

Home Learning Booklet



Knowledge Goals Year 9
Half Term 3

How to self-test

Mind mapping

- Mind mapping is simply a diagram to visually represent or outline information.
- Use information gathered from your knowledge goals booklet to create mind maps, make sure to use colour and images, keep writing to the bare minimum.

How to mind map:



Information for parents on knowledge retrieval



Flash cards

Use your knowledge goals booklet to make flash cards. Write the questions on one side and on the other record the answer. Test yourself or work with a friend to make sure you know all the key information for each topic.

How to mind map:



How should students use the Knowledge Goals booklets?

Your Knowledge Goals booklet provide the essential knowledge that you need to learn in each subject this half term. You are **expected to spend 30 minutes per subject per week 'learning' the content**. You will be assessed during lessons using 'low stake' quizzing. **Your teacher may choose to set you additional homework.**

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.

Subject Index

Suggested Homework Schedule (1 hour of independent study per night).

To help you get organized, we have planned out your weekly home learning to cover all subjects. You may choose to create your own version:

Subject	Page No
Teir 2 Vocabulary	4
Art	6
Biology	7
Chemistry	9
Computer Science	11
Drama	13
English Language	15
Food technology	17
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Physics	37
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Week A

Day	Subject 1 (20mins)	Subject 2 (20mins)	Subject 3 (20mins)
Monday	Art	English Language	Physics
Tuesday	Biology	Technology	Maths
Wednesday	Chemistry	Spanish	Music
Thursday	Computer Science	Geography	RS
Friday	Design Technology	History	PE

Week B

Day	Subject 1 (20mins)	Subject 2 (20mins)	Subject 3 (20mins)
Monday	Drama	Personal Development	Teir 2 Vocab
Tuesday	Maths	English	Physics
Wednesday	Chemistry	English	Music
Thursday	Teir 2 Vocab	Maths	Biology
Friday			

Literacy Tier 2 Vocabulary

These words are all 'tier 2' words; in other words, they are seen as 'academic vocabulary' and if you know them, can understand them and use them, you will do better in your exams and be able to communicate more precisely and effectively in life.

#	Key word	Definition
1	Adequate	
2	Ambiguous	
3	Attribute	
4	Decipher	
5	Exemplify	
6	Pivotal	
7	Stability	
8	Sufficient	
9	Turbulent	
10	Validity	

The Primary Colors



Primary colors, according to traditional color theory, cannot be formed by mixing any other color.

The Secondary Colors



Secondary colors are the combination of 2 primary colors.

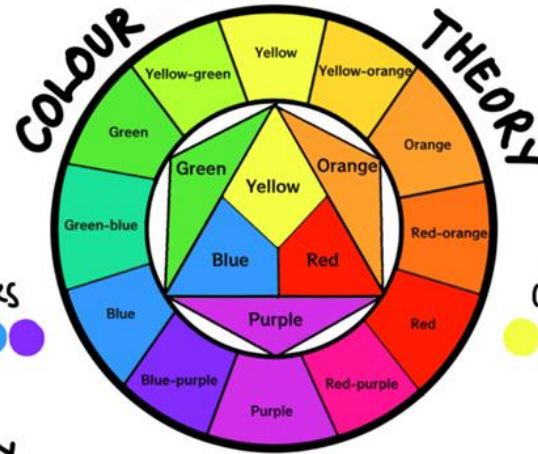
The Tertiary Colors



Tertiary colors combinations of 1 primary and 1 secondary color.

Colour

Theory



- Primary** three main colors
- Secondary** mix of primary colors
- Tertiary** between secondary & primary
- Complimentary** opposites on the color wheel
- Analogous** colors next to each other
- Split Complimentary** one color, with two analogous complimentary colors
- Triadic** forms triangle on color wheel
- Tetradic** forms a rectangle on the color wheel
- Monochromatic** shades and tints of one color
- Shades** base color + black
- Tones** base color + gray
- Tints** base color + white
- Warm** reminds us of the sun
- Cool** reminds us of the sky and earth
- Neutral** usually not on color wheel

PRIMARY

Mixing different amounts of the primary colours can make all the colours of the colour wheel.



SECONDARY

Mixing two primary colours make a secondary colour



TERTIARY

Primary colours and secondary colours mixed together.



COMPLEMENTARY

Colours opposite from each other on the colour wheel.



ANALOGOUS

Colours that are neighbours on the wheel.



MONOCHROMATIC

A colour with its tints and shades. Tints are colours mixed with white. Shades are colours mixed with black.



Key words	Definition
Composition	The arrangement of elements within an art work
Value	Determines the lightness or darkness of a colour
Tone	(similar to value) describes how light or dark something is
Arrangement	A set up of components
Observational	An active acquisition of information from a primary source) eg drawing or painting from life)
Experiment	To investigate, try something out. (ideas, process or materials)
Refine	Make changes to improve
Shading	Application of tonal value to a drawing(usually using pencil)
Texture	The feel, appearance or consistency of a surface or substance
Blending	The action of mixing or combining things together eg blending one tone into another

Knowledge Goals: Biology – Cell transport

Transport in and out of cells

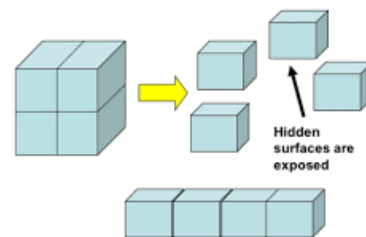
Cells must take in substances like glucose and oxygen for respiration and remove waste substances like urea and carbon dioxide. Cells must also control how much water they contain. The cells use 3 transport processes to do this **diffusion**, **osmosis** and **active transport**.

Exchanging substances if you are BIG

Large, multicellular organisms can't get the nutrients they need just by diffusion from their surroundings as they have a **small surface area to volume ratio**. Adaptations to increase the rate of diffusion include increasing the exchange surface area of lungs, intestines, gills (in fish). These exchange surfaces have:

- A large surface area
- Thin membrane (short diffusion path)
- Efficient blood supply
- Well ventilated (lungs)

Surface Area to Volume Ratio



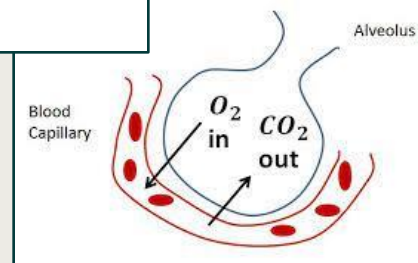
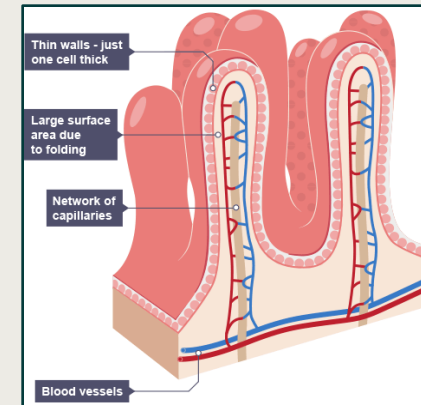
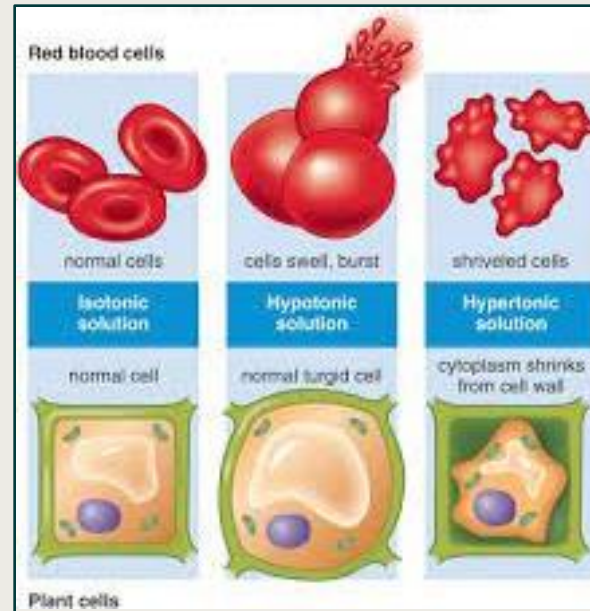
Diffusion -

Is the net movement of particles from an area of **high** concentration **to** an area of **low** concentration down a concentration gradient. Diffusion is affected by

- Temperature - an increase causes particles to move more rapidly and increases the rate of diffusion
- Surface area - the larger the surface area the higher the rate of diffusion
- Concentration difference - the greater the difference the higher the rate of diffusion

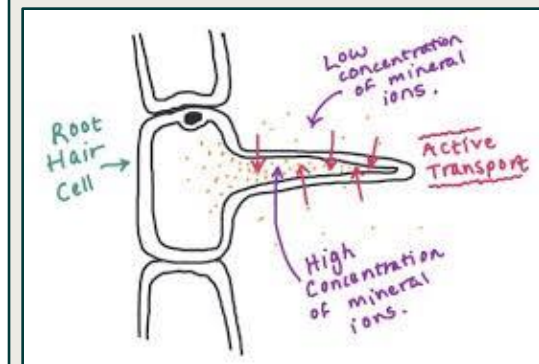
Osmosis -

Involves the movement of **water** molecules. It is the diffusion of water molecules from a **dilute** (high water potential) solution **to** a **concentrated** (low water potential) solution across a partially permeable membrane.



