Penryn College

Belong | Aspire | Succeed

Year 7 Autumn 2 Knowledge Booklet

2026 - 2027

Name _____

Tutor Group _____

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At Penryn College, we are PROUD of the work in our books.



Penryn College

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We show this by:

P

Presentation



- I write the date neatly in the margin.
- I write and underline the LO and titles.
- I use black or blue pen for writing.
- I draw diagrams in pencil and label them.
- I use my best handwriting.

R

Response



- I complete all questions to the best of my ability.
- I write in full sentences.
- I highlight command words.
- I think deeply about the task.
- I show effort and do not rush my work.

O

Organisation



- I draw a line below each lesson's work.
- I set out my work clearly using steps or paragraphs.
- I keep my book tidy and in order.
- I cross out mistakes neatly with one line.
- I do not doodle in my book.

U

Use of Vocabulary



- I use key subject words.
- I check the spellings of key words.
- I highlight or underline keywords.
- I include definitions when needed.
- I use vocabulary in the correct context.

D

Dedicated Improvement



- I use red pen to respond to feedback.
- I correct my mistakes carefully.
- I edit and improve my work.
- I respond to my teacher's feedback.
- I rewrite incorrect spellings 3 times and apply in a new sentences.

★ PROUD work. Every lesson. Every book. Every student. ★

At Penryn College we want everyone

Finding My VOICE

Penryn College
"Belong, Aspire, Succeed"

We do this by:

V	O	I	C	E
VOICE	**OTHERS**	**INQUIRE**	**CRITICAL THINKING**	**EVALUATE**
Express my thinking and share my thoughts	Collaborate with others by listening and connecting ideas	Question and explore deeply	Analyse, Question and reason	Summarise and Conclude
"I think/feel that... because ... " **"My view is... because ...."**	**"Building on what was said..."** **"That connects to my experience..."**	**"Can you explain what you mean by...?"** **"What makes you think that?"**	**"What evidence supports this?"** **"Could there be another explanation?"**	**"The most important point is..."** **"My thinking has changed because..."**

Every lesson | Every discussion | Every student



Equipment List

Penryn College
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Come to every lesson ready to learn!

- Black / blue / red pens (you will need more than one)
- A ruler (15cm minimum)
- Rubber
- Pencils
- Colouring pencils
- Pencil sharpener
- Highlighters
- Glue Stick
- Whiteboard pens
- Geometry set (set square, protractor, compass)
- Scientific calculator
- Water Bottle
- iPad
- Pair of wired headphones for use with iPad

HOW DO I USE MY KNOWLEDGE ORGANISER?

LOOK, COVER, WRITE , CHECK



1. **LOOK** at the box of information, a diagram or the definition of a word.



2. **COVER** it up.
3. **WRITE** down the information/definition or draw the diagram from memory.



4. **CHECK** your work and use a different colour pen to correct any mistakes.



The more you retrieve information from memory, the stronger your memory becomes.

How can parents support?

- Read through the organiser with your child – if you don't understand the content then ask them to explain it to you – 'teaching' you helps them to reinforce their learning.
- Test them regularly on the spellings of key words until they are perfect. Get them to make a glossary (list) of key words with definitions or a list of formulae.
- Read sections out to them, missing out key words or phrases that they must fill in. Miss out more and more until they are word perfect.

FLASHCARDS



1. **CHOOSE** a section of your knowledge organiser.
2. **WRITE** a question, keyword or diagram prompt on one side of a flashcard.
3. **WRITE** the answer on the other side.
4. **LOOK** at the question and try to recall the answer from memory.
5. **TURN** the card over to check your answer.
6. **SORT** your cards into two piles: **Know It** and **Need to Practise.**
7. **REPEAT** the cards in the Need to Practise pile until you can answer them confidently.

Flashcards are a simple way to test your memory and focus on the knowledge you need to practise most.

You will use your knowledge booklet regularly throughout this term. You will use this as part of your lessons, your homework and your revision. Your teachers will guide you to which bits of information to focus on at any given time.

ART – UNIT 1 – Elements of Art and Design



Core Knowledge

By the end of this unit you will know …

The 7 elements of art are Line, Shape, Form, Tone, Texture, Pattern, and Colour. Artists use these visual elements to communicate ideas and create meaning.

- **Line –** contour, continuous and descriptive lines.
- **Shape –** geometric and organic forms in compositions.
- **Form –** spheres, cubes and cylinders created through shading.
- **Tone –** tonal scales from light to dark creating depth.
- **Texture –** actual and implied texture; frottage techniques.
- **Pattern –** repetition, symmetry and tessellations.
- **Colour –** primary, secondary, tertiary and complementary colours; warm and cool palettes.

Keywords

- **Line:** a mark joining points.
- **Shape:** a 2D area.
- **Form:** a 3D object.
- **Tone:** lightness and darkness.
- **Texture:** surface quality.
- **Pattern:** repeated motif.
- **Colour:** visual element created by reflected light.

Previous Knowledge

In Year 6 you build on primary drawing and colouring experiences to learn the seven elements of art: line, shape, form, tone, texture, pattern and colour. The unit develops practical and analytical skills before culminating in an artist-inspired personal response.

Think Deeper

Geometric and organic shapes, contour and implied lines, tonal blending, actual and implied texture, symmetry, tessellation, colour harmonies, complementary colours, mood and emotional impact of colour.



Revision Support

Recall definitions, sketch examples of each element, analyse artists such as Kusama, Haring or Matisse and identify how they use the elements of art



DRAMA – UNIT 1 – Drama Skills

Core Knowledge

By the end of this unit you will know …

- Drama is the art of telling stories through performance. How to work safely and respectfully in a drama space. How to use focus and concentration during rehearsals. How to create a freeze frame to communicate an idea. How body language and facial expression communicate emotions.
- How voice can be changed using projection, pace, tone and volume.
- How to work successfully as part of an ensemble.
- How to perform confidently to an audience.
- How to give respectful peer feedback using WWW and EBI.
- How rehearsal helps improve a performance.

Think Deeper

- Why actors change their voice for different characters
- How positioning on stage affects meaning
- How levels make performances more interesting
- Why teamwork is essential in drama
- How facial expressions can change the audience's understanding
- How actors communicate without speaking

BBC Bitesize – Drama

National Theatre Discover

Keyword	Definition
Freeze Frame	A still image used to show an important moment.
Ensemble	A group working together to create a performance.
Projection	Speaking loudly and clearly without shouting.
Body Language	How movement and posture communicate meaning.
Facial Expression	The emotions shown using your face.
Focus	Staying concentrated and in role during a performance.
Audience	The people watching a performance
Rehearsal	Practising and improving a performance.

DRAMA – UNIT 1 – Drama Skills

1 THE ACTOR'S TOOLKIT

VOICE
- Projection
- Pace
- Tone
- Volume
- Pause

MOVEMENT
- Posture
- Gesture
- Levels
- Positioning

FACIAL EXPRESSION

FOCUS

TEAMWORK
Working together to create a great performance.

2 FREEZE FRAME EXAMPLES

POOR FREEZE FRAME
- Looking at the floor
- Standing randomly
- No facial expression



GOOD FREEZE FRAME
- Different levels
- Clear facial expressions
- Strong body language
- Everyone focused



3 VOICE TECHNIQUES

TECHNIQUE	EXAMPLE
Projection	Everyone can hear you
Pace	Fast or slow speech
Tone	Happy, angry, scared
Volume	Loud or quiet

4 FACIAL EXPRESSIONS



5 PERFORMANCE CHECKLIST
- Stay in role
- Speak clearly
- Face the audience
- Work as an ensemble
- Use facial expressions
- Use body language
- Listen to others
- Freeze on cue

ENGLISH – UNIT 1 – Cornish Narratives & Landscapes

Core Knowledge

By the end of this unit you will know …

How Hickes describes the setting through language methods such as:

- How to select and use quotes
- How to structure and develop your analysis
- How to use similar methods as Hickes to craft a description of a place

Think Deeper

- Incorporate **dual interpretation**
- Explore **connotations** of specific words
- Understand **allusions** (references) to other texts

Keywords

Sinister - Seeming dangerous, evil, or as if something bad is about to happen.

Spectral - Looking like or related to a ghost.

Foreboding - A feeling that something unpleasant or frightening is going to happen.

Ominous - Giving a warning that something bad may happen soon.

Tense - Feeling worried, nervous, or anxious because of a difficult situation.

Malevolent - Wanting to cause harm, trouble, or unhappiness to others.

Gothic - A style of storytelling that includes mystery, fear, dark settings, and sometimes supernatural events.

Eerie - Strange and frightening in a way that makes you feel uncomfortable.

Vengeful - Wanting to get back at someone for something they have done wrong

Previous Knowledge

In Year 6, you wrote in many different styles, for different audiences and purposes. You read a range of fiction and non-fiction and you will be familiar using a range of devices in your creative writing.

Why this?
You will be immersed in the folklore and oral traditions of Cornwall, from myths and legends to modern poets and storytellers working in Cornwall today. This is an opportunity to explore the gothic genre through a modern novel and a range of extracts from the 19th and 20th Century.

Why now?
The novel is set during Halloween – a particularly spooky time of year. This will be a great introduction to the art of storytelling – something you will build on throughout your time here at Penryn College.

Assessment
Reading: an analysis of an extract. Writing: a description of a setting.

ENGLISH – UNIT 1 – Cornish Narratives & Landscapes

Example analytical paragraph

The writer's use of **personification** when the waves are described as "angry" helps to create the sense that the weather has an emotion - in this case fury - and is possibly vengeful, which creates a sense of danger.

Furthermore, the specific noun "explosions" makes them sound like bombs and helps to emphasise that the weather is destructive, like a war zone.

Revision Support

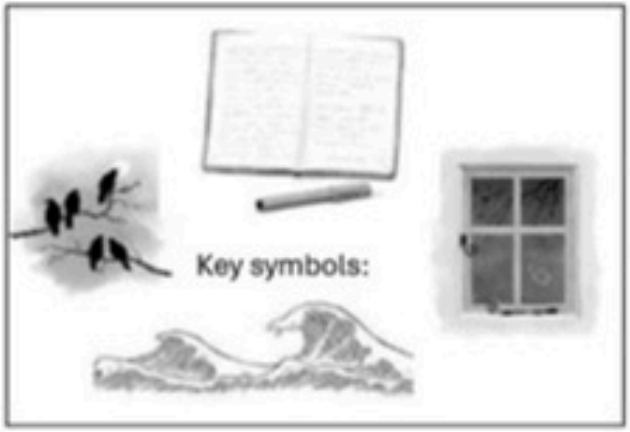
Audio of the book

✓	Identified	Applied
Personification		
Imagery		
Metaphor		
Simile		
Adjectives		
Verbs and Adverbs		
Onomatopoeia		
Pathetic fallacy		
Short sentences		
Foreshadowing		
Stalling		
Zooming in		
Dialogue		
Cliffhangers		
Dramatic irony		

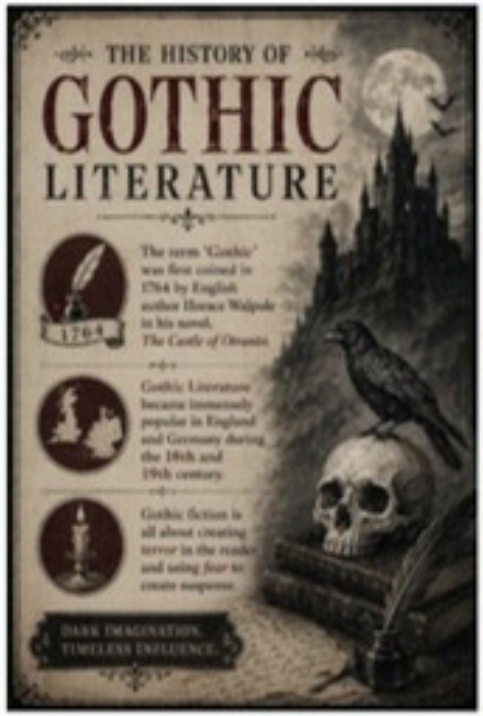
ENGLISH – UNIT 1 – Cornish Narratives & Landscapes













What	make a point about the theme/character from the question
When	embed a quotation to support your analysis
How	identify which method the writer has used
Why	zoom out to consider why the writer has made this choice; the effects of the method and the specific ideas/messages they want to convey





FOOD – UNIT 1 – Fuel for Life

Core Knowledge

The **Eatwell Guide** shows the five main food groups and the proportions needed for a healthy, balanced diet. These include fruit and vegetables; starchy **carbohydrates**; beans, pulses, fish, eggs, meat and other proteins; dairy and alternatives; and oils and spreads.

Eat less fat, sugar and salt. Drink 6-8 glasses of fluid each day. The guide is suitable for most people aged two and over. The proportions represent food eaten over a day or more, rather than at every meal.

Personal **hygiene**: wear an apron, tie hair back and wash hands.
Use the **bridge** and **claw** techniques safely when preparing food.
Understand what a healthy, balanced lifestyle means.
Choose alternative healthy ingredients when adapting recipes and meal plans.

Keywords

Eatwell Guide - a visual representation of government guidance on food groups and planning healthy, balanced meals.

Nutrients - substances in food and drink needed to live, grow and function properly.

Hygiene - practices that help ensure food safety and quality from production to consumption.

Hazard - a biological, chemical or physical substance or condition that can make food unsafe or unfit for consumption.

Think Deeper

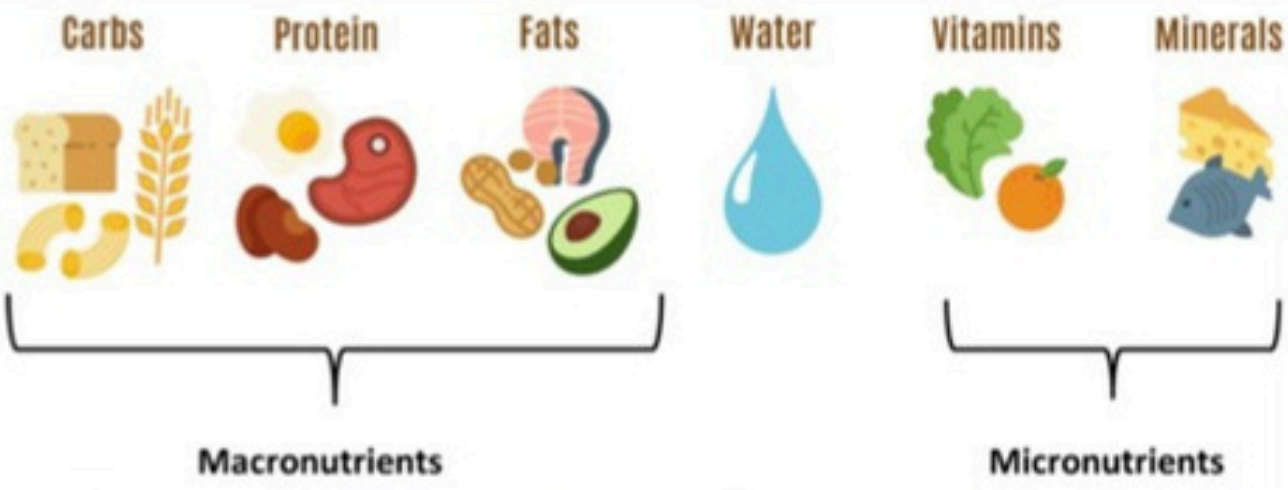
Macronutrients: sources and functions. **Protein** supports muscle repair; **carbohydrates** provide energy; **fats** help regulate body temperature. **Micronutrients:** sources and functions. Vitamin C supports immunity; calcium supports bone strength.
Adapt recipes for specific needs. Explore the functions of ingredients in a recipe and scientific processes such as shortening and fermentation.

Previous Knowledge

In Year 6 you may have covered knife skills and bread-making, the Eatwell Guide, and healthy lifestyles in PE and Lifeskills.

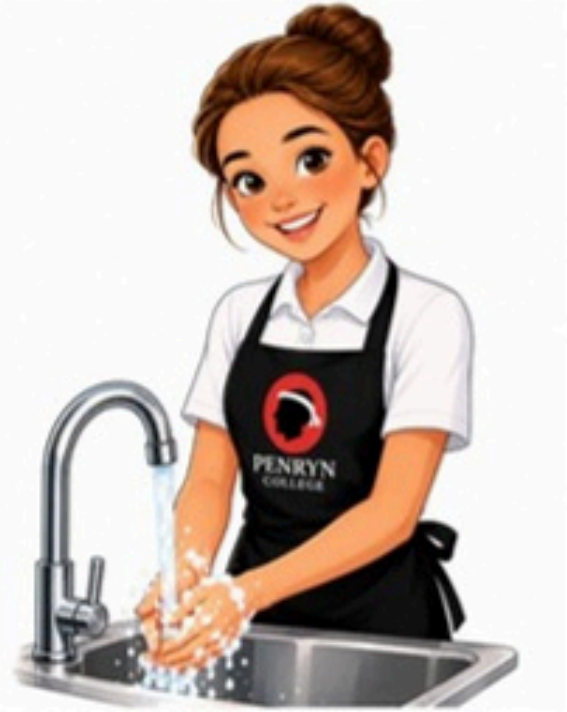


FOOD – UNIT 1 – Fuel for Life









FRENCH – UNIT 2 – About Me

Core Knowledge

- **Accents** – little symbols above the words that change how letters are pronounced.
- **Phonics** – to know that the French alphabet is pronounced differently.
- **Cognate** – a word that looks and means the same in two languages.
- **Noun** – an object, place or thing. In French these are categorised as **masculine**, **feminine** and **plural**.
- **Connectives** – use et (and), aussi (also), mais (but) to link opinions
- Give **positive** (I love, I like, I prefer) and **negative** (I don't like, I hate) opinions
- To use the verb '**être** – to be' with je to describe what you are like
- **Adjective** – describes a noun and changes in French depending on if the noun is masculine, feminine or plural.
- **Infinitive** – an unchanged verb e.g jouer = to play
- To say which sports you like/dislike
- To say which activities you like/dislike
- To correctly pronounce numbers 1-31
- To correctly pronounce the months of the year
- To say when your birthday is using numbers and months.

Think Deeper

- Use different **pronouns** (he, she, we, they) with **être** to describe other people
- Recognise the 3 types of **infinitive** (-er / -ir / -re)
- Justify your opinions with **car** (because)

Keywords

Do you like sport? - Tu aimes le sport?

What are you like? - Tu es comment?

Do you like to dance? - Tu aimes danser?

When is your birthday? - C'est quand ton anniversaire?

Pronouns - Words like I, You, He, She, We, They

Infinitive - A verb that hasn't been changed e.g. to play

Previous Knowledge

This unit is about giving more information about yourself: what you like and dislike, why, and when your birthday is.





FRENCH – UNIT 2 – About Me

Vocabulary, grammar and pronunciation

C'est quand ton anniversaire? When is your birthday?

Mon anniversaire, cest le ... .

0	zéro	16	seize
1	un	17	dix-sept
2	deux	18	dix-huit
3	trois	19	dix-neuf
4	quatre	20	vingt
5	cinq	21	vingt et un
6	six	22	vingt-deux
7	sept	23	vingt-trois
8	huit	24	vingt-quatre
9	neuf	25	vingt-cinq
10	dix	26	vingt-six
11	onze	27	vingt-sept
12	douze	28	vingt-huit
13	treize	29	vingt-neuf
14	quatorze	30	trente
15	quinze	31	trente et un



ACCENTS
é sounds like *ay*
ç sounds like *s*

NOUNS	indefinite article	definite article
masculine singular	*un* (a / an) ➡	*le / l'* (the)
feminine singular	*une* (a / an) ➡	*la / l'* (the)
plural	*des* (some) ➡	*les* (the)



Key opinions

J'adore

J'aime

Je préfère

Je n'aime pas

Je déteste

et	and		
mais	but		
aussi	also		

Adjectives + agreements
bleu = blue (masc.)
bleue = blue (fem.)
bleus = blue (pl.)
bleues = blue (fem + pl)

Tu es comment? What are you like?

Je suis...



Je ne suis pas ...

Tu aimes le sport? Do you like sport?



assez	quite	*trop*	too
très	very	*un peu*	a bit

Activate Windows
Go to Settings to activate Windows.

GEOGRAPHY – UNIT 1 – Map Skills

Core Knowledge

- Geography means studying the Earth. Physical geography is natural; human geography is about people and the features they create.
- Key map features: overhead view, symbols, key, labels, title, compass rose, grid and scale.
- A map key explains what the symbols on a map represent.
- The four main compass points are North, South, East and West. They can combine to give directions such as North East and South West.
- To find a grid reference, go along the corridor, then up the stairs: read the bottom numbers first, then the side numbers.
- Relief (land height and shape) is shown by: 1) layer colouring, 2) spot heights, and 3) contour lines.
- Contour lines join places of the same height.
- Scale shows the relationship between map distance and real-world distance.
- Latitude measures how far north or south of the Equator a place is.
- Longitude measures how far east or west of the Prime Meridian a place is.
- An atlas is a collection of maps and information about the world, including continents, countries, and human and physical features.

Keywords

Coordinates - numbers indicating the position of a point on a grid.
Equator - zero degrees latitude line dividing earth into northern & southern hemispheres.
Grid reference – numbers along lines (vertical and horizontal) forming a grid used on a map to indicate locations.
Hemisphere - One of the halves of the earth divided by the equator or meridian.
Latitude - imaginary horizontal lines on earth showing the angular distance in degrees (of a circle 0-360) of a location north or south from the equator.
Longitude - imaginary vertical lines on earth showing the angular distance in degrees (of a circle 0-360) East or West of a location from the Prime Meridian.
Ordnance Survey (OS)- national mapping agency of Britain.
Prime Meridian - zero degrees longitude line dividing earth into East and West hemispheres.
Relief – height and shape of the land.
Scale - ratio comparing distance on a map to the actual distance on Earth.

Think Deeper

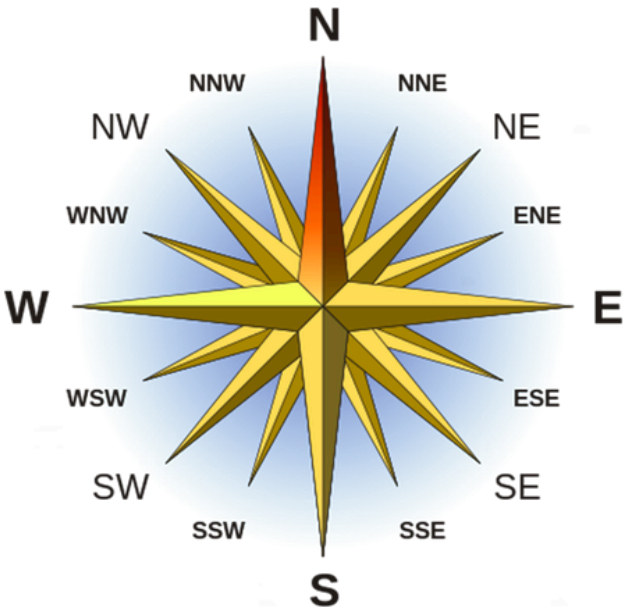
- Environmental geography combines physical and human geography. For example, a garden contains natural features that have been planted by people.
- Contour lines show relief: concentric circles = hills, V shapes = valleys, and U shapes = spurs. They can also be used to draw a cross-section of the landscape.
- Map scale ratios (e.g. 4 cm = 1 km) can be used to calculate distances, especially when the distance is longer than the scale line or measured in sections.

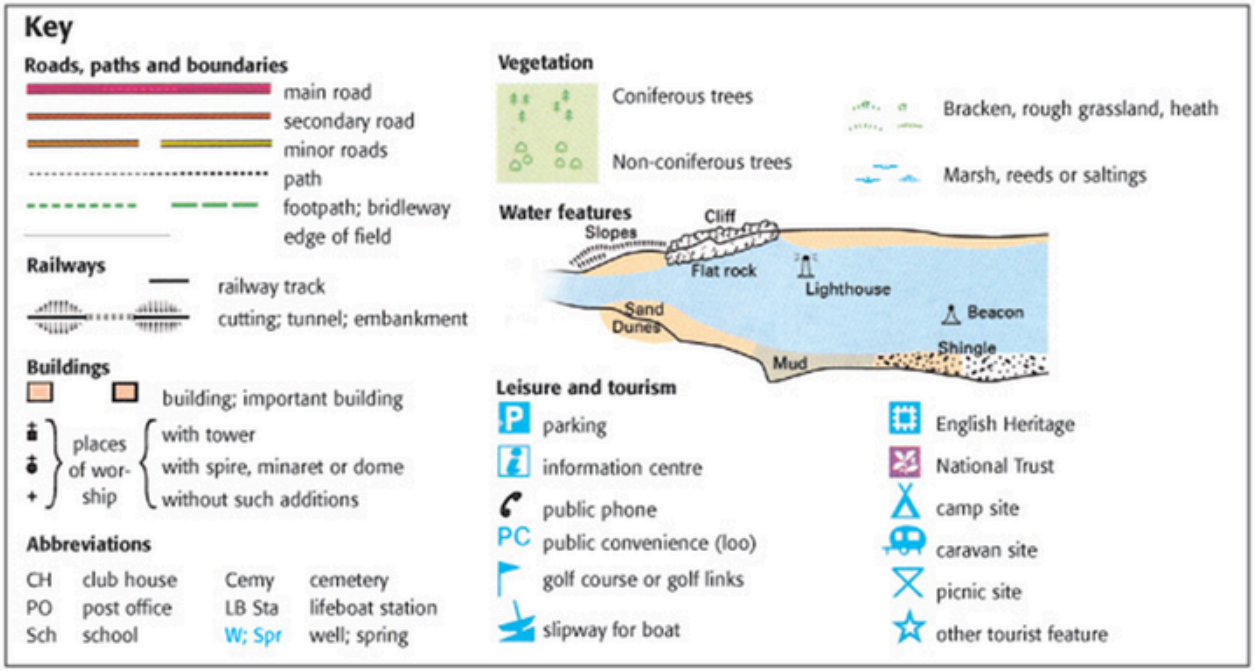
Online Revision

Previous Knowledge

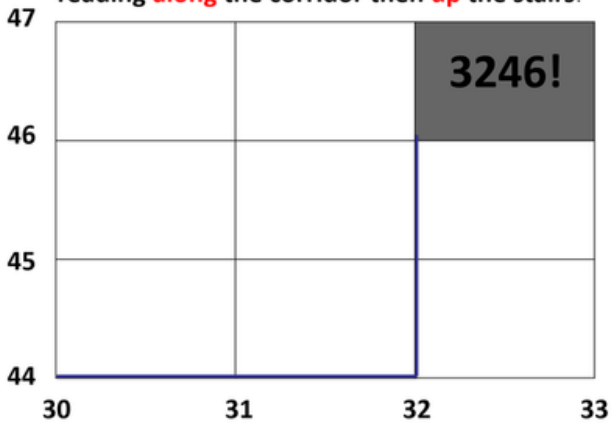
We will look at local, national and global places using a variety of maps to give you a greater understanding of the world around you. You will tackle the skills of an everchanging world, express ideas and make sense of space, place and belonging. Throughout Geography at Penryn College, map skills will underpin your learning all the way up to GCSE and careers. For example, emergency services and environmental management. These skills will also help you in your other Humanities subjects (Trade Triangle, American West and origins of Religions), wider subjects (The Tempest in English, Coordinates and scale in Maths) and extra-curricular activities (Duke of Edinburgh, Ten Tors and future travel).

GEOGRAPHY – UNIT 1 – Map Skills

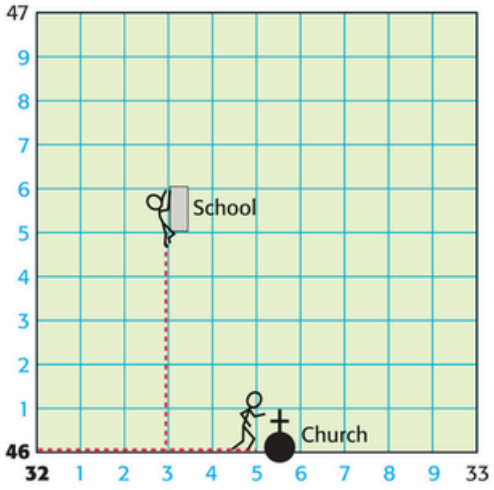




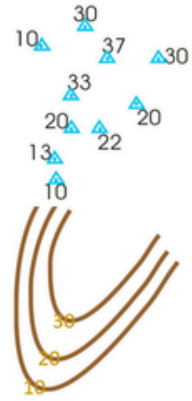
Let's work out the grid reference of the grey square by reading along the corridor then up the stairs!



6 figure grid references







1. Colour shading

2. Spot heights

3. Contours

A contour is a line that joins places of the same height on a map.

HUMANITIES (RE) UNIT 2 – What is a Worldview and how does it shape us?

Core Knowledge

- A '**worldview**' is simply how we see the world. Everyone has a worldview, whether religious or not. 'No-one stands nowhere'
- Our worldview will be influenced by factors such as our upbringing, our experiences and our own thoughts and feelings
- Even those who have the same broad worldview will not think the same about all important issues
- It is possible to be **spiritual** but not religious. Some people believe that there is definitely more than we can see and touch, but would not consider themselves to be part of an organised religion.
- The number of people who tick 'no religion' in survey and census data in the UK went up between 2001, 2011 and 2021.
- Some important **Humanist** principles: being **rational** (reasoning); showing **empathy** (thinking carefully about how their actions will affect others); being **secular** (not mixing religion with politics); humans achieving their full potential; being non-religious
- A humanist worldview shapes many things, including how life's milestones are celebrated and how to decide what's right and wrong
- Christians believe that God is **omnipotent**, **benevolent** and just
- Christians believe that God is a **Trinity**- Father, Son and Holy Spirit
- Christians believe that God came to earth in the person of Jesus- this is called The **Incarnation**
- Christians believe that Jesus was crucified to rescue them from sin
- Christians believe Jesus was resurrected three days after The **Crucifixion**

Keywords

Worldview a person's way of understanding, experiencing and responding to the world', an 'approach to life', including things like beliefs, behaviours, experiences, identities and commitments
Theist someone who believes in God
Atheist someone who does not believe in God
Agnostic someone who thinks it is not possible to know if there is a God
Spiritual believing that there is something more than or beyond what we can see and touch
Humanist someone who believes that it is up to humans to make the world a better place
Empathy compassion and kindness based on thinking about how somebody else might feel
Rationality basing your ideas and beliefs on evidence and reason
Christian a follower of Jesus
Trinity The Christian belief that God is three-in-one- Father, Son and Holy Spirit
The **Incarnation** The Christian belief that God became human in the person of Jesus
Crucifixion a Roman method of execution/ The Christian belief that Jesus died on the cross
The **Resurrection** The Christian belief that Jesus rose from the dead three days after The Crucifixion

HUMANITIES (RE) UNIT 2 – What is a Worldview and how does it shape us?

Think Deeper

- As well as being '**spiritual**' but not religious, some people consider themselves to be 'religious but not spiritual'.
- The relationship between your upbringing and current **worldview** is not always straightforward. You might believe what you have been taught or you might challenge these assumptions.
- Within the definitions of **theist**, **atheist** and **agnostic** there are different levels of certainty- some see it as a spectrum rather than three neat categories.
- We have to treat census data about religion thoughtfully and critically. Responses can be different depending on the question asked.
- There is a difference between **Humanists** and humanists. Humanists may be part of an organised group with set principles, whereas humanists may feel that this is the best description of their worldview, without wishing to give a label to their worldview.
- The **Christian** beliefs in The **Incarnation**, **Crucifixion** and **Resurrection** are more than just things **Christians** believe- they matter deeply to them because of what it teaches them about God and humanity.

Revision support

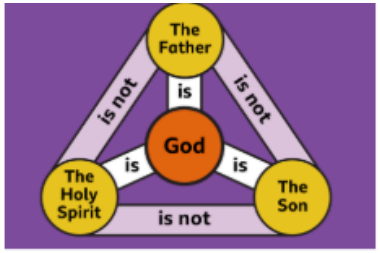
Use your class **worldview** flashcards.

BBC Bitesize: Facts about Christianity (KS3 Religious Studies); What is Humanism?

Previous Knowledge

In RE we study everyone's way of seeing the world religious or not.

No-one stands nowhere. We are always asking how what we believe influences and shapes the way we see the world.
In this unit, we will be reflecting on some big, deep questions and zooming in on two **worldviews** and the answers they might give- **humanists** and **Christians**. Some of you will have studied these two worldviews at Primary School, and others may not. We will build on the foundations you already have, but make sure that everyone understands the key beliefs and ideas of these two important worldviews as we will revisit them later. We will also be using 'ways of knowing' from **Philosophy**, **Theology** and **Sociology**. These academic skills are ones you will come back to many times during your RE journey at Penryn College.



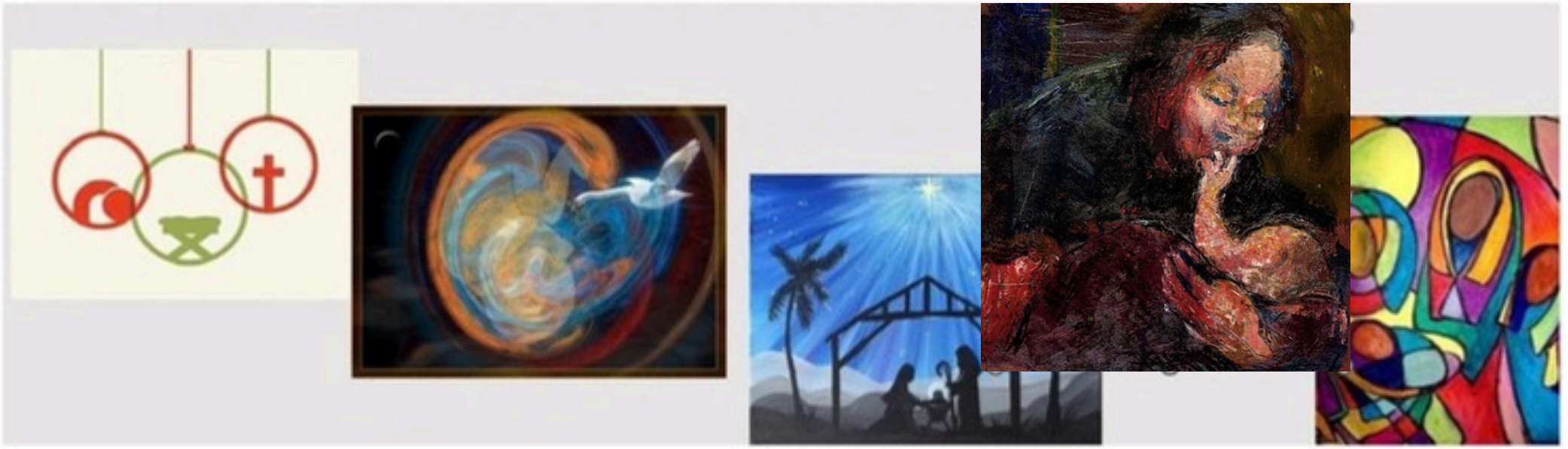




HUMANITIES (RE) UNIT 2 – What is a worldview and how does it shape us?







LIFESKILLS – UNIT 2 – Health and Wellbeing

Core Knowledge

- How good personal hygiene and **oral hygiene** can protect health, including handwashing, brushing teeth and regular dental check-ups.
- How germs can spread and how infections can be prevented.
- The characteristics of a healthy, **balanced diet** and how an unhealthy diet can affect physical health.
- The importance of good-quality **sleep** and how sleep can affect health, mood, weight and learning.
- Practical ways to develop healthy sleep routines, including reducing **screen use** before bed.

Think Deeper

- How **bacteria** and **viruses** spread and how the body can be protected from infection.
- The role of **antibiotics** and why antibiotics do not treat viral infections.
- How diet and **energy balance** can influence health and the risk of conditions such as type 2 diabetes and cardiovascular disease.
- How the different stages of the **sleep cycle** contribute to good physical and mental health.
- How poor-quality or insufficient **sleep** can affect cognitive function, mood and the ability to learn.

Keywords

Essential

Hygiene: Keeping yourself and your surroundings clean to protect health.
Oral hygiene: Keeping the mouth and teeth clean and healthy.
Tooth decay: Damage to a tooth caused by acids produced by bacteria.
Healthy diet: Eating a balanced range of foods that support good health.
Nutrients: Substances in food that the body needs to function.
Calories: A measure of the energy provided by food and drink.
Sleep: A period of rest that supports physical and mental health.
Screen time: Time spent using devices with screens.

Desirable

Antibiotics: Medicines used to treat some bacterial infections.
Fluoride: A mineral that helps protect teeth from decay.
Immune system: The body's defence against infection and illness.
Energy balance: The relationship between energy consumed and energy used.
Metabolism: The processes that convert food into energy.
Sleep cycle: The stages the body moves through during sleep.
Circadian rhythm: The body's natural 24-hour sleep-wake cycle.
Sleep deprivation: Not getting enough good-quality sleep.

Previous Knowledge

- How everyday **hygiene**,including handwashing and dental care, helps to keep the body healthy.
- The importance of brushing teeth, using **fluoride** toothpaste and having regular dental check-ups.
- How germs can spread and some ways to prevent infection.
- The principles of a healthy, **balanced diet** and the role of different **nutrients**.
- The importance of **sleep** for health and wellbeing.
- How daily choices involving food, physical activity, hygiene and sleep can affect health.

LIFESKILLS – UNIT 2 – Health and Wellbeing





Independent Learning Lessons

Dental Hygiene

A Healthy Diet

The importance of sleep and rest

MATHS – UNIT 2 – Place Value, Rounding and Fractions

Core Knowledge

Place Value

Every digit in a number has a value determined by its position. Whole numbers are made up of ones, tens, hundreds and thousands, while **decimals** use tenths, hundredths and thousandths. You can use place value to read, compare and order numbers and to locate them on a number line. Remember that zeros used as placeholders do not change the value, so 0.2, 0.20 and 0.200 are equal. **Powers of 10** can be written using **indices**, for example $1000 = 10^3$. Large numbers can be written in **standard form** $A \times 10^n$, where $1 \leq A < 10$

Rounding and Estimation

Rounding means finding a simpler number that is close to the original. To round, first identify the place value you are rounding to, then look at the digit immediately to the right: 5 or more means round up, 4 or less means round down. Numbers can be rounded to the nearest 10, 100, 1,000, **integer**, decimal place or **significant figure**. Rounding to 1 significant figure is particularly useful for estimating calculations and getting an approximate answer quickly.

Fractions, Decimals and Percentages

Fractions, decimals and percentages are three ways of representing the same amount. **Equivalent fractions** have the same value, and fractions can be represented using diagrams or placed on a number line. You can convert between fractions, decimals and percentages; for example, 1/4 = 0.25 = 25%. These representations can also be used for values greater than 1, such as 5/4 = 1.25 = 125%.

Think Deeper

- Explore numbers written in **standard form** and investigate how **powers of 10** affect their value.
- Investigate the error interval of a rounded calculation and determine the possible range of answers.
- Explain whether an estimate is likely to be an overestimate or an underestimate, and justify your reasoning.
- Extend your understanding of **equivalent fractions** by exploring algebraic **fractions** and simplifying expressions.

Keywords

Place value – The value of a digit because of where it is in a number e.g. the digit 3 in 23,641 has the value 3 thousand.
Integer – A whole number, including positive and negative whole numbers and zero.
Decimal – A number that uses a decimal point to show a whole number and parts of a whole.
Powers of 10 – A number made by multiplying 10 by itself a certain number of times, such as 10, 100 and 1,000.
Round – Change a number to the nearest value at a chosen place value, such as the nearest 10, whole number or 2 decimal places.
Approximate – Close to the exact value, but not exact.
Significant Figure – the largest place value within a number found by the first non-zero digit. For example, in 4582, the 4 is the first significant figure
Estimate – Find an approximate answer by **rounding** the numbers in a calculation to 1 significant figure.
Equivalent – Having the same value, even though the numbers or representations look different
Simplify – To write a fraction in its simplest form is to divide the **numerator** and **denominator** by a common factor until they have no common factor greater than 1.
Numerator – The top number in a fraction; it tells you how many parts you have.
Denominator – The bottom number in a fraction; it tells you how many equal parts make the whole.
Mixed Number – A whole number and a fraction written together, such as 2 ¼
Improper Fraction – A fraction where the numerator is greater than or equal to the denominator (top-heavy)
Percentage – A way of describing an amount out of 100.

Previous Knowledge

You should already be able to identify **place value** in whole numbers and **decimals**, round whole numbers to the nearest 10, understand simple **fractions** such as ½ and ¼, recognise basic **equivalent fractions**, and know that ½ = 0.5 = 50%.

MATHS – UNIT 2 – Place Value, Rounding and Fractions

SKILL / TOPIC	SPARX CODE
PLACE VALUE	
Using number lines	M763
Integer place value	M704
Decimal place value	M522
Multiplying and dividing by 10s, 100s and 1000s	M113
Using standard form with positive indices	M719
ROUNDING AND ESTIMATION	
Rounding integers	M111
Rounding decimals	M431
Rounding integers using significant figures	M994
Rounding decimals using significant figures	M131
Estimating calculations	M878
FRACTIONS, DECIMALS AND PERCENTAGES	
Finding fractions of shapes	M158
Constructing fractions	M939
Finding equivalent fractions	M410
Simplifying fractions	M671
Ordering fractions	M335
Converting between mixed numbers and improper fractions	M601
Converting between fractions and decimals	M958
Converting between fractions, decimals and percentages	M264
Ordering fractions, decimals and percentages	M553

Worked examples and Sparx revision codes

Place value chart

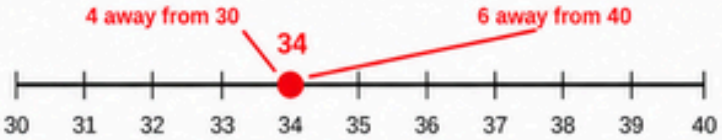
Hundreds (100)	Tens (10)	Ones (1)		Tenths (0.1)	Hundredths (0.01)
4	7	3	.	2	5

- Each place is 10 times the value of the place to its right.
- Tenths = 0.1, hundredths = 0.01.
- Zero can act as a placeholder.

The number shown is 473.25

$3200 = 3.2 \times 10^3$

Rounding on a number line



34 rounds to 30 to the nearest 10 because it is closer.

Significant figures: start at the first non-zero digit.

0.068 → 0.07 (1 s.f.)

Fraction wall

1											
1/2						1/2					
1/3				1/3				1/3			
1/4			1/4			1/4			1/4		
1/5		1/5			1/5			1/5		1/5	
1/6		1/6		1/6		1/6		1/6		1/6	
1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8				

1/2 = 2/4 = 4/8

Fractions, decimals and percentages

Fraction	Decimal	Percentage
1/2	0.5	50%
1/4	0.25	25%
3/4	0.75	75%
1/5	0.2	20%
3/5	0.6	60%

Multiplying and dividing by 10s, 100s and 1000s

Multiply (×10, ×100, ×1000)

Each digit moves to the left.

3.6×10=36 3.6×100=360 3.6×1000=3600

Divide (÷10, ÷100, ÷1000)

Each digit moves to the right.

36÷10=3.6 36÷100=0.36 36÷1000=0.036

MUSIC – UNIT 1 – Journey around the world

Core Knowledge

By the end of this unit you will know ...

Rhythms are used all around the world in styles like Samba, Salsa, West African drumming, and Gamelan, where different repeating patterns help create the music's energy and style.
The **elements of music** are the building blocks of music. They include beat, rhythm, pitch, melody, tempo, texture, timbre, duration and metre.
The beat (pulse) is the steady heartbeat of the music. The **rhythm** is the pattern of long and short notes played over the beat.
Notes have different lengths: semibreve (4 beats), minim (2 beats), crotchet (1 beat), quaver (½ beat), semiquaver (¼ beat).

You will **understand** and **demonstrate** how the elements of music are used around the world. You will learn about what makes a successful ensemble performance.

Previous Knowledge

Previously in KS2 at primary school you explored
KS1 - Exploring Musical Sounds and Beat
KS2 – Exploring Rhythm and Pulse

Keywords

- **Beat**: Steady pulse of the music.
- **Rhythm**: Pattern of notes and rests.
- **Metre**: is how beats are grouped together in music, usually in groups of 2, 3 or 4.
- **Time Signature**: Time signature tells you how many beats are in each bar of music and what type of beat they are. Example: 4/4 means 4 beats in each bar.
- **Texture**: How musical layers fit together.
- **Tempo**: Speed of the music.
- **Timbre**: Unique sound of a voice or instrument.
- **Duration**: Length of a note or sound.
- **Tonality**: Key of the music (major/minor).
- **Pitch**: How high or low a sound is.
- **Melody**: Main tune of the music.
- **Structure**: How the music is organised into sections.
- **Ensemble**: Group of musicians performing together.

Think Deeper

- Rhythm: Syncopated (Off-Beat)
- Tempo: Largo, lento, andante, presto, BPM
- Ostinato: a repeated musical pattern
- Polyrhythm: many different rhythms played together
- Pitch: Ascending, Descending, Step/Leap, Rise/Fall, Phrasing
- Texture: **Call and Response**: when one person or instrument plays or sings something, and another person or group responds. **Unison:** playing or signing the same thing at the same time as others, **Monophonic:** One melody, **Homophonic:** A main melody with an accompaniment and **Polyphonic:** 2 or more different melodies playing together

MUSIC – UNIT 1 – Journey around the world

Revise through BBC Bitesize

Duration

The length of a note

	Semibreve	𝅝	4 beats
Oo-oo	Minim	𝅗𝅥 𝅗𝅥	2 beats each
Oh	Crotchet	♩ ♩ ♩ ♩	1 beat each
On-Chi	Quaver	♫ ♫ ♫ ♫	½ beat each
Ock-a-chi-ka	SemiQuaver	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	¼ beat each

Rhythm

A pattern of different note durations



= 4 beat rhythm

Tempo

The speed of the music

BPM = Beats per minute

Largo	Slowly and Broadly	40-60 bpm
Lento	Slowly	45-60 bpm
Andante	At a walking pace	76-108 bpm
Moderato	Moderate	108-120bpm
Allegro	Fast	120-168bpm
Vivace	Lively	168bpm
Presto	Very quickly	168-200bpm

Timbre

The type of sound and instrument makes



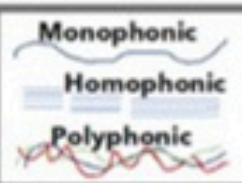
For example: rich, brassy, breathy, warm, sharp or bright

Texture

The layers of sound and how they work together

Unison: All together as one

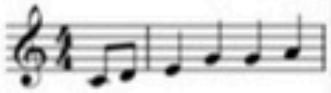
Call & Response: one idea followed by a response



Melody

A pattern of different note durations and pitches

Words to describe melody: Step, Leap, rise and fall



Metre

How many beats are in each bar



Pitch

How high or low a note is



PHYSICAL EDUCATION – UNIT 2

Unit Overview

In this unit, students will explore and develop fundamental techniques across two of five sports: Football, Gymnastics, Fitness, Badminton, and Hockey.

Tick your two sports: ☐ Football ☐ Gymnastics ☐ Fitness ☐ Badminton ☐ Hockey

Core Knowledge

Football

The **instep pass** is used to pass accurately, while **cushioning** helps control the ball when receiving.
Dribbling involves moving against an opponent, while running with the ball involves moving into space.
A **standing tackle** requires correct body position and timing to regain possession.
Drag back, **inside hook**, **outside hook** turns help protect the ball and change direction.
Attackers spread out and support, while defenders mark, cover and stay goal-side.

Gymnastics

Core gymnastics skills include jumps, rolls, balances and travel.
Body tension helps maintain control during shapes, jumps and balances.
Weight-on-hands movements develop control when supporting the body.
Gymnasts link skills using **canon**, **unison**, **matching** and **mirroring** to create routines.

Fitness

Gym safety involves correct equipment use, warm-ups and cool-downs.
Bodyweight exercises such as squats, lunges, press-ups and planks develop strength and muscular endurance.

Fitness (continued)

Plyometric exercises involve explosive jumping movements to develop power.
Correct **squat** and **deadlift** techniques require good posture and body alignment.
Rowing technique involves a **drive** and **recovery** phase.

Badminton

The **short backhand serve** is used to start a rally legally and accurately.
The **overhead clear** sends the shuttle high and deep towards the back of the court.
A **drop shot** lands close to the net, while an **overhead smash** travels powerfully downwards.
Net shots require soft contact and accurate placement.
Court positioning and **recovery** help players prepare for the next shot.

Hockey

The **push pass** uses correct grip, body position and follow-through to pass accurately.
A **straight dribble** allows players to carry the ball forwards while maintaining control.
A **block tackle** uses correct stick and body positioning to regain possession.
In a 1v1, players use **dribbling** and evasion to attack or positioning and tackling to defend.

Think Deeper

Football: Choosing the correct pass, turn or tackle helps players maintain or regain possession.
Gymnastics: Body tension and smooth transitions improve the control and quality of a routine.
Fitness: Correct technique and posture improve exercise effectiveness and help reduce injury risk.
Badminton: Using different shots and placement can move an opponent and create space.
Hockey: Selecting the appropriate attacking or defensive skill helps players succeed in 1v1 situations.

Previous Knowledge

Demonstrate accurate passing and receiving using correct hand position, body position and follow-through.
Use changes of speed and direction to create space and evade defenders.
Apply **balance**, control and footwork when moving with or without the ball.
Demonstrate basic attacking and defending principles, including support play, marking and defensive positioning.
Apply **teamwork**, **communication** and rules in competitive rugby and netball game.

PERSONAL DEVELOPMENT – Autumn Term 2

Core Knowledge

- The difference between hearing and **active listening**.
- Healthy strategies for expressing emotions.
- The key elements of **effective communication**.
- How "I" statements support **conflict resolution**.
- What **personal responsibility** looks like.
- Signs of increasing **independence**.

Keywords

Active listening - Fully focusing on the speaker.
Empathy - Sharing how someone else feels.
Responsibility - Being accountable for actions.
Independence - Managing tasks on your own.
Compromise - A solution that works for both.
"I" statement - feelings not blame.
Consequence - A result of an action.

Think Deeper

- A mediator's strategy for disagreements.
- Why **independence** links to wellbeing.
- Is total independence always good?

Go deeper through your Finding My Voice whiteboard tasks and reflections.

Previous Knowledge

P4 Autumn Term September-October: personal strengths, online safety and choices.
Lifeskills: relationships.

We are Reading

Thief!
Themes: friendships, moral dilemmas and **consequences**.



In Lifeskills

Health and wellbeing:

What keeps us healthy?
Personal hygiene, **balanced diet** and **sleep**.

Foundations for the Future

Taking Ownership and Action
Go out of your comfort zone and get involved.
Use failure and feedback to learn, grow and set new goals.



SCIENCE - UNIT 7.02 - Fundamentals in Physics

Core Knowledge

- Identify when a force is acting and recognise that **forces** arise from interactions between objects.
- Explain how forces can change the motion, speed, direction or shape of an object.
- Classify forces as contact or **non-contact forces** and give examples of each.
- Interpret and use **force arrows** to model the forces acting on an object.
- Measure forces accurately using a **force-meter** and record values in **newtons** (N).
- Describe the effects of balanced and **unbalanced forces** on the motion of an object.
- Calculate the **resultant force** acting on an object from multiple forces acting along a line of action.
- Explain how forces can deform objects through **compression** and **tension**.
- Describe how **friction** acts to oppose motion and how lubricants can reduce frictional forces.
- Analyse **energy transfers** using the **energy stores** and pathways model.

Revise forces

Think Deeper

- Draw accurate **free-body force diagrams** to model all **forces** acting on a single object.
- Calculate the magnitude and direction of a **resultant force** from force diagrams and numerical data.
- Explain **tension**, **compression** and normal **contact forces** using interaction-based models.
- Evaluate the quality of scientific evidence by considering **repeatability** and **reproducibility**.
- Analyse **energy transfers** using **energy stores**, pathways, bar charts and Sankey-style diagrams.

Keywords

Force-An action that pushes or pulls on an object.
Contact Force - A force that acts because two objects are touching.
Non-contact Force - A force that can act at a distance between two objects.
Balanced Forces - **Forces** of equal size acting in opposite directions, producing no **resultant force**.
Unbalanced Forces - Opposing forces that are unequal in size, producing a resultant force.
Resultant Force - The single force that has the same effect as all the forces acting on an object combined.
Free-body Force Diagram - A simplified drawing showing all the forces acting on a single object.
Friction - A force that resists sliding motion between surfaces in contact.
Energy Store - A representation of where energy is stored within an object or system.
Energy Pathway - The process by which energy is transferred between stores.

Previous Knowledge

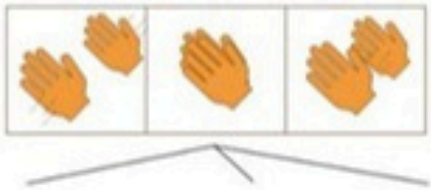
Forces can act through direct contact between objects or, in some cases, at a distance.
Gravity is a **non-contact force** that pulls objects towards the Earth.
Forces can make objects start moving, stop moving, speed up, slow down or change direction.
Friction, air resistance and water resistance are forces that oppose motion.
Energy can be transferred between stores and is not used up during those transfers.
Unit overview: Students study forces, motion, friction and **energy transfers** to build foundations for future KS3 physics topics.

SCIENCE - UNIT 7.02 - Fundamentals in Physics

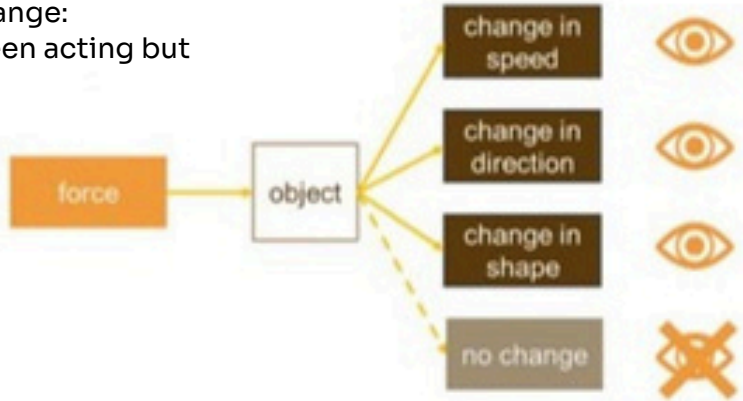
Forces and their interactions

Interaction:

When two objects influence each other and cause a pair of forces to arise.



Forces can cause change:
A force cannot be seen acting but its effects often can.

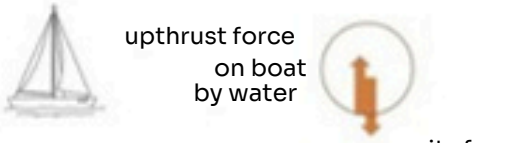


Forces can be contact or non-contact:
Contact forces arise between two touching objects.

Non-contact forces can act between two objects at a distance.

contact	thrust, friction, air resistance, water resistance,normal contact,upthrust
non-contact	gravity force, magnetic force

Free-body force diagrams



One object
Arrows to show size and direction of forces

Labelled forces:

- What kind of force is acting?
- What is the force acting on?
- What exerts the force?

Deforming forces



Two pushing forces cause compression: the object contracts.



Two pulling forces cause tension: the object extends.

Combining forces, friction and energy

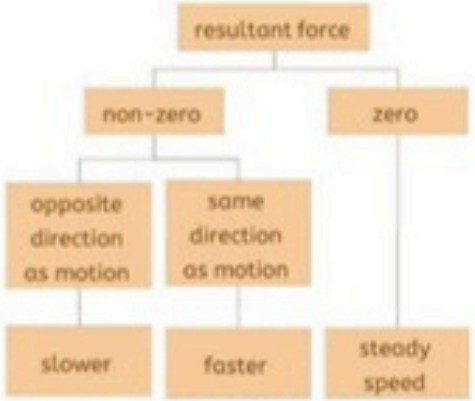
Combining forces

If more than one force is acting their effects are combined as if a single force is acting: this is called the resultant force

unbalanced forces (non-zero)



moving faster to the right



balanced forces (zero)



moving steadily or at rest

gravity force on bag by Earth

Friction force

What? One of three forces that act to resist motion.
Where? Acts between solid surfaces, along the surfaces.
When? An object is sliding or trying to. When starting to slide, the applied force must be larger than the limiting friction: so, an unbalanced force acts.

Why? Surfaces are uneven, so the 'catching' between them must be overcome.

	Useful	Nuisance
Walking	✓	
Machines		✓
Driving	✓	
Wear and tear		✓



catching;



surfaces parted: no catching

Energy stores and pathways

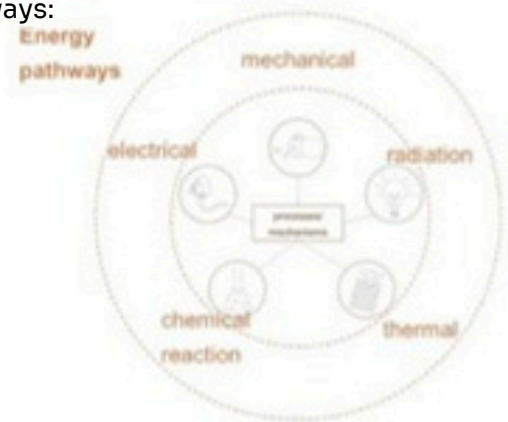
Energy:

- Flows between objects in a system
- Can be stored
- Stays the same when it is transferred
- Cannot be used up

Energy is transferred between stores:



Energy is transferred because of processes, by pathways:



SCIENCE – UNIT 7.03 – Cells and Organisation

Core Knowledge

- Describe the seven **life processes** shared by living organisms.
- Classify objects as living, dead or never alive using evidence from life processes.
- Label the main parts of a light **microscope** and describe their functions.
- Use a microscope correctly to observe **cells** and calculate total **magnification** .
- State that cells are the basic building blocks of all living organisms.
- **Sequence** the levels of organisation from cells to **tissues**, **organs**, **organ systems** and organisms.
- Label animal **cell** structures and explain their functions.
- Compare plant and animal cells and explain the functions of unique plant cell structures.
- Explain how **specialised cells** are adapted to perform specific functions.
- Explain **diffusion** as the movement of particles from high to low concentration and its importance for cell survival.

Revise cells



Think Deeper

- Justify how evidence from **life processes** can be used to classify unusual examples such as seeds.
- Evaluate how improvements in **microscope** technology have increased scientific understanding of **cells**.
- Explain how different **tissues**, **organs** and **organ systems** work together within a multicellular organism.
- Analyse how structural adaptations enable specialised plant and animal cells to perform their functions efficiently.
- Predict and explain how **temperature**, **concentration difference** and **surface area** affect the rate of **diffusion**.

Keywords

Cell: the smallest living building block of an organism.
Nucleus: contains the genome and controls cell activities.
Cell membrane: controls which substances enter and leave the cell.
Cytoplasm: where most chemical reactions take place in the cell.
Mitochondria: site of **respiration** that releases energy for the cell.
Cell wall: rigid **structure** that strengthens and supports plant **cells**.
Chloroplast: structure containing chlorophyll for photosynthesis.
Vacuole: fluid-filled storage compartment in plant cells.
Diffusion: movement of particles from high concentration to low concentration.
Tissue: a group of similar cells working together to perform a function.

Previous Knowledge

Students can distinguish between living, dead and never-alive things.
Students know that animals need food, water and oxygen to survive.
Students know that plants need water, light, air, minerals and suitable conditions for growth.
Students understand that living things carry out **life processes**, including growth and reproduction.
Students have encountered **diffusion** through the particle model of matter.

SCIENCE – UNIT 7.03 – Cells and Organisation

Life processes, microscopes and organisation

The seven common processes of living organisms

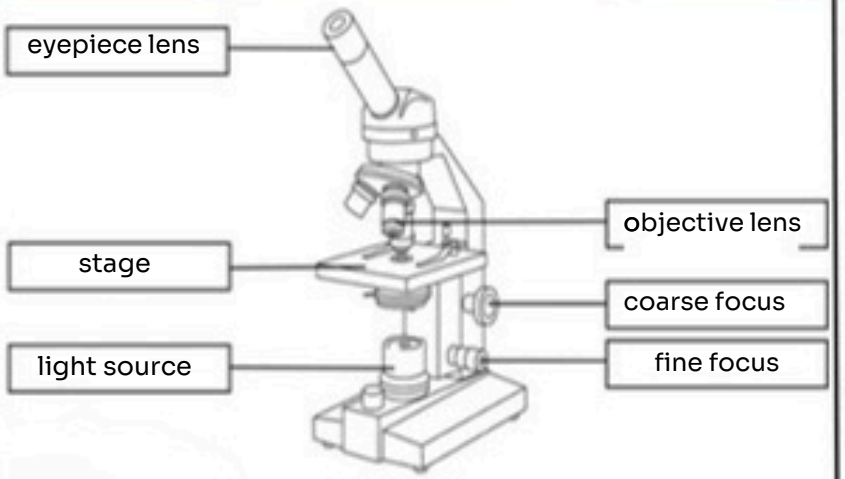
Process	Definition
movement	moving itself or its parts to change position or location
reproduction	producing offspring of the same kind
sensitivity	sensing and responding to changes in their surroundings
growth	increasing in size and repairing parts that are damaged
respiration	using oxygen and glucose (a sugar) to provide energy
excretion	removal of waste substances that are no longer needed
nutrition	using food or other nutrients like water to stay alive

Levels of organisation

cell ➡ tissue ➡ organ ➡ organ system

cell	the smallest living building block of organisms
tissue	a group of similar cells that work together to perform a specific function
organ	a structure made up of different types of tissues that work together to carry out a specific function
organ system	a group of organs that work together to perform a common function

The parts of the microscope

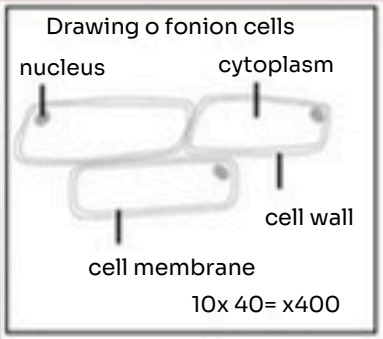


total magnification = eyepiece x objective

Using a microscope

1. Turn the objective lens to the lowest magnification.
2. Secure the slide on the stage using the clips.
3. Move the stage up to the objective lens by turning the coarse focus.
4. Look down the eyepiece lens, and move the stage away by turning the coarse focus.
5. To make the image sharper and clearer, turn the fine focus.
6. Rotate the objective lens to get a higher magnification.

Rules for scientific drawings of cells



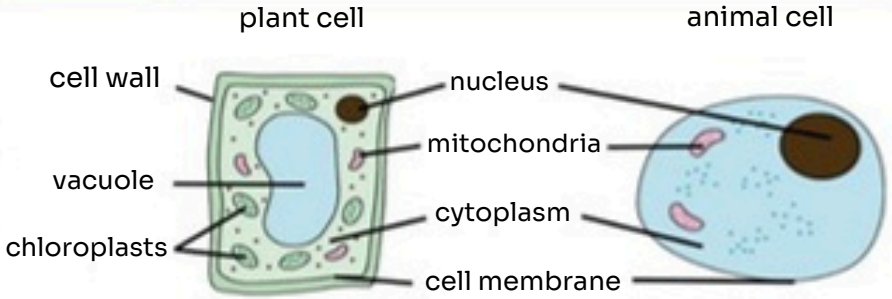
- smooth continuous lines
- large, with the same proportions
- stippling
- a few cells
- title and label
- total magnification

SCIENCE - UNIT 7.03 - Cells and Organisation

Cell structures, specialised cells and diffusion

Cell organelles and their functions

nucleus	contains the genome that controls the cell's activities
cytoplasm	where the chemical reactions of the cell take place
mitochondria	where energy is released in respiration
cell membrane	controls which substances enter or leave the cell
vacuole	stores a watery sap
cell wall	strengthen and support the cell
chloroplasts	where light is trapped for photosynthesis to happen



Cells are three dimensional (3D).

The rate of diffusion

The rate of diffusion means how fast diffusion happens.
Three factors that can affect the rate of diffusion are temperature, the concertation of particles and surface area.

The higher the temperature, the faster the rate of diffusion.
The bigger the difference in the concentration of particles, the faster the rate of diffusion.

The larger the surface area, the faster the rate of diffusion.

Oxygen and glucose (a sugar) are needed for respiration to take place in cells, to provide energy to keep cells alive. These useful substances enter the cell by diffusion. Waste products of respiration are carbon dioxide and water. Waste products leave the cell by diffusion and need to be removed from cells to keep them alive.

Needs of plants and animals for survival

Plants need oxygen, water, light, carbon dioxide, minerals, a suitable temperature and space to grow.
Animals, including humans, need water, oxygen, nutrients and the right temperature to survive.
Plants and animals need these to keep all the cells that make them up alive and functioning properly.

Specialised cells are adapted to carry out a specific function



A palisade cell has lots of chloroplasts that absorb light for photosynthesis and a column shape to pack more in the leaf.



A muscle cell has lots of mitochondria to release energy for contraction.



A root hair cell has a long cell membrane that provides a large surface area to absorb more water and minerals.



A red blood cell has no nucleus for extra space to carry more oxygen.

SPANISH – UNIT 2 – My Free Time

Core Knowledge

- Know key positive and negative opinions (see vocab link)
- **Infinitive** is the form of the verb you find in the dictionary or word list. Often translates as 'to do something'.
- Use (no) **me gusta** + infinitive to say what you like/dislike to do
- Use the connective **porque** to build longer sentences
- Use verbs ending in -ar in **present tense** with different **pronouns**
- Know key weather phrases (see vocab link)
- Use **cuando** to say what you do in different weather
- Say what sports you do (see vocab link)
- Use the verbs **hacer** and **jugar** with different pronouns
- Use key **question words** and remember that they always begin with an upside-down question mark (see vocab link)
- Know four expressions of **frequency** (see vocab link)
- **Near-cognates** – words that are not spelt exactly the same but are similar, so we can still work out what they might mean

Keywords

What do you like to do? - ¿Qué te gusta **hacer**?
What do you do in your free time? - ¿Qué haces en tu tiempo libre?
What do you do when it rains? - ¿Qué haces **cuando** llueve?
What sports do you do? - ¿Qué deportes haces?
Present tense - Doing words used for actions happening now or regularly
Cognate - A word that looks and means the same in 2 languages
Infinitive - The form of the verb you find in the dictionary or word list. Often translates as 'to do something'.
Question words - Words used to ask for information

Think Deeper

- Say the sound of the letter 'j' accurately in Spanish
- Know all the endings for -ar verbs
- Develop techniques for understanding more challenging texts

Previous Knowledge

This unit is about introducing yourself to other people and starting to be able to talk about yourself and your pets.

SPANISH – UNIT 2 – My Free Time

Vocabulary, verbs and weather

Opinion phrases:

- *Me gusta...*
- *Me gusta mucho...*
- *No me gusta...*
- *No me gusta nada*

+ verb in infinitive

The infinitive is the form of the verb you find in the dictionary or word list. It often translates as 'to do something'.

escuchar *v* to listen

In Spanish, all infinitives end in **-ar**, **-er** or **-ir**.

Cuando as a connective

Cuando (when) is a useful connective. Use it to make your sentences as long and interesting as you can.



Endings for verbs that end in '-ar'.	
This ending is for *I*	-o
This ending is for *you (singular)*	-as
This ending is for *he / she / it*	-a
This ending is for *we*	-amos
This ending is for *you (plural)*	-áis
This ending is for *they*	-an

hablar = to speak	
hablo	= I speak
hablas	= you (s)speak
habla	= he/she speaks
hablamos	= we speak
habláis	= you (pl)speak
hablan	= they speak

en primavera	in spring
en verano	in summer
en otoño	in autumn
en invierno	in winter

hacer = to do

hago = I do
haces = you (s) do
hace = he/she/it does
hacemos = we do
hacéis = you (pl) do
hacen = they do

Cognates

Some words are spelt the same in Spanish and English. These are called cognates.

Even though they look the same, they may be pronounced differently. Watch out for this!

jugar = to play *(a game or a sport)*

juego = *I play*
juegas = *you (s) play*
juega = *he/she/it plays*
jugamos = *we play*
jugáis = *you (pl) play*
juegan = *they play*

Making sentences more interesting

To make your sentences longer and more interesting, include:

- connectives (e.g. y, cuando)
- intensifiers (e.g. muy)
- reasons (e.g. porque es...)
- expressions of frequency (e.g. todos los días).

Using question words

To take part in a longer conversation you need to know your question words.

These are the question words you know already:

¿Qué...?	What/Which?
¿Cuándo...?	When?
¿Dónde...?	Where?
¿Cómo...?	How/What?
¿Cuántos...?	How many?

Questions in Spanish always begin with an upside-down question mark ¿.

STEAM – Superhero Project

Core Knowledge

▪Scratch programs run in **sequence**, repeat through loops (**iteration**), and make decisions through if-statements (**selection**).
▪ **Variables** store changing values such as score and lives.
▪ **Sensing** blocks detect events such as **collisions**.
▪ A **broadcast** message triggers other blocks to react at once.
▪ **Debugging** is a repeating cycle: test, find the bug, fix it, then retest.
▪ Separate **layers** allow line art, colour and shading to be edited independently before export.
▪ **Orthographic drawing** shows an object from set viewpoints, keeping proportions consistent.
▪ **ACCESSFM** is a method to evaluate a product.
▪ A **net** is a 2D layout that folds into a 3D package.

Think Deeper

▪ A complete game combines **sensing**, randomness, **variables** and **broadcasts**.
▪ Rapid costume-switching creates the illusion of movement.
▪ **ACCESSFM** weighs strengths and weaknesses against all eight criteria.

Keywords

Sprite; Stage; Sequence; Iteration; Selection; Variable; Sensing; Broadcast; Debug; Orthographic; Layers; ACCESSFM; Net; Specification; Environmental Issue; Collision.

Previous Knowledge

In the STEAM Starter unit or at primary school you used basic PC and Office 365 skills, such as PowerPoint and Word, and may have tried block-based coding such as Scratch.

Why this project?

The Superhero Project brings coding and product design together. Build a working Scratch game while designing, branding and packaging a superhero character. The game will address an **environmental issue**.

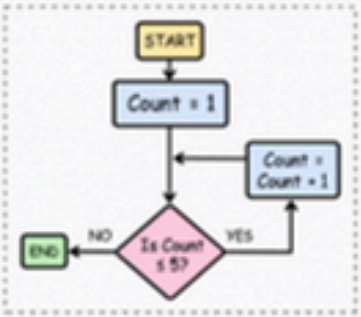
Career links and revision

Games Developer; App Developer; Concept Artist; Packaging Designer; UX / UI Designer.

Revise: Scratch tutorials and BBC Bitesize KS3 Computer Science - Programming.

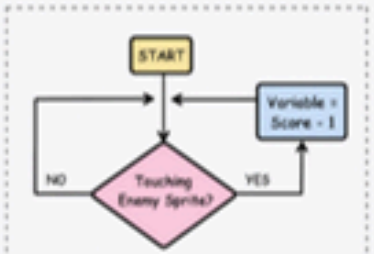
STEAM – Superhero Project

Sequence, Iteration & Selection





Score, Lives & Broadcast





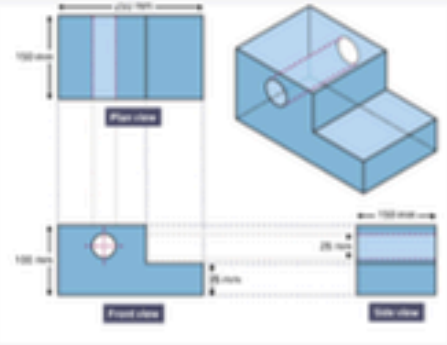
Variables track score and lives.
Sensing blocks detect collisions.



Broadcasts tell every sprite the instruction.



Orthographic Drawing

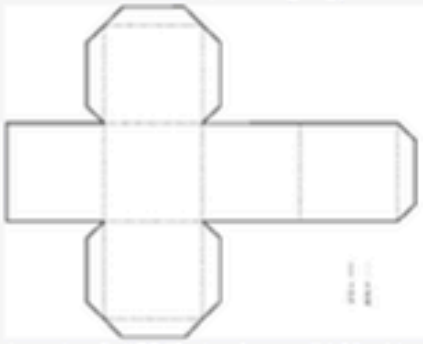


Orthographic drawing shows an object from set viewpoints: plan (top), front, side.

The different **views** show clear detail of each side of the object.

Projection lines ensure that dimensions stay consistent.

Net of a Cuboid (Packaging)





A net is a flat 2D design for a solid 3D object. By folding along the dotted lines and gluing the tabs you can create a 3D shape.

ACCESSFM A method to analyse a product

Aesthetics	Cost	Customer	Environment
Does it look good? How does it use colour, texture and shape?	What does it cost to make and to buy? Is it good value?	Who is it for? How and where will they use it?	What is its impact on the planet? Can it be recycled?

Safety	Size	Function	Materials
Is it safe to use? Are there any risks?	Are its proportions right? Bigger or smaller better?	Does it do its job well? How easy is it to use?	What is it made from, and why?

Debugging Process



SAFEGUARDING

Penryn College
Belong | Aspire | Succeed

We are here to ensure everyone is as safe as they can be. If you have a worry about anyone's well-being or a concern about something you have seen or heard, please let us know.

We are located in the Key Stage Hubs.
Or you may report a concern by using the @Talk App on your iPad

REMEMBER OUR SAFEGUARDING LEADS ARE...



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DESIGNATED SAFEGUARDING LEAD



MRS EDGSON
DEPUTY DESIGNATED SAFEGUARDING LEAD



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