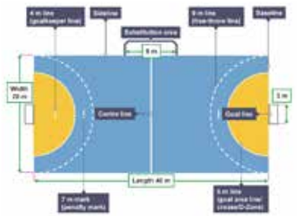
Key Skills

Pivot, footwork, jump stop:	1. First foot to land is the static pivoting foot 2. Landing on both feet – either foot can become static pivoting foot 3. On the move – release the ball before third step
Triple threat:	Face the basket. Able to pass, shoot or dribble the ball
Dribbling:	One handed, push the ball with your finger tips, keep your head up to see team mates and the opponents
Passing:	3 main types: Bounce, chest and overhead pass
Shooting:	**1. Set shot (two hands release) – 'BEEF'** – Balanced, Eye on target, Elbow under ball, Follow through. **2. Lay up (one hand release)** – dribble, pick up ball, take two steps to drive to the basket, shoot aiming at the top corner of the backboard small square **3. Free throws:** Taken after a personal foul, worth 1 point
Defending:	Man-to Man. Rebounding. Boxing out. Zonal marking. Half court press. Full court press.
Screening:	A legal block set by an offensive player on the side of or behind a defender in order to free a teammate to take a shot or receive a pass

Positioning:

Point Guard: 'Playmaker' team's best dribbler and passer.
Shooting Guard: team's best shooter. Makes shots from long distance and is a good dribbler
Power forward: plays near the basket, good at rebounding, defending and taking longer shots
Small forward: Strong all round player. Licence to move all over the court.
Centre: tallest player. Plays near the basket. Scores close shots and makes rebounds on misses

Court Markings



Key Rules/fouls

- 7 players per side
- 30 minute halves
- Can't shoot inside the D.
- 3 steps with the ball, but no more.
- Goalie is allowed outside.
- 3 seconds holding the ball.

Positions

- GK
- Left back
- Right back
- Centre
- Right wing
- Left wing
- Pivot

Key Skills

Passing - Chest, shoulder, bounce, Overhead
Attacking Dodging skills - Feint/single dodge and double dodge.
Signalling - Receiving the ball
Marking a player/Space - Defending
Interception - Gaining possession
Shooting - Close/distance
Dribbling - Bounce /no bounce

Personal Skill Development

- Communication
- Teamwork

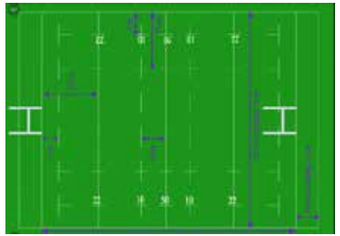
Theoretical Links

- 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



Key Rules

- The game is played between two teams of thirteen players each.
- The game lasts for 80 minutes, with two halves of 40 minutes.
- Each team is given six tackles for a chance to score.
- If a team doesn't score in this time then the ball is 'handed over' to the opposition.
- 4 points are awarded for a try, 2 for a conversion/penalty and 1 for a drop goal.
- The ball cannot be passed forwards.

Key Skills

- **Passing:** Able to pass to the left and the right.
- **Tackling:** Front, side, rear.
- **Kicking:** Defensive and attacking.
- **Playing the ball**.
- **Positional awareness**.
- **Scrum**.
- Playing to individual **players strengths** and **opponents weaknesses**.

Penalties Awarded For

- Tackling a player who isn't in possession of the ball.
- Tripping an opponent up.
- Hitting an opponent with arm or fist.
- Kicking the ball when your opponent is trying to pick it up.
- Dangerous play, such as tackling your opponent above their shoulders.
- Defenders not back in line with the referee (5 metres).

Personal Skill Development

- Communication.
- Teamwork.

Theoretical Links

- Importance of a warm up/cool down.
- Different types of strength used and what training would be applicable to improving it.

Health Benefits

- Improves cardiovascular health.
- Promotes positive mental well being.

Healthy Diet and Obesity

Nutrient — A substance that is needed for healthy growth, development, and functioning.

Balanced Diet — Ensuring you eat all of the required nutrients for your body to function properly.

Food Groups — Carbohydrates, proteins, vitamins, fats, sugars.

Your Health — Poor diet can lead to conditions such as obesity, heart disease, poor oral hygiene and diabetes.

Hydration and Sugary Drinks

Dehydration — A harmful reduction in the amount of water in the body.

Signs — Thirst and dark-coloured urine. Other symptoms include dizziness or light headedness, headaches and tiredness

Water Intake — A child should drink between 6-8 glasses of water a day.

Sugar Intake — A limit of 25g of sugar during a day.

Sugar Tax — In April 2018 the sugar tax was introduced in the UK. It was designed to reduce health problems and childhood obesity.

Sleep and Screen Time

Deprivation — A lack or loss of something you need to function.

Sleep — Sleep is an active period where memories are also stored, muscle is grown and damaged tissue is repaired.

Sleep Time — 11-year-olds should home to get between 9-11 hours sleep where as teenagers should aim to get 8-10 hours sleep.

Screen Time — Screen time includes time watching TV, on the phone, playing on the computer or on a tablet.

Limiting Screen Time — Screen time and caffeine can both affect the quality of sleep that you have and cause **sleep deprivation**. Children spend an average of 1.5 hours screen time before bed.

Puberty

Hormones — Chemicals your body makes to help it do certain things - like grow up!

Puberty — The process of physical changes through which a child's body matures into an adult body.

Girls: Ages 7-13.

Boys: Ages 9-15.

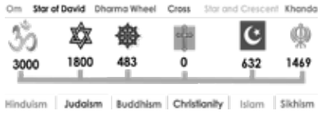
Physical Changes — Growth, facial hair, voice breaking, menstrual cycles start, increased sweating.

Emotional Changes — Mood swings, increase in testosterone.

Spots and Acne — Spots are due to **hormones** and an oily substance called sebum, your body produces more during puberty, which causes blocked pores, and spots.

Introduction to World Religions

6 World Religions — There are six major world religions in the world today. They originated in the following order:



Monotheism — Religions which follow one God. Mono comes from the Greek term 'one' – for example, monobrow! Examples include: Judaism, Christianity, Islam and Sikhism.

Polytheism — Religions which follow more than one or multiple Gods. Examples include: Hinduism.

Christianity and the Church

Christianity – Key Facts:

- There are 12.8 billion Christians in the world.
- Christianity was founded by Jesus.
- Christian worship takes place in a Church.
- Christians read the holy the Bible.
- It is a **monotheistic** religion.

Church Meaning

1. The holy people of God who work together and believe God is with them to help and guide.
2. A building in which Christians worship.

Role of the Church — Many Churches lead counselling, food banks, education, study groups, etc. One major role is their commitment to charity and helping those in need.

Faith without Action is Dead — The Christian teaching that worshipping is not enough and that they should help those in society who are in need. E.g. homeless.

Judaism and Jerusalem

Judaism – Key Facts:

- Judaism is the world's oldest religion.
- There are 15 million followers, called Jews.
- The holy book is the Torah.
- Jews worship in the Temple.
- The founder of Judaism is Abraham.
- Jews refer to God as Yahweh.

Pilgrimage — A special journey made for religious reasons to a place of religious interest.

Pilgrimage to Jerusalem — Jews believe **all of creation began in Jerusalem**. There have been two special temples built here, but the first was destroyed. The only remaining part of the second is where many Jews visit the Western Wall. Here they bring special prayers and place them in the cracks of the wall, in the hope they will be heard by God.

Islam and Mecca

Islam – Key Facts:

- There are 1.8 billion followers worldwide.
- The place of worship the Mosque.
- The Muslim Holy book is called the Qur'an.
- The **Prophet Muhammad** founded Islam.
- Muslims call God **Allah**.
- Muslims follow the 5 pillars of Islam.
- Islam is a monotheistic religion as they believe in one God.

Saudi Arabia — Islam began in Saudi Arabia. Here, the Prophet Muhammad received the word of Allah, which is found in the Qur'an. It is the Holiest place in Islam.

Hajj — Hajj is an annual Islamic pilgrimage to Mecca, a mandatory religious duty for Muslims that must be carried out at least once in their lifetime by all adult Muslims who are physically and financially capable.

Kaaba — A black stone building in Mecca that is shaped like a cube; it is the holiest place and symbolises belief in one God. Muslims everywhere face it when they pray by using a compass.

Ritual — A ceremony consisting of a series of actions performed according to a set order.

Hinduism and the River Ganges

Hinduism – Key Facts:
- Hinduism began in ancient India.
- There is no single founder in Hinduism.
- Hinduism is a **polytheistic** religion – 33 million Gods.
- All however worship one supreme being, Braham.
- Hindu's worship in the Mandir.
- The holy texts are called the Vedas.

River Ganges – The River is located between India and Bangladesh. It is over 2700km long.

Mother Ganga – Hindus regard the Ganges as not only a river but also a mother, a Goddess called Ganga.

Purification – In Hinduism it is considered holy to take a **pilgrimage** to the Ganges and bathe in it to purify a person's soul of all past sins, and cure illnesses.

Life and Death – Varanasi on the River Ganges is the most famous cremation site. Hindu's believe if you are cremated here, you will escape reincarnation (cycle of birth and rebirth) and achieve Moksha which is freedom and eternal peace.

Environment – Recently, the river has become polluted and raised lots of environmental concerns.

Buddhism and the Mahabodhi Temple

Buddhism – Key Facts:
- There are 376 million followers worldwide. Buddhist have no personal God, but follow the path of the Buddha (Siddhartha Gautama).
- The place of worship is called a temple.
- The holy book is called the Pāli Canon.

Siddhartha Gautama – The founder of Buddhism who eventually became known as the Buddha. He was once a prince, but gave this up to focus on his beliefs.

Dharmic Religions – Religions which originated in India are referred to as Dharmic.

Mahabodhi Temple – A site of pilgrimage for Buddhists. It houses a huge statue of the Buddha meditating in Gold. Buddhists believe that the Bodhi Tree there is a descendent of the tree under where the Buddha gained enlightenment – true knowledge.

Enlightenment – Freedom from the cycle of birth and rebirth which Buddhists associate with suffering.

Sikhism and the Golden Temple

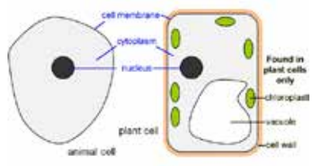
Sikhism – Key Facts:
- There are 18 million Sikhs worldwide.
- Sikhism was founded by the Guru Nanak roughly hundred years ago.
- Sikhs worship in a Gurdwara.
- Sikhs call the one God the Waheguru. It is a Dharmic and monotheistic religion.

Golden Temple
- Many Sikhs go on pilgrimage to here, although it is not obligatory as Sikh's believe the Waheguru (God) is everywhere.
- People swim in the lake to heal illnesses.
- There are 4 doors, this represents **equality**; one on every side to show that people of all races and religions are equal.

Langar – The Langar is a dining hall where volunteers prepare the food. The food is free, everyone sits on the floor to show they are equal. There is a langar in every temple in the world – as well as the Golden Temple.

Equality meaning – The state of being equal, especially in status, rights, or opportunities. One of the central beliefs in Sikhism is equality – that no one is more important than another.

7B1 Cells - Essential knowledge sheet



Organelle	*Function*
Nucleus	Contains DNA
Cell membrane	Controls what moves in and out of the cell
Cytoplasm	Where most chemical reactions take place
Cell wall	Strengthens plant cells
Vacuole	Contains cell sap
Chloroplast	Site of photosynthesis

Organisation of the body

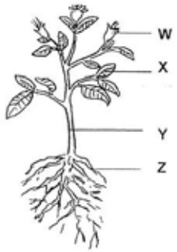
Arrange the following in order from smallest to largest:

cell
nucleus
organ
tissue
organ system
organism

Complete the method:
Viewing cells under a microscope

1. Carry the microscope by the handle
2. Place it near a light source and angle the mirror so light shines up through the hole in the stage
3. Clip the slide on to the stage
4. Select the lowest powered objective lens
5. Adjust the focusing knobs until you have a clear image

Plant organs
Label each part and state the function



W – Petal - attracts insects
X – Leaf - for photosynthesis
Stem - to support the plant
Y – Roots - absorb water and nutrients

Organ transplants

What is an organ transplant?
A damaged or faulty organ is taken from a patient and replaced with a good one from someone else

State an advantage and a disadvantage of having an organ transplant
Adv - helps keep patient alive
Disadv - Could be rejected

Label:
stage, mirror, eyepiece lens, objective lens, handle

Describe how is each cell is adapted for it's function

Root hair cell

- Projections give a large surface area
- Lots of mitochondria

Red blood cell

- No nucleus so contains more haemoglobin
- Shape increases surface area

Organ systems

Organ system	Organs involved	Function
Respiratory system	Lungs	To take in oxygen, let out carbon dioxide
Circulatory system	Heart & Blood vessels	To transport gas and nutrients
Digestive system	Mouth, oesophagus, stomach, intestines, pancreas	Digest food and absorb nutrients

7C2 - Acids and Alkalis - Essential Knowledge Sheet

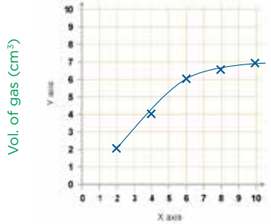
Corrosive
- could burn skin

Toxic
- poisonous if ingested

Flammable
- can set on fire easily

Irritant
- can be itchy on skin

Plotting graphs
Plot the data on the graph and label the axis



Time (min)	*Volume of gas collected (cm^3)*
2	2
4	4
6	6
8	6.5
10	7

Key Term	*Definition*	*Examples*
Acid	Anything pH 1-6	Car battery acid Vinegar
Alkali	Anything pH 8-14	Soap Washing powder

Indicator	*Acid*	*Alkali*
Blue litmus paper	Red	Blue
Blue litmus paper	Red	Blue
Blue litmus paper	Red-Green	Green-purple/blue

pH scale

What does the pH scale tell us?

Label the range of acids, alkalis and neutral on the scale

Acids Neutral Alkalis

Colour	Dark Red	Red	Red	Orange Red	Orange	Orange yellow	Greenish yellow	Green	Greenish blue	Blue	Navy blue	Purple	Dark purple	Violet	Violet
pH	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Neutralisation

Complete the method

1. An acid will react with an alkali Reacting an acid with an alkali is called neutralisation
2. Measure out 20cm 3 of acid, and pour it into a beaker
3. Add a few drops of Universal Indicator solution. This will turn it a red colour . Its pH will be about 1.
4. Carefully add your alkali with a pipette. The colour will turn orange, and it is now about pH 4.
5. Eventually you have neutralised the acid. The colour will now be green, it will be pH 7. A solution that is not an acid and not an alkali is described as neutral.

7P1 - Energy - Essential Knowledge Sheet

Energy is the ability of an object (or machine) to do something

Energy is measured in Joules (J)

Power is the rate of energy transfer per second.

Power is measured in Watts Or Kilowatts

1000 Watts = 1 Kilowatt

Three fossil fuels are

1. Coal
2. Oil
3. Natural gas

One disadvantage of burning fossil fuels is that they release carbon dioxide

Examples of renewable energy resources are:

Solar (using energy from the sun)

Wind

Waves

Hydroelectric (Using energy from falling water)

Biomass (using organic material e.g. animal waste)

Geothermal heating water using hot rocks under the earth's surface)

Energy Pathways (Energy going from one store to another)

Forces

Electrical Current

Heating

Radiation

Chemical Reaction

Conservation of energy

Energy can not be created or destroyed, it can only be converted from one store into another.

Energy that is 'wasted', like the heat **energy** from an electric lamp, does not disappear. Instead, it is transferred into the surroundings and spreads out so much that it becomes very difficult **to do** anything useful with it.

The sun

The original source of most energy resources.

Plants store the sun's energy through photosynthesis.

Animals then eat the plants.

Energy stores:

Kinetic e.g. a car moving

Gravitational potential e.g. A ball lifted into the air

Chemical E.g. Energy in food

Electrostatic E.g.. Charged balloon sticking to wall

Magnetic E.g. Energy in a bar magnet

Elastic E.g. In a stretched elastic band

Nuclear E.g. In Uranium fuel

Thermal e.g. In a hot object

¿Y tú? ¿Qué Term?	What do you study?
Estudio...	I Study...
ciencias	Science
dibujo	art
educación física	PE
Español	Spanish
francés	French
geografía	geography
historia	history
Informática	ICT
Inglés	English
Matemáticas	Maths
Música	Musics
religión	RE
teatro	Drama
Tecnología	Technology

¿Cuál es tu día favorito?	What is your favourite day
mi dia favorito es el lunes/ el martes	My favourite day is Monday/Tuesday
Los lunes/martes estudio...	On mondays/ Tuesdays I study
¿Por qué?	Why?
Porque...	Because...
por la mañana	In the morning
por la tarde	In the afternoon
estudiamos	we study
no estudio	I don't study

Estudiar (to study) present tense

Estudio - I study	Estudiamos - we
Estudias - you study	Estudiás - you (pl)
Estudia - s/he studies	Estudian - they studied

Opiniones	Opinions
¿Te gusta el dibujo?	Do you like art?
SÍ, me gusta (mucho) el dibjuo	Science
no, no me gusta (nada) el dibujo	No, I don't like art (at all)
¿Te gustan las ciencias?	Do you like science?
SÍ, me encantan las ciencias	Yes, I love science

aburrido/a	boring
Difícil	difficult
divertido/a	funny
fácil	easy
importante	important
interesante	interesting
Práctico/a	practical
Útil	useful

Los profesores	Teachers
El profesor/La profesora es...	The teacher is...
paciente	patient
raro/a	odd
secero/a	strict

¿Qué hay en tu insti?	What is there in your school?
En mi insti hay...	In my school, there is...
Un campo de fútbol	a football field
Un comedor	a dining hall
un gimnasio	a gymnasium
un patio	a playground
una biblioteca	a library
una clase de informática	An ICT room
una piscina	a swimming pool
unos laboratorios	some laboratories
unas clases	some classrooms
no hay piscina	there isn't a swimming pool

Ser (to be) - Present tense

Soy - I am	Somos - we are
Eres - you are	sois - you (pl) are
Es - s/he is	Son - they are

¿Cómo es tu insti?	What's your school like?		
Es...	it's...	**grande**	big
antiguo/a	old	**horrible**	horrible
bonito/a	nice	**moderno/a**	modern
bueno/a	good	**pequeño/a**	small
feo/a	ugly		

¿Qué haces durante el recreo?	what do you do during break?
Como...	I eat...
un bocadillo	a sandwich
unos caramelos	some sweets
chicle	chewing gum
una chocolatina	a chocolate bar
fruta	fruit
unas patatas fritas	some crisps
Bebo	I drink
agua	water
un refresco	a fizzy drink
un zumo	a juice
Leo mis SMS	I read my text messages
Escribo SMS	I write text messages
Nunca hago los deberes	I never do homework

expresiones de tiempo	time expressions
normalmente	normally
a veces	sometimes
primero	first
luego	then

Comer (to eat) - present tense

como - I eat	Comemos - we
comes - you eat	coméis - you (pl)
come - s/he eats	comen - they

Beber (to drink) - present tense

bebo - I drink	bebemos - we
bebes - you drink	bebéis - you (pl)
bebe - he/she	beben - they

Palabras muy frecuentes	High-frequency words
algo	something
donde	where
hay	there is/there are
o	or
pero	but
¿por qué?	why?
porque	because
también	also, too
tampoco	nor/neither
y	and

Gramática

The plural form of **un/una** (meaning 'a') is **unos/unas** (meaning 'some'):

	singular	plural
masc	un laboratorio	unos laboratorios
fem	una clase	unas clases

Remember, there are also four words for 'the' in Spanish:

	singular	plural
masc	el laboratorio	los laboratorios
fem	la clase	las clases

SKILLS

Writing better sentences

Make your sentences matter by using:

- connectives (**y, pero, o, también, porque**)
- intensifiers (**muy, bastante, un poco**)
- sequencers (**primero, luego**)
- expressions of frequency (**a veces, normalmente**).

Look at how Guillermo uses these in exercise 6.

When you are giving you opinion about subjects, you need to checke three things:
1. that you have the correct verb form: me gusta/megustan
2. that you have used the correct definite article: el/la/los/las
3. that your adjectives agree in number and gender: abburido/aburrida/aburridos/ aburridas

NOTES

NOTES

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