Active transport -

Unlike diffusion and osmosis which are passive, active transport requires **energy**. Active transport is the movement of substances from an area of **low** concentration **to** an area of **high** concentration, against a concentration gradient. It requires energy from respiration. Examples are mineral ions from the soil into the roots, glucose molecules from the small intestines to the blood







Knowledge Goals: Chemistry – Analysis

A **pure substance** consists only of one **element** or one **compound**.

A **mixture** consists of two or more different substances, **not chemically joined** together

Examples of pure substances and mixtures:

Description	Example	Diagram
Pure element	Oxygen	
Pure compound	Carbon dioxide	
Mixture of elements	Oxygen and helium	
Mixture of compounds	Alcohol and water	

A **formulation** is a mixture which has been designed as a **useful product**. Formulations are all around us, for example:

- fuels
- cleaning products
- paints
- medicines
- alloys
- fertilisers
- foods



Paper **chromatography** is used to separate mixtures of **soluble** substances and to provide information on the **identity** of the substances present in the mixture. These are often coloured substances such as food colourings, inks or dyes.



$$R_f = \frac{\text{Distance traveled by solute}}{\text{Distance traveled by solvent}}$$

Chromatography relies on two different 'phases':
 The **mobile phase**
 The **stationary phase**
 The different **dissolved substances** in a mixture are attracted to the two phases in different proportions. This causes them to move at **different rates** through the paper.

Pure substances have a **sharp melting point** but mixtures **melt** over a range of **temperatures**.

There are several different tests to detect and identify gases in compounds, they're shown in the blue table:

Gas Test	Observation	Result
Glowing splint held in a test tube	Splint relights	Oxygen is present
Lighted splint held in a test tube	Pop sound heard	Hydrogen is present
Gas bubbled through limewater	Limewater turns milky or cloudy white	Carbon dioxide is present
Damp litmus paper held in a test tube	Paper turns white	Chlorine is present



Knowledge Goals: Computer Science Python programming



Variables

Creating a variable

```
celsius = 25
```

Using a variable

```
celsius*9/5 + 32
```

Interact with the user (input and output)

```
Print a message
print('Hello, world!')

Print multiple values (of different types)
ndays = 365
print('There are', ndays, 'in a year')

Asking the user for a string
name = input('What is your name? ')

Asking the user for a whole number (an integer)
num = int(input('Enter a number: '))
```

Comparative operators	
==	Equal to
!=	Not equal to (or different to)
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to

Data types		
Data Type	This indicates how the data will be stored. The most common data types are integer, string, and float/real.	Casting code
String	A combination of letters, numbers or characters. (eg, Hello, WR10 1XA)	str(x)
Integer	A whole number. (eg. 1, 189)	int(x)
Float/Real	A decimal number, not a whole number. (eg. 3.14, -26.9)	float(x)
Boolean	1 of 2 values. (eg. True, False, Yes, No)	bool(x)
Char	A single character	char(x)

Repeat a block (a fixed number of times)

Repeat a block 10 times

```
for i in range(10):
    print(i)
```

Sum the numbers 0 to 9

```
total = 0
for i in range(10):
    total = total + i
print(total)
```

Repeat a block over a string

```
for c in 'Hello':
    print(c)
```

Keep printing on one line

```
for c in 'Hello':
    print(c, end=' ')
print('!')
```

Repeat a block over list (or string) indices

```
msg = 'I grok Python!'
for i in range(len(msg)):
    print(i, msg[i])
```

Count from 0 to 9

```
range(10)
```

△ range starts from 0 and goes up to, but not including, 10

Count from 1 to 10

```
range(1, 11)
```

Count from 10 down to 1

```
range(10, 0, -1)
```

Count 2 at a time to 10

```
range(0, 11, 2)
```

Count down 2 at a time

```
range(10, 0, -2)
```

Decide between options

Decide to run a block (or not)

```
x = 3
if x == 3:
    print('x is 3')
```

Decide between two blocks

```
mark = 80
if mark >= 50:
    print('pass')
else:
    print('fail')
```

Decide between many blocks

```
mark = 80
if mark >= 65:
    print('credit')
elif mark >= 50:
    print('pass')
else:
    print('fail')
```

▶ elif can be used without else
▶ elif can be used many times

Are two values equal?

```
x == 3
```

△ two equals signs, not one

Are two values not equal?

```
x != 3
```

Less than another?

```
x < 3
```

Greater than another?

```
x > 3
```

Less than or equal to?

```
x <= 3
```

Greater than or equal to?

```
x >= 3
```

The answer is a Boolean:

```
True or False
```

Arithmetic operators			
Operation	Symbol	Example	Output
Addition	+	2 + 10	12
Subtraction	-	9 - 6	3
Multiplication	*	5 * 4	20
Division	/	5 / 2	2.5
Floor Division	//	7 // 2	3
Remainder	%	7 % 3	1

Knowledge Goals: Computer Science

Half Term 1: Tier 3 Vocabulary

#	Key word	Definition
1	Python	A programming language used to write programs.
2	Algorithm	A set of rules/instructions to be followed by a computer System to solve a problem.
3	Code	The instructions that a program uses.
4	Sequence	Parts of the code that run-in order and the pathway of the program reads and runs very line in order.
5	Selection	Selects a pathways through the code based on whether a condition is true.
6	Iteration	Code is repeated (looped), either while something is true or for a number of times.
7	Variable	A value that will change whilst the program is executed. (eg. temperature, speed)
8	Syntax	The punctuation/way that code has to be written so that the computer can understand it. Each programming language has its own syntax.
9	Logic error	An error produced when a program is understood by the computer but does not perform as the programmer expects.
10	Operator	A character that represents a specific mathematical or logical action or process.

Notes:

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For more help or to progress your Python knowledge further use the QR code below:



Knowledge Goals: English Language

Text Selection

A Monster Calls
 Frankenstein
 Robin Hood
 The Sword and the Stone
 Theseus and the Minotaur
 IT

Home Learning Tasks:

- 1) Complete 15 minutes of reading every night, using your AR book.
- 2) Complete the vocabulary acquisition quizzes, set on Teams every fortnight.
- 3) Using this knowledge organiser, learn and review the key ingredients of crafting effective narratives.
- 4) Read at least one text from the wider reading list!

CORE ASSESSMENT SKILLS AND WHAT STUDENT ARE EXPECTED TO WRITE

- Application of language techniques (ALT)
- Application of structural techniques (AST)
- Effective paragraphing (EP)
- Sentence variety (SV)
- Mood / atmosphere (MA)

'Frankenstein' by Mary Shelley

I had selected his features as beautiful. Beautiful! Great God! His yellow skin scarcely covered the work of muscles and arteries beneath; his hair was of a lustrous black, and flowing; his teeth of a pearly whiteness; but these luxuriances only formed a more horrid contrast with his watery eyes, that seemed almost of the same colour as the dun-white sockets in which they were set, his shrivelled complexion and straight black lips.

The different accidents of life are not so changeable as the feelings of human nature. I had worked hard for nearly two years, for the sole purpose of infusing life into an inanimate body. For this I had deprived myself of rest and health.

Sentence Types

Simple sentence	For short sentences you want to emphasise.	She was lost.
Compound sentence	Two sentences connected with a coordinating conjunction = FANBOYS: for, and, nor, but, or, yet, so.	She was lost, but she was not beaten.
Complex sentence	Needs a comma! Opens with a subordinating conjunction: because, if, although, since, until, and while.	While the sun was setting, the creatures swarmed out of their holes.
Embedded clause	Extra information in the middle of a sentence, behaving like brackets. You could also use brackets!	His eyes, although twitching and fogged, spotted the movement of her dress like a hawk.
Holophrastic sentence	A one-word sentence; great for emphasising short phrases or words (because you are banned from words all in capital letters)	She darted into the woods for cover, losing herself deeper and thicker and mindlessly lower into the cold forest. Darkness.
Triad	3 adjectives.	His cracked, blood-shot and untamed eyes scanned the silent room.
Staccato	A series of short sentences to build up tension or panic.	She let out the whisper of a gasp. His eyes darted. She froze. A scurry. A snap. Footsteps? Silence.

Language Techniques (imagery)		
Metaphor	A comparison: a figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable.	Speckled, marquise diamonds began to illuminate the night sky. Nettles: a curious name for those green spears .
Metaphor - personification	A comparison: giving any human attribute to objects. Focusing on human actions might simplify this.	The vines strangled the gasping roses, creeping stealthily toward the decrepit, crumbling fence.
Metaphor – pathetic fallacy	A comparison: giving emotions to objects. Often effective when linked to the weather.	As the light faded, the dejected and sullen daffodils cocooned into themselves. Tiring of the pressure to perform, the sun crept away in exhaustion .
Simile	An explicit comparison where you make clear that you are making a comparison - often using the words 'like', 'as' or 'than'.	The stars illuminated the sky like speckled, marquise diamonds. The nettles were as sharp and dangerous as spears. The vines were <u>more deadly than</u> a viper looking for its next kill.
Use of the 5 senses	Building a clear sense of place by drawing on what can be seen, heard, smelt, felt and, possibly, tasted. Avoid 'I could hear...I could see...etc.' – try and be more creative and less obvious. Maybe a full paragraph focused on sounds for example.	Before I opened my eyes, the harsh light pricked my eyelids. My tongue, like sandpaper after 24 hours without water, felt swollen and obtrusive in my mouth. Rustlings of unknown voices coupled with a crunching of distant leaves forced me to face facts: I was not alone. A fetid and putrid stench of death seemed to have consumed the air.
Sibilance (helps create onomatopoeic words)	Type of alliteration: repetition of soft consonants to create a hissing sound or gentle, whistling effect (depending on the atmosphere being created). 'c..sh...ss...sc.....tion...'	The shrieking and screaching of the icy winds pierced my ears. The sweet smell of honeysuckle, drowsily swam through the shafts of sunlight.
Plosives (helps create onomatopoeic words)	Sounds in words which are aggressive and explode through the mouth: t, k/c, p, d, g, and b. Think of swear words which you can really spit out of your mouth with anger!	The pounding clatter of dank, tepid rain on the cracked and shuddering fence echoed loudly around the desolate yard.

Structural Techniques		
Zooming in	Focus in on a description of a particular detail or action.	Draw attention to something meaningful, symbolic or relevant to plot.
Zooming out	Focus on a description of the setting or action on a broader scale.	Frame the bigger picture for the reader – perhaps to gain perspective or focus on a detail of the weather (maybe to reflect the atmosphere or mood using pathetic fallacy. Maybe weather based).
Shift in focus	Where the writer moves from focusing on one idea and moving onto another.	Draw our attention to an important detail. Perhaps moves the plot forward.
Flashback	Jump back to an earlier period in time.	Provide relevant details for the reader needed to understand events – perhaps after starting in the middle of the action to create lots of unanswered questions.
Shift in atmosphere	Move from one tone, feeling or mood to another.	To indicate a change – perhaps in characters' feelings or to introduce a threat.
Shift in pace	Move from slow paced to a faster pace or vice-versa.	Build tension. Decrease tension.

Suggested Reading List		
Old Gods New Tricks By Thiago de Moraes	Goddesses and Heroines: Women of Myth and Legend By Xanthe Gresham-Knight	South Asian Folktales, Myths and Legends By Sarah Shaffi
The Girl Who Fell Beneath the Sea By Axie Oh	Lore By Alexandra Bracken	Curse of the Night Witch By Alex Aster
The Chocolate Touch By Patrick Skene Catling	Dragon Pearl By Yoon Lee	Mister Creecher By Chris Priestley

Knowledge Goals: Food Technology

A **Head Chef** is a highly skilled professional cook who oversees the operations of a restaurant or dining facility

FOOD MILES

WHAT ARE THEY AND HOW DO THEY AFFECT OUR WORLD?

AMERICAN FOOD TRAVELS AN **average** OF 1,500 TO 2,500 MILES FROM FARM TO TABLE



GROWING FOOD CLOSER TO **home** ALLOWS US TO HAVE FRESHER FOODS, AND MORE VARIETIES OF FOODS



Time + distance FROM THE POINT & TIME WHERE FOOD IS **grown** TO WHERE IT IS **consumed**. THE SMALLER THE BETTER!

60-70% OF THE COST OF YOUR FOOD GOES TO **production inputs**



(FERTILIZER, OIL/GAS, WATER, ETC.), TRANSPORTATION, AND STORAGE THAT USE **limited** RESOURCES, PETROCHEMICALS, & GENERATE GREENHOUSE GASSES.

FOOD MILES ARE AMONG THE FASTEST-GROWING SOURCES OF GREENHOUSE GAS EMISSIONS **worldwide**



FRUITS AND VEGETABLES ALLOWED TO **grow to full ripeness** HAVE MORE NUTRITIONAL VALUE THAN CONVENTIONAL PRODUCE HARVESTED EARLY AND RIPPENED WITH CHEMICAL GASSES IN TRANSPORT AND STORAGE



AVOIDING CROSS-CONTAMINATION

Chemical-to-Food

- Label chemicals clearly
- Have a designated closet for chemicals
- Keep chemicals far away from your food



Food-to-Food

- Keep ready-to-eat foods away from raw foods or food allergens
- Use designated utensils, cutting boards, etc. for raw foods and allergens
- After handling allergens or raw foods, immediately change glove and wash your hands



Pest-to-Food

- Store food at least 6 inches above the floor
- Keep foods covered
- Keep a clean, sanitized, and tidy kitchen



The role of the EHO (Environmental Health Officer)



Checking ventilation

The role of the EHO

- They can visit randomly so long as it is deemed "a reasonable time"
- They sometimes visit as a result of a complaint
- Can close a business immediately if the risk is high
- They can offer advice to business'
- They can seize and detain food
- They can prosecute business'
- They can inspect training records of staff
- Monitor hygiene and cleaning standards
- Take temperatures of fridges, inspect how waste is disposed of, hand washing facilities and food storage

Medical Reasons

Name of medical condition	Food/drinks to avoid	Reason to avoid
Diabetes	Starchy food/ high in sugar	High in saturated fat. Can lead to heart disease, while excess sugars can cause unwanted weight gain and blood sugar spikes
Nut allergy	Nuts, blended cooking oil, margarine with nuts oils and often seeds	the immune system overreacts to proteins in these foods
Lactose intolerance	Milk, cheese, yogurt, processed food	cannot metabolize lactose properly; they lack lactase, an enzyme required in the digestive system to break down lactose . Patients typically experience bloating, flatulence, and diarrhoea
Gluten intolerance (coeliac)	Wheat, wholemeal, bran, pasta, rye, beer	Celiac disease is caused by a reaction to a gluten protein found in wheat, barley, rye, and sometimes oats. Symptoms include chronic diarrhoea , weight loss and fatigue

Fats, oils and lipids:

Too much fat is bad for you, but so is not enough.

Source

Saturated Fats

(From Animal sources. They are also called unhealthy fats. They are generally solid at room temperature)
Sausages / Bacon / Lard / Dairy

Unsaturated Fats

(These are healthier. They are often liquid at room temperature.)
Monounsaturated fats
- olive oil / avocados
Polyunsaturated fats
- sunflower oil / seeds

Omega-3

These are Polyunsaturated and called "healthy" fats as your body needs them but can't make them. They are good for your heart.
- Oily fish / Nuts / Seeds

Function

Energy
Warmth
Protection of organs
Source of fat soluble vitamins
Hormone production

Dietary Reference Values		
DRI	Men	Women
Total fat	95g	70g
Sat fat	30g	20g

Too much
Obesity
Heart disease
Type 2 diabetes
Stroke
Cancer

Not enough
Vitamin deficiency (fat soluble)
Unprotected organs

Carbohydrates

There are 2 kinds, simple and complex - Sugar & Starches

Monosaccharides

Glucose, Fructose

Disaccharides

Sucrose, Maltose

Polysaccharides

Starch, Glycogen

Source

Simple - these are sugars (monosaccharides, disaccharides)
Cakes, jam, soft drinks

Complex - these are starches (polysaccharides)
Bread, potatoes, Flour, Pasta, Rice.

Function

Simple
Quick burst of energy
Complex
Longer lasting energy

Free sugars

These give you no nutritional benefit other than energy.

Not enough

Can make blood sugar level drop
• hunger,
• dizziness,
• Tiredness
• Lack of energy
Our body will use protein for energy (leads to loss of muscle)

Too much

• Excess is turned into fat
• Can cause obesity
• Too much sugar leads to dental problems
• Can lead to type 2 diabetes

Protein:

These are made up of **essential amino-acids** and **non-essential amino-acids**. (Our bodies can make non-essential amino acids, but we need to get essential amino acids from our food).

Source

HBV - these have all the essential amino acids
• Meat, fish, dairy, eggs (animal sources)
• Tofu
LBV - these are missing at least one essential amino acid
• Seeds, nuts, beans, pulses, cereals, Quorn (plant sources)

Function

Growth
Repair
maintenance



Not enough

Kwashiorkor
Oedema
Anaemia
Slow growth in children

Too much

Excess protein can be converted to energy. If unused turns to fat.

Dietary Reference Values

Age	Amount
1-3	15g
4-6	20g
7-10	28g
11-14	42g
15-18	55g
19-50	55g
50+	53g

Complementary actions

Combining 2 or more LBV proteins helps get a balance of essential amino acids. e.g. beans on toast.

Knowledge Goals: French

La famille les parents le père la mère le beau-père la belle-mère le mari la femme les enfants le fils la fille le frère la sœur le demi-frère	Family members parents father mother stepfather/father-in-law stepmother/mother-in-law husband wife children son daughter brother sister half-brother, stepbrother	la demi-sœur le beau-frère la belle-sœur les grands-parents le grand-père la grand-mère les petits-enfants le petit-fils la petite-fille l'oncle (m) la tante le cousin/la cousine	half-sister, stepsister brother-in-law sister-in-law grandparents grandfather grandmother grandchildren grandson granddaughter uncle aunt cousin
--	--	---	---

Les adjectifs de personnalité Il/Elle est ... agaçant(e) arrogant(e) amusant(e) bavard(e) charmant(e) content(e) fort(e)	Personality adjectives He/She is ... impatient(e) impoli(e) indépendant(e) intelligent(e) marrant(e) méchant(e) têtu(e)	impatient(e) impoli(e) indépendant(e) intelligent(e) marrant(e) méchant(e) têtu(e)	impatient impolite independent intelligent funny nasty/mean stubborn, pig-headed
---	--	--	--

Ma description physique J'ai les cheveux ... courts/longs raides/bouclés/frisés noirs/bruns/blonds roux/gris/blancs J'ai les yeux ... bleus/verts gris/marron	My physical description I have ... hair short/long straight/curlly black/brown/blond red/grey/white I have ... eyes blue/green grey/brown	J'ai ... des lunettes des boutons une moustache/une barbe Je suis ... petit(e)/grand(e) de taille moyenne mince/gros(se)	I have ... glasses spots a moustache/a beard I am ... short/tall of average height thin/fat
--	--	---	--

En ville la boîte de nuit le bowling le café le centre commercial le cinéma les magasins la patinoire	In town night club bowling alley cafe shopping centre cinema shops ice rink	la piscine la plage le théâtre dans derrière devant entre	swimming pool beach theatre in behind in front of between
---	---	---	---

Quand? aujourd'hui demain ce/demain matin cet/demain après-midi	When? today tomorrow this/tomorrow morning this/tomorrow afternoon	ce/demain soir lundi matin samedi soir	this/tomorrow evening on Monday morning on Saturday night
--	---	--	---

Les amis l'ami (m)/le copain l'amie (f)/la copine le petit ami/le petit copain la petite amie/la petite copine Je retrouve mes amis au parc. Je traîne en ville avec mes copines. Je tchatte en ligne avec ma meilleure copine.	Friends (male) friend (female) friend boyfriend girlfriend I meet up with my friends in the park. I hang out in town with my (female) friends. I chat online with my best (female) friend.	Avec mon petit ami, j'écoute de la musique. Je passe chez ma petite copine. On rigole bien ensemble. On regarde un film ou des clips vidéo. On joue au foot ou au basket ensemble. On discute de tout. On mange ensemble au fast-food.	I listen to music with my boyfriend. I go to my girlfriend's house. We have a good laugh together. We watch a film or music videos. We play football or basketball together. We talk about everything. We eat together at a fast-food restaurant.
---	--	--	---

L'amitié Je pense que ... Pour moi, ... À mon avis, ... Un(e) bon(ne) ami(e) est ... cool drôle fidèle généreux/-euse gentil(le) honnête modeste optimiste	Friendship I think that ... For me ... In my opinion ... A good friend is ... cool funny loyal generous kind honest modest optimistic	patient(e) sensible sympa Un(e) bon(ne) ami(e) ... écoute mes problèmes/ mes secrets discute de tout avec moi aide tout le monde accepte mes imperfections respecte mes opinions a les mêmes centres d'intérêt que moi a le sens de l'humour	patient sensitive nice A good friend ... listens to my problems/secrets talks about everything with me helps everyone accepts my faults respects my opinions has the same interests as me has a sense of humour
---	--	---	---

Les rapports en famille Je m'entends bien avec ... Je me dispute avec ... Je me chamaille avec ... Je m'amuse avec ... Je m'occupe de ... le frère aîné/cadet la sœur aînée/cadette	Family relationships I get on well with ... I argue with ... I bicker with ... I have fun with ... I look after ... older/younger brother older/younger sister	Il/Elle est/a l'air/semble ... dynamique égoïste jaloux/-euse sévère timide travailleur/-euse	He/She is/looks/seems ... lively selfish jealous strict shy hard-working
---	--	---	--

On va sortir Je vais ... aller à un match/au bowling aller au cinéma/à la piscine	Going out I am going ... to go to a match/the bowling alley to go to the cinema/the swimming pool	voir un spectacle faire du patin à glace/du skate faire les magasins jouer à des jeux vidéo Tu veux venir?	to see a show to go ice skating/skateboarding to go shopping to play video games Do you want to come?
---	---	--	---

Les questions Quand? Avec qui? On y va comment?	Questions When? With who(m)? How are we getting there?	On se retrouve où? On se retrouve à quelle heure?	Where shall we meet? At what time shall we meet?
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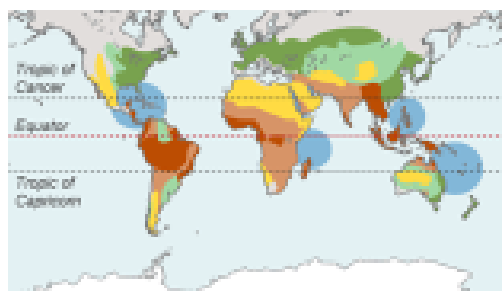
Une sortie J'ai contacté un copain/une copine. J'ai quitté la maison. J'ai raté le bus. Je suis allé(e) en ville. J'ai écouté de la musique. J'ai retrouvé mon copain/ma copine.	An outing I contacted a friend. I left the house. I missed the bus. I went into town. I listened to music. I met up with my friend.	J'ai discuté avec mon copain/ma copine. J'ai mangé un sandwich. J'ai acheté des vêtements. C'était super. J'ai passé une très bonne journée.	I talked to my friend. I ate a sandwich. I bought some clothes. It was great. I had a very good day.
---	--	--	--

La personne que j'admire Comment s'appelle la personne que tu admires? Mon héros s'appelle ... Mon héroïne s'appelle ... Mon modèle s'appelle ... C'est qui? C'est un pilote de Formule 1. C'est un scientifique. C'est une actrice. C'est une créatrice de mode. Fais-moi sa description physique.	The person I admire What is the name of the person you admire? My hero is called ... My heroine is called ... My role model is called ... Who is he/she? He is a Formula 1 driver. He is a scientist. She is an actress. She is a fashion designer. Describe for me what he/she looks like.	Il/Elle est ... travailleur/-euse/créatif/-ive, etc. Pourquoi est-ce que tu admires cette personne? J'admire (Stromae/Malala, etc.) car il/elle ... a travaillé très dur a joué dans beaucoup de films a gagné beaucoup de courses a donné de l'argent aux bonnes œuvres a lutté contre ses problèmes	He/She is ... hard-working/creative, etc. Why do you admire this person? I admire (Stromae/Malala, etc.) because he/she ... worked/has worked very hard acted/has acted in lots of films won/has won lots of races gave/has given money to good causes fought/has fought his/her problems I would like to be like him/her.
--	--	---	---

Les mots essentiels très assez mais ou où hier	High-frequency words very quite but or where yesterday	d'abord puis ensuite après plus tard le soir	first of all then next afterwards later in the evening
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Knowledge Goals: What's an ecosystem worth?



Key

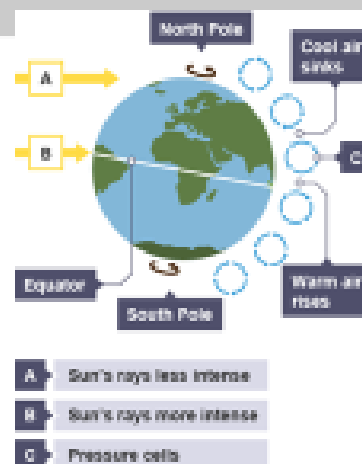
Polar	Tropical rainforest
Temperate deciduous forest	Savanna grassland
Temperate grassland	Coral reefs
Desert	

What are ecosystems?

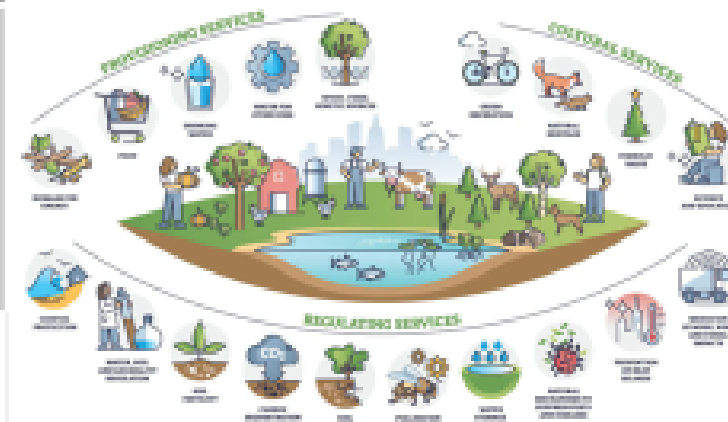
An ecosystem (or ecological system) consists of all the organisms and the physical environment with which they interact. These biotic and abiotic components are linked together through nutrient cycles and energy flows. Energy enters the system through photosynthesis and is incorporated into plant tissue. By feeding on plants and on one another, animals play an important role in the movement of matter and energy through the system. They also influence the quantity of plant and microbial biomass present. By breaking down dead organic matter, decomposers release carbon back to the atmosphere and facilitate nutrient cycling by converting nutrients stored in dead biomass back to a form that can be readily used by plants and microbes.

Why are ecosystems where they are?

The distribution of large-scale ecosystems (biomes) is determined by climate. Latitude, air pressure and winds are important factors that determine the climate of a place. Ocean currents act much like a conveyor belt, transporting warm water and precipitation from the equator toward the poles and cold water from the poles back to the tropics.



ECOSYSTEM SERVICES



Biome	
Temperate grassland	Grassland biomes consist of large open areas of grass. Trees can be present, but they are infrequent. Low rainfall, wildland fires, and grazing by animals are three factors that maintain grasslands. In grassland regions, the climate is ideal for the growth of grasses only. The low precipitation rates are enough to nourish grasses but not enough for a forest of trees. Temperate grasslands, are known for their rich soil that yields abundant growth of grasses. Temperate grasslands are found in places such as North America and Eastern Europe.
Tropical rainforest	A rainforest is an area of tall, mostly evergreen trees and a high amount of rainfall. Rainforests are Earth's oldest living ecosystems, with some surviving in their present form for at least 70 million years. They are incredibly diverse and complex, home to more than half of the world's plant and animal species—even though they cover just six percent of Earth's surface. This makes rainforests astoundingly dense with flora and fauna; a 10-square-kilometer (four-square-mile) patch can contain as many as 1,500 flowering plants, 750 species of trees, 400 species of birds and 150 species of butterflies.
Coral reefs	Coral reefs are some of the most diverse ecosystems in the world. Coral polyps, the animals primarily responsible for building reefs, can take many forms: large reef building colonies, graceful flowing fans, and even small, solitary organisms. Thousands of species of corals have been discovered; some live in warm, shallow, tropical seas and others in the cold, dark depths of the ocean.

What are Ecosystem Services?

Ecosystem services refers to the things that we get from ecosystems. Some of the things that we get are tangible such as food or chemicals for medicines or building materials. These are 'ecosystems goods'. Another service that ecosystems perform is one of improving our well-being by getting out into nature and using ecosystems for leisure. These are known as cultural services. The final service that ecosystems perform is by helping to return oxygen to the atmosphere and fixing carbon dioxide in living material. This is not the only regulating services that ecosystems perform.

5 THREATS TO BIODIVERSITY

Land and sea use change Including habitat loss and degradation Example: Agricultural land use which is responsible for 80% of global deforestation	Pollution Makes the environment unsuitable for survival directly and indirectly	Species overexploitation Example: Overfishing which may decrease global fish populations by 2030	Climate Change Forcing animals to shift ranges or confounding the signals that trigger seasonal events and more	Invasive species and disease Compete with native species for space, food and other resources; sometimes spread disease that native species have no immunity to

Find out more



Do more!



Knowledge Goals: History – Holocaust



Jan 30 1933
Hitler becomes
Chancellor

Sept 15 1935
Nuremberg Laws

July 15 1937
Buchenwald
Camp opens

Oct 28 1938
Polish Jews expelled
from Germany

Nov 9-10 1938
November Pogrom
(Kristallnacht)

Jan 20 1942
Wannsee
Conference

Oct 7 1944
Revolt at
Auschwitz

Nov 8 1944
Death marches
begin

April 30 1945
Hitler commits
suicide

1. What is the Holocaust?

The Holocaust was the systematic extermination of millions of people from minority groups in Europe by Nazi Germany during World War 2. The Nazis believed that Germans were racially superior, and anyone considered inferior were a threat. This included Jews, Roma & Sinti (travellers), people with mental or physical disabilities.

4. Final Solution?

After the Wannsee Conference in Jan 1942 the decision was made to mass murder European Jews as a 'solution' to the 'Jewish problem'. This was led by the SS under Himmler. Jews from all over Nazi controlled territory began to be deported to extermination camps such as Auschwitz and Treblinka.

2. Increasing persecution

1933: Jews banned from public places (parks, pools) and all government jobs.
1933 April: Boycott of Jewish businesses.
1935 Sept: Nuremberg Laws; Jews no longer German citizens.
1938 9-10 Nov: November Pogrom; violent attacks on Jewish business & synagogues. 20,000 Jews sent to camps.
1939: Jews can be evicted without

5. Death Marches

1939 Nov: Jews not allowed to go to school.
The Nazi's realised they were losing the war, and in Nov 1944 extermination camp prisoners began to be marched in towards Germany away from the advancing allied forces. Many people died on the way due to abuse, starvation, exposure or being shot by guards and were left on the side of the road / trail.

3. Ghetto Life.

- As Nazis invaded other countries, they had lots more Jews to deal with.
- They decided Jews should be moved to certain areas of towns and cities called ghettos.
- Entire communities were forced to move to these areas.
- Meant to be temporary until they could be removed from Europe.
- Largest was in Warsaw, Poland, created in Oct 1940.
- It held 460,000 Jews in dreadful living conditions; starvation, disease, poverty.

5. Liberation

As they advanced towards Germany the Allies found victims of the extermination camps. The Nazi's had tried to hide evidence in case they faced a trial. On 7th May 1945 Germany surrendered and the remaining prisoners left alive had a chance of survival. Many continued to die because they'd become too weak

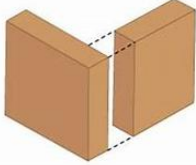
Knowledge Goals: Materials 1 - Sweet Dispenser

Wood Joints

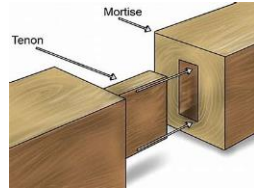
Dowel Joint



Butt Joint



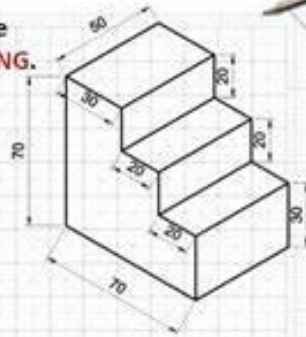
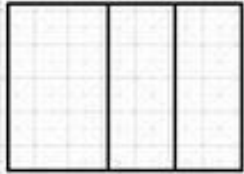
Mortice and Tenon



Orthographic Projection

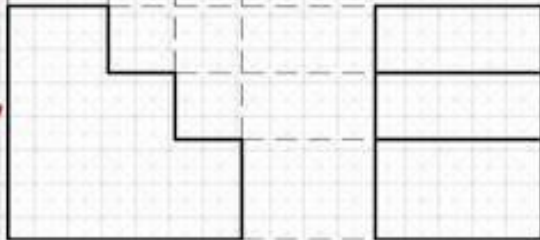
Now look at this example using a set of steps, I have included the dimensions on the **ISOMETRIC DRAWING**.

Plan View (Top)



All of this means the drawing meets the required standard and should have the symbol for **3RD ANGLE ORTHOGRAPHIC PROJECTION**.

Front View



End View (Side)



Note how the three drawings are laid out, all in line with each other and each has been drawn to scale.

Avoiding Design Fixation

SCAMPER



S SUBSTITUTE

Replace a think or concept with something else

C COMBINE

Unit? What? Who? Ideas? Materials?

A ADAPT

Adjust to a new purpose. Re-shape? Tune-up?

M MODIFY, MAGNIFY, MINIFY

Change the color, sound, motion form, size
Make it larger, stronger, thicker, higher, longer
Make it smaller, lighter, slower, less frequent, reduce

P PUT TO ANOTHER USE

Change when, where, location, time or how to use it.

E ELIMINATE

Omit, get rid of, cut out, simplify, weed out...

R REARRANGE, REVERSE

Change the order, sequence, pattern, layout, plan, scheme, regroup, redistribute...

Health and Safety

It is really important we **ASSESS** the **RISK** and **REDUCE** the **RISK** of Injury by **LISTENING** To the **TRAINING** and following the correct **PPE** usage

- Hair must be tied up in the workshop
- Blazers and ties must be removed
- Jewellery must be removed
- Only use machines you have been told to use and have been demonstrated to you
- Ensure you know where the emergency stop button is
- Do not eat or drink in the workshop
- No running

6R's - Sustainability

Recycle - Take an existing product that has become waste and re-process the material for use in a new product.

Reuse - Take an existing product that's become waste and use the material or parts for another purpose, without processing it.

Reduce - Minimise the amount of material and energy used during the whole of a products life cycle.

Refuse - Don't accept a product at all if you don't need it or if its environmentally or socially unsustainable.

Rethink - Our current lifestyles and the way we design and make.

Repair - When a product breaks down or doesn't function properly, fix it.

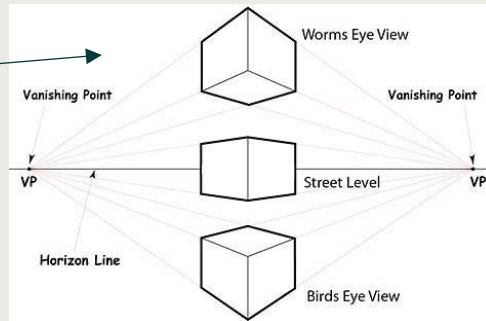
Knowledge Goals: Materials 1 - Passive Amplifier

Health and Safety

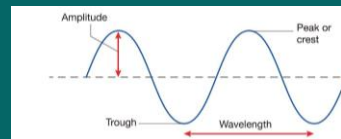
It is really important we **ASSESS** the **RISK** and **REDUCE** the **RISK** of Injury by **LISTENING** To the **TRAINING** and following the correct **PPE** usage

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- Ensure you know where the emergency stop button is
- Do not eat or drink in the workshop
- No running

Two-point perspective - This shows an object from the side with two vanishing points. It gives the most realistic view of a product as it shows the item edge on, as we would see it. It is often used to produce realistic drawings of an object.

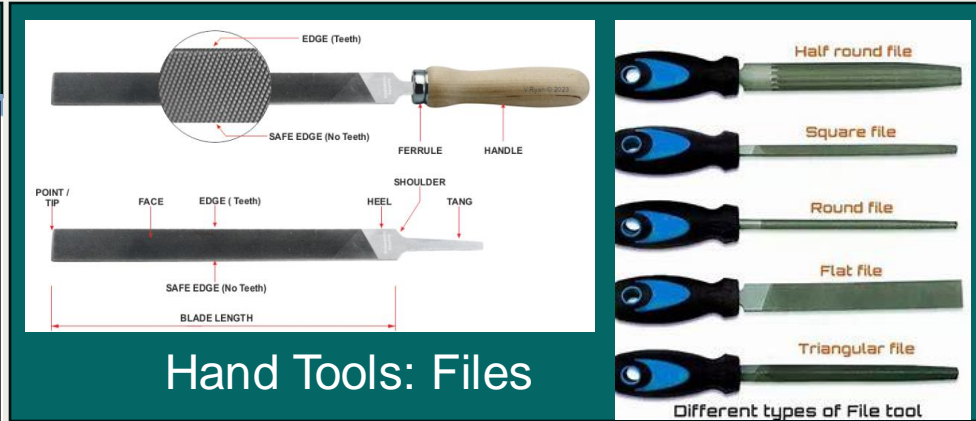


The loudness of a sound is a measure of the amplitude of the wave. The greater the amplitude, the louder the sound.



CAD – 2D Design Software

	Select Tool – Used when selecting drawing, moving drawing or lines and shapes.
	Circle Tool – Used to draw circles. Click and hold to extend the tool bar for more options.
	Line Tool – Used to draw lines. Click and hold to extend the tool bar for more options.
	Path Tool – Used to draw curves and curved lines. Click and hold to extend the tool bar for more options.
	Rectangle Tool – Used to draw rectangles and squares. Click and hold to extend the tool bar for more options.
	Double Path Tool – Used to draw curves and curved lines with a double line. Click and hold to extend the tool bar for more options.
	Text Tool – Used to add text to the design. Text style can be changes and altered to suit the design.
	Mirror Tool – Used to mirror and repeat a design. Found by holding down the Transform Tool
	Grid Lock – Used to show the grid spacing on the drawing.
	Delete Any – Deletes whole line in a drawing.
	Delete Part – Deletes part of lines to the nearest two intersections.



Hand Tools: Files

Hardwood

Hardwoods come from deciduous trees, which have large flat leaves that fall in the autumn. Hardwoods take longer to grow, are not easily sourced and are expensive to buy.

Examples: Beech (utensils), Oak (cabinet), Pine (window frame), Spruce (truss), Larch (bench).

Manufactured boards are usually made from timber waste and adhesive. To make them more aesthetically pleasing they are often veneered. They are cheap to buy.

Examples: Oak veneer on chipboard, MDF, Plywood, Chipboard.

Manufactured Board

Softwood

Softwoods come from coniferous trees. These often have pines or needles, and they stay evergreen all year round - they do not lose leaves in the autumn. They are faster growing than hardwoods, making them cheaper to buy, and are considered a sustainable material.

Knowledge Goals: Maths

Unit 5 – Statistics		
Topic	Video	Resource
Averages	Watch this	Complete Check your work
Averages from a Frequency Table	Watch this	Complete Check your work
Stem and Leaf Diagrams	Watch this	Complete Check your work
Pictograms	Watch this	Complete Check your work
Bar Charts	Watch this	Complete Check your work
Scatter Graphs	Watch this	Complete Check your work

Averages from lists R

The Mean
A measure of average to find the central tendency... a typical value that represents the data

Find the sum of the data (add the values)
55
Divide the overall total by how many pieces of data you have
 $55 \div 5$ Mean = 11

The Mode (The modal value)
This is the number OR the item that occurs the most (it does not have to be numerical)

24, 8, 4, 11, 8
This can still be easier if the data is ordered first
Mode = 8

The Median
The value in the center (in the middle) of the data

Put the data in order: 4, 8, 8, 11, 24
Find the value in the middle: 4, 8, 8, 11, 24
24, 8, 4, 11, 8 Median = 8
NOTE: If there is no single middle value find the mean of the two numbers left

For Grouped Data
The modal group – which group has the highest frequency

Averages from a table R

Non-grouped data

Number of Siblings	0	1	2
Frequency	6	8	6
Subtotal	0	8	12

Overall Frequency: 20
Total number of siblings: 20

The data in a list: 0,0,0,0,0,1,1,1,1,1,1,1,1,2,2,2,2,2,2,2

Mean: $\frac{\text{total number of siblings}}{\text{Total frequency}} = 1$

Grouped data

x Weight(g)	Frequency	Mid Point	MP x Freq
40 < x ≤ 50	1	45	45
50 < x ≤ 60	3	65	195
60 < x ≤ 70	5	65	325

Overall Frequency: 9
Overall Total: 565
Mean: 62.8g

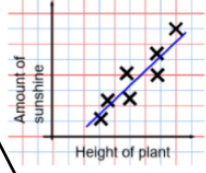
The data in a list: 45, 55, 55, 55, 65, 65, 65, 65, 65

The line of best fit

The Line of best fit is used to make estimates about the information in your scatter graph

Things to know:

- The line of best fit **DOES NOT** need to go through the origin (The point the axes cross)
- There should be approximately the same number of points above and below the line (It may not go through any points)
- The line extends across the whole graph



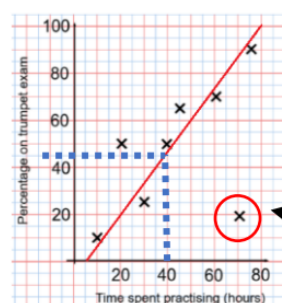
It is only an estimate because the line is designed to be an average representation of the data

It is always a straight line.

Using a line of best fit

Interpolation is using the line of best fit to estimate values inside our data point

e.g. 40 hours revising predicts a percentage of 45



Extrapolation is where we use our line of best fit to predict information outside of our data
This is not always useful – in this example you cannot score more than 100%. So revising for longer can not be estimated

This point is an "outlier" It is an outlier because it doesn't fit this model and stands apart from the data

Knowledge Goals: Maths

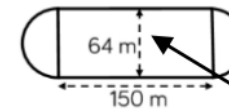
Unit 6 – Length and Area		
Topic	Video	Resource
Area of rectangles and triangles	Watch this And this	Complete this And this
Perimeter of shapes	Watch this	Complete this Check your work
Area of parallelogram	Watch this	Complete this Check your work
Area of trapezium	Watch this	Complete this Check your work
Area and circumference of circles	Watch this	Complete this Check your work

Compound shapes including circles

Circumference
 $\pi \times \text{diameter}$

Compound shapes are not always area questions.
For Perimeter you will need to use the circumference

Spotting diameters and radii



This dimension is also the diameter of the semi circles

$$\begin{aligned} \text{Arc lengths} &= \pi \times 64 \\ &= 64 \pi \end{aligned}$$

Don't need to halve this because there are 2 ends which make the whole circle

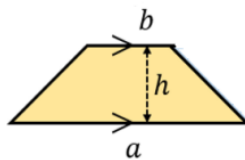
Arc lengths + Straight lengths = total perimeter

$$\begin{aligned} &= 64 \pi + 150 + 150 \\ &= (300 + 64 \pi) \text{ m} \\ \text{OR} &= 501.1 \text{ m} \end{aligned}$$

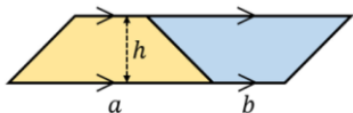
Still remember to split up the compound shape into smaller more manageable individual shapes first

Area of a trapezium

$$\text{Area of a trapezium} = \frac{(a+b) \times h}{2}$$



Why?



- Two congruent trapeziums make a parallelogram
- New length $(a + b) \times \text{height}$
- Divide by 2 to find area of one

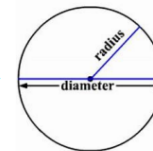
Area of a circle (Calculator)



SHIFT $\times 10^x$

How to get π symbol on the calculator

Area of a circle
 $\pi \times \text{radius}^2$



It is important to round your answer suitably – to significant figures or decimal places. This will give you a decimal solution that will go on forever!

Mental Health in Children in the UK

THE ALARMING FACTS

- 1 in 6 children aged 6-16** were identified as having a probable mental health problem in 2020. That's 5 children in every classroom of 30 [1]. This is a rise from 1 in 10 in 2004.
- 17-22 year old women** are the group most at risk of developing mental health problems. Young women are 3 times more likely to experience anxiety and depression than men [2].
- The number of A&E attendances by young people aged 18 or under with a recorded diagnosis of a psychiatric condition increase by more than 300% between 2010 and 2018-19 [3].
- 80% of young people with mental health** needs agreed that the coronavirus pandemic had made their mental health worse [4].
- In 2018-19, **24%** of 17-year-olds reported having self-harmed in the previous year [5].
- 7%** reported having self-harmed with suicidal intent [5].
- Suicide was the leading cause of death for males and females aged between 5 to 34 in 2020 [6].
- Nearly half of 17-19 year-olds with a diagnosed mental health disorder has self-harmed or attempted suicide at some point, rising to 52.7% for young women [7].
- Just over 1 in 3 children and young people with a diagnosed mental health condition get access to NHS care and treatment [8].
- 34%** of those who get referred into the NHS by their GP are not accepted into treatment.
- For most, there is an average 30-year delay between young people displaying first symptoms and getting help.
- School pupils who have a mental health problem are more likely to be excluded from school than their peers. In 2018-19, 1 in 5 students with an identified mental health difficulty were excluded from school [9].

Children from Black, Asian and minority ethnic (BAME) communities are less likely to access mental health services. [10]

Children from the poorest 20% of households are four times as likely to suffer from serious mental health difficulties by the age of 11 as those from the wealthiest 20%. [11]

How this Impacts Adulthood

- One-third (33%) of mental health problems in adulthood are directly connected to an adverse childhood experience (ACE) [12].
- Adults who experienced four or more adversities in their childhood are four times more likely to have low levels of mental wellbeing and life satisfaction [13].

References

[1] NHS Digital (2020). Mental Health of Children and Young People in England: prevalence survey. Available at: <https://www.nhs.uk/england/mental-health-of-children-and-young-people-in-england-prevalence-survey-2020>

[2] Meltzer, A. (2016). The Employment (January 2015) 'Number of children admitted to A&E with mental health problems' James 330 per cent over last decade. Available at: <http://www.healthcareinsights.com/healthcare-insights-mental-health-hospital-a&e-visits-are-up-330-percent-over-last-decade>

[3] Young People's Experiences of Mental Health Services (2019). Report Summer 2020. Available at: <https://www.youngpeople.org.uk/media/3559/youth-mental-health-services-report-summer-2020-final.pdf>

[4] NHS and NHSX (2020). Coronavirus (COVID-19) and mental health: interim guidance for health professionals. Available at: <https://www.nhs.uk/england/coronavirus-2019-2020/coronavirus-2019-2020-mental-health-interim-guidance-for-health-professionals>

[5] NHSX (2019). The National Survey of Self-Harm in England and Wales (2018) Executive Summary. Available at: <https://www.nhs.uk/england/self-harm-in-england-and-wales-2018-executive-summary>

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Knowledge Goals: PDev

TYPES OF SELF-CARE THAT EVERYONE SHOULD BE AWARE OF

PHYSICAL	EMOTIONAL	SOCIAL	SPIRITUAL
-Sleep -Stretching -Walking -Diet -Yoga -Rest	-Emotional Intelligence -Stress Management -Emotional Maturity -Forgiveness -Kindness -Reflection	-Friends & Family -Support Systems -Safe Boundaries -Positive Media -Communication -Asking For Help	-Time Alone -Enjoying Nature -Meditation -Keeping A Diary -Yoga -Music
PERSONAL	SPACE	FINANCIAL	WORK
-Knowing Yourself -Loving Your True Self -Personal Identity -Hobbies	-Healthy Environment -Security & Stability -Positive Surroundings -Safety	-Saving -Budgeting -Splurging -Sharing	-Positive Workplace -Time Management -Learning -Breaks

Social skills kids need at the playground

- Joining in peers
- Inviting peers to play
- Sharing
- Play skills
- Taking turns
- Having a conversation
- Dealing with conflicts
- Being a good sport

www.ourspecialstory.com.sg

Equality, Diversity and Inclusion

It is about you

The Equality Act 2010 identifies the following as Protected Characteristics:

- Age
- Disability
- Gender Reassignment
- Race
- Religion or Belief
- Sex (Gender)
- Sexual Orientation
- Marriage and Civil Partnerships
- Pregnancy and Maternity

How many apply to you?

References

- Caring Responsibilities
- Financial Concerns
- Stranded Students

Fixed vs Growth Mindset

Fixed Mindset	Growth Mindset
I can't do this yet	I'll use some of the strategies that I have learnt
I'm not good at this	Is this my best work yet
I give up	This was my first attempt in learning
It's not good enough	If something is hard, it means I am learning
I made a mistake	I understand this because I have been practicing
This is too hard	I'm going to find out how they do that
I am really good at this	This is going to take time and effort to master
I will never be as clever as them	Improvements can always be made
I can't do this	How can I help them to understand this?
I can't make this any better	
They can't do it	

5 HIV FACTS

- 1 People on effective HIV treatment can't pass it on. Effective treatment for HIV suppresses the virus to such low levels that it can't harm you and you can't pass it on.
- 2 HIV can't be passed on through day-to-day contact. HIV can't be passed on through things like touching, kissing, sharing cutlery or glasses. HIV can be passed on through sex without a condom but only if a person is not on effective treatment. It can also be passed on through sharing needles and during pregnancy (but in the UK this is extremely rare because we have great treatment).
- 3 HIV can affect anyone. Some groups of people are affected by HIV more than others, but it can be passed on to anyone.
- 4 People living with HIV can live long and healthy lives. There isn't a cure for HIV, but there is excellent treatment. If you are diagnosed in good time and take your medication, you can have as long and healthy a life as everyone else.
- 5 There are many ways to prevent HIV. Getting regularly tested for HIV if you are sexually active. Taking PEP or PrEP (tablets which prevent HIV either before or just after you've been exposed to it). Using condoms. Never sharing needles. Taking your medication if you are living with HIV.

NATIONAL AIDS TRUST
Securing rights. Stopping HIV.
www.nat.org.uk

HIV in the UK

In 2019 there was a **10%** drop in new HIV transmissions since 2018 and a **34%** drop since 2014

An estimated **105,200** people are living with HIV in the UK in 2019

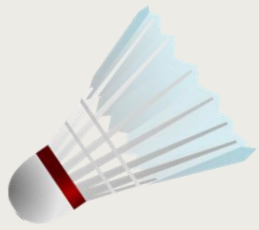
6,600 people do not know they have HIV

4,139 people were diagnosed with HIV in the UK in 2019. Of those **42%** were diagnosed late

98% of people diagnosed with HIV in the UK are on treatment, and 97% have an undetectable viral load - which means they can't pass on the virus

NATIONAL AIDS TRUST
Securing rights. Stopping HIV.

Data source: Public Health England



Badminton

- ❑ **Serving** – I can perform the backhand and forehand serve with accuracy, landing the shuttle in the opponents' service box.
- ❑ **The Clears** – I know that the clear is a defensive stroke and can be used to slow the pace of the game and regain position on court
- ❑ **The Drop Shot** – I understand that the drop shot is an attacking shot and why.
- ❑ **The Smash** – I can hit the shuttle with power and land the shuttle mid court, showing good accuracy.
- ❑ **Net Play** – I can accurately hit the shuttle low over the net and land close to the net.
- ❑ **Game Play** – I know which side of the court to serve from depending on if the score is odd or even.



Hockey

- ❑ **Ball Control** – I can use reverse stick at the appropriate times to control the ball.
- ❑ **Passing** – I can demonstrate passes at increasing variety, speed and accuracy. On reception I rotate the stick forward to ensure the ball is trapped and available.
- ❑ **Dribbling** – I can move at speed with the ball avoiding challenges by changing speed or direction.
- ❑ **Tackling** – I can apply the block tackle effectively and safely in game situations on many occasions.
- ❑ **Game Situations** – I can organise effective attacking opportunities quickly in free hit situation.

Knowledge Goals: PE

Football

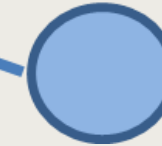


- ❑ **Ball Control** – I can control the ball with most body parts with some consistency
- ❑ **Passing** – I can occasionally pass the ball accurately using different parts of my foot whilst under *pressure*.
- ❑ **Defending** – I can decide whether to commit to a tackle or *jockey* my opponent.
- ❑ **Dribbling** – I can dribble the ball for some distance as long as it's on my stronger side.
- ❑ **Shooting** – I can accurately shoot from a moderate distance using different techniques.
- ❑ **Game Situations** – I move into space in games and communicate with teammates and can maintain *possession* while decision making.



Netball

- ❑ **Passing** – I can effectively pass a ball to a player in a game situation.
- ❑ **Footwork** – I can demonstrate good use of the footwork rule in a game situation. I can pivot on my landing foot consistently.
- ❑ **Attacking skills** – I am able to re-offer under pressure from a defender to create space to receive the ball.
- ❑ **Defending skills** – I am able to cleanly intercept a ball with two hands in a small game situation.
- ❑ **Game Situations** – I am able to demonstrate a basic set play in a game situation with little or no pressure.



Gymnastics

- ❑ **Floor** – I can perform a paired sequence, performing advanced movements showing consistently high levels of control and tension.
- ❑ **Jumps** – I can successfully incorporate a variety of jumps to change the level of a sequence.
- ❑ **Apparatus** – I can adapt the apparatus to perform a multi-move sequence using a range of vaults with correct technique.
- ❑ **Performance** – I can evaluate another group's sequence, making specific suggestions on how to improve the level of their performance.



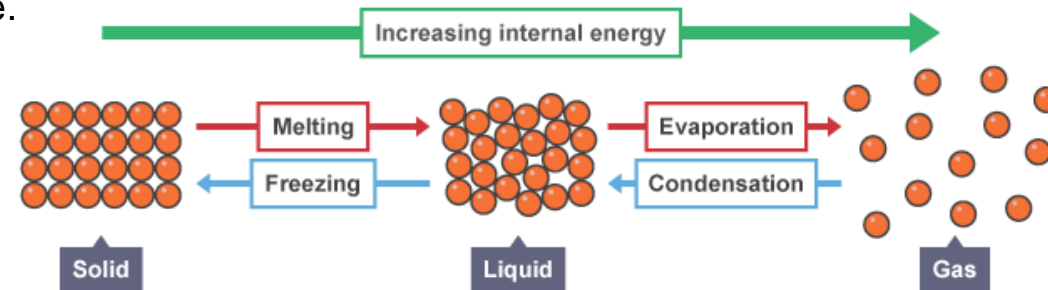
Rugby

- ❑ **Evasion/Support Play** – I can demonstrate principles of attack when to penetrate or out flank. I can support in different formations including 'magic diamond'.
- ❑ **Passing & Catching** – I can pass and catch a ball over a longer distance with some accuracy, making decisions on the weight and length of the pass. Developing skills for quick passing to maximise potential overlaps
- ❑ **Tackling/Defensive Strategies** – I can demonstrate the principles of defence, denial of space, pressure, open gate, tackle, cover and regain possession
- ❑ **Rucks & Mauls** – I can set up a micro maul or micro ruck if none of the 'continuity' options are possible.
- ❑ **Game Play** – I can plan and execute set piece plays from a 'scrum' or 'line out'

Knowledge Goals: Physics – Internal energy

Internal energy and heating substances

When substances are heated, the internal energy store of the substance is increased. This can either change the temperature or the state of the substance, but not both at the same time.



Changing temperature

- When energy is shifted into a body its temperature can increase.
- During a change of temperature, energy is shifted in or out of the kinetic energy store of particles.
- The amount of heat stored or released as a substance changes temperature can be calculated using the equation:

$$\text{energy} = \text{mass} \times \text{specific heat capacity} \times \text{temperature change}$$

- The specific heat capacity of a material is the energy required to raise one kilogram (kg) of the material by one degree Celsius ($^{\circ}\text{C}$) without a change of state.

Changing state

- When energy is shifted into a body at its melting or boiling point, it will change state.
- Temperature remains constant during a change of state.
- During a change of state, energy is shifted in or out of the potential energy store of particles.
- Forces of attraction between particles are weakened during melting and overcome during boiling.
- The amount of heat stored or released as a substance changes state can be calculated using the equation:

$$\text{energy} = \text{mass} \times \text{specific latent heat}$$

- Specific latent heat is the amount of energy required to change the state of 1 kilogram (kg) of a material without changing its temperature.

Knowledge Goals: Physics – Internal energy

Calculating energy for a change of temperature

How much energy is needed to raise the temperature of 3 kg of copper by 10°C?

$$\begin{aligned} \text{energy} &= \text{mass} \times \text{SHC} \times \text{temperature change} \\ &= 3 \times 385 \times 10 \\ &= \underline{11\,550\text{ J}} \end{aligned}$$

How hot does a 3.5 kg brick get if it's heated from 20°C by 400 kJ?

$$\begin{aligned} 400\text{ kJ} &= 400\,000\text{ J} \\ \text{energy} &= \text{mass} \times \text{SHC} \times \text{temperature change} \\ 400\,000 &= 3.5 \times 840 \times \text{temperature change} \\ \text{temperature change} &= \frac{400\,000}{3.5 \times 840} = 136^\circ\text{C} \\ \text{final temperature} &= 20 + 136 = \underline{156^\circ\text{C}} \end{aligned}$$

Material	Specific heat capacity (J/kg°C)
Brick	840
Copper	385
Lead	129

Calculating energy for a change of state

How much energy is needed to melt 500 grams (g) of water at 0°C?

$$\begin{aligned} 500\text{ g} &= 0.500\text{ kg} \\ 334\text{ kJ/kg} &= 334\,000\text{ J/kg} \end{aligned}$$

$$\begin{aligned} \text{energy} &= \text{mass} \times \text{SLH} \\ &= 0.500 \times 334\,000 \\ &= \underline{167\,000\text{ J}} \end{aligned}$$

Substance	Specific latent heat of fusion (kJ/kg)	Specific latent heat of vaporisation (kJ/kg)
Water	334	2260
Lead	22.4	855
Oxygen	13.9	213

Solving calculations

- 1 – Equation
- 2 – Units
- 3 – Substitute
- 4 – Re-arrange
- 5 – Solve

Re-arranging

You may need to:

- Swap sides.
- Do the same thing to both sides.

Knowledge Goals: Year 9 Judaism

Judaism is one of the world's major religions. It is the world's 10th largest religion, with about 14.6 million followers. It is around 4,000 years old.

Jews are the people who follow Judaism. Like Christians and Muslims, Jews believe that there is only one God, who created the world and everything in it.

Abraham is seen as the father of the Jewish religion. Jews believe that Judaism began when he started worshipping one God instead of many.

Judaism began in the Middle East – but there are now Jewish people all across the world.

The main holy book of Judaism is the Torah, written in Hebrew. Synagogues are Jewish worship buildings.

Image of the Great Synagogue of Florence, in Italy, Europe.



Jewish Beliefs

The Four Stages of Life

- Jews believe in four important stages of life, and mark each with a religious ceremony.
- The four are: birth, becoming an adult, marriage and death.
- When Jewish boys (aged 13) and Jewish girls (aged 12) become Jewish adults, they have a bar mitzvah (for boys) or bat mitzvah (for girls) ceremony. At these ages, Jewish religion, law and social life judges that the boys and girls become responsible for their own actions. The ceremony is usually held on the first Shabbat (Jewish day of rest) after their birthday. In a bar mitzvah ceremony, a boy must read passages from the Torah.

The Story of Abraham

- Abraham is an important figure in Judaism, Christianity and Islam. His story is told in the Genesis section of the Bible.
- According to the story, Abraham made an agreement with God, in which he promised to be faithful and to teach his laws to the world. In return God gave Abraham and his descendants the land of Israel. Even though Abraham was 99, and his wife Sarah 90, God enabled them to have a son, Isaac, forming the first Jewish family.

Ceremonies and Festivals

- Jews enjoy many ceremonies and festivals as a part of their religion.
- Passover takes place in March or April, and is when Jewish people remember how God brought them out of Egypt (the Exodus). A special meal is created to remind the Jews of the good and bad times in the past. It includes hard boiled egg, parsley, boiled potato, lettuce, horseradish, chopped apples and walnuts.
- Hannukah takes place in December and is known as 'the Jewish festival of lights.' People light candles, exchange presents, and eat foods such as latkes (potato pancakes) and sufganiot (jam doughnuts).

Answers to Important Questions

Where and how do Jews worship?



- Synagogues are where Jewish people go to worship.
- In Orthodox synagogues, men and women sit separately. In progressive synagogues, men and women can sit together and worship.
- Synagogues have large rooms for prayers, and normally smaller rooms for studying.
- The front of a synagogue faces towards Jerusalem.
- There is always a raised platform called a Bimah.

What is the Torah?



- The Torah is the Jewish holy book.
- They are written in Hebrew on rolls of parchment. The scrolls are never touched when they are read from – readers use a pointer called a yad.

Where do most Jews live in the world?



- There are around 14.6 million Jews in the world.
- Two countries – the United States and Israel - have 81% of the world's total Jewish population.
- Some of the other countries with substantial Jewish populations include France, Canada, Russia, the United Kingdom, Argentina and Germany.
- There were 17 million Jews in 1939, but this was reduced to 11 million by 1945 due to the Holocaust.

How many different types of Jews are there?



- There are many different branches of Judaism.
- Some Jews still follow all of Judaism's original laws and customs – these are called Orthodox Jews.
- Jews who do not follow all of these traditions are called Progressive Jews. Progressive Jews are happy to be flexible with certain Jewish laws, in order to fit in with their modern surroundings.

Top 10 Facts

1. Jews believe in one God, that is a spirit and has no physical form.
2. A kippah is the clothing item that many Jewish men wear on their head.
3. Praying is very important in Judaism – there are prayers for every occasion.
4. Jesus was born into the Jewish religion, but began preaching his own ideas.
5. Many Jewish homes have a family box, and give to those in need.
6. Strict Jews are not allowed to travel or watch TV on the day of Shabbat!
7. Jewish New Year takes place in September/October time, and is called Rosh Hashanah.
8. Jews fast for 25 hours and pray during Yom Kippur.
9. Anne Frank was a famous Jewish girl, who was killed in the Holocaust.
10. The Anne Frank House and Secret Annex, in Amsterdam, Netherlands, remains one Europe's busiest tourist attractions

BRITPOP

Knowledge Goals: Music - Britpop



British pop music was a mix of regional influences, mainly Northern Manchester and Southern "Cockney" accents. The music was heavily influenced by the way of life and places throughout the country. The music was established for young people. "Cockney" style and look on the radio, this often meant a contrast to the classic to make the music more popular at the time.

4. Britpop artists often had a mix of styles and "flavors".
5. Simple, repeated chord progressions were used, often a mix of funk and soul.
6. Lyrics were often about love and relationships.
7. Production was often high quality, with a focus on the sound of the instruments.
8. Lyrics were often about love and relationships.

- Oasis: "Wonderwall" (1995) & "Don't Look Back in Anger" (1996)
- Blur: "Country House" (1996)
- Pulp: "Common People" (1996)
- The Verve: "Bitter Sweet Symphony" (1997)
- Supergrass: "Alright" (1998)
- Doves: "Beautiful Day" (1998)

Britpop artists and bands drew heavily on the tradition of melodic, guitar-based British pop music established by the Beatles.

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Knowledge Goals: Music - Britpop

Half Term 3: Tier 3 Vocabulary

#	Key word	Definition
1	Hook	A short, catchy passage or phrase of music.
2	Riff	A repeated chord progression
3	Middle 8	a section in a song that tends to happen towards the middle of the song, and tends to be eight bars in length.
4	Chorus	a section of a song that is repeated at least twice
5	Outro	The end of the song.
6	Intro	The beginning of the song where the mood is set.
7	Brit-Pop	British pop music of the mid 1990s that was typically influenced by the Beatles and other British groups of the 1960s
8	Grunge	distortion-filled, down-tuned and riff-based rock
9	Chord	2 or more notes played at the same time.
10	I-IV-V-Vi	The chords which are predominantly used to make Brit Pop Music.



Oasis, Blur, Manic Street Preachers, Reef, Blur, Travis, Elastica,

Knowledge Goals: Spanish

¿Te interesa(n)...? el arte dramático el dibujo el español el inglés la biología la educación física la física la geografía la historia la informática la lengua la química la religión	Are you interested in...? drama art / drawing Spanish English biology PE physics geography history ICT language chemistry RE	la tecnología los idiomas las empresariales las matemáticas las ciencias la asignatura ¿Qué opinas de...? me encanta(n) me chifla(n) me interesa(n) me gusta(n) no me gusta(n) odio prefiero	technology languages business studies maths science subject What do you think of...? I love I love I'm interested in I like I don't like I hate I prefer
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¿Cómo son tus profes? Mi profe (de inglés) es... joven viejo/a severo/a tolerante impaciente paciente interesante	What are your teachers like? My English teacher is... young old strict easy-going impatient patient interesting	aburrido/a gracioso/a serio/a simpático/a antipático/a más divertido/a que menos creativo/a que tan interesante como	boring funny serious nice / friendly unfriendly more fun than less creative than as interesting as
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¿Qué llevas en el insti? (No) llevo... (No) llevamos... Tengo que llevar... Tenemos que llevar... un jersey (de punto) un vestido una camisa una camiseta una chaqueta (a rayas) una chaqueta de punto una corbata una falda unos pantalones unos calcetines unos zapatos unos vaqueros unas medias amarillo blanco negro	What do you wear at school? I (don't) wear... We (don't) wear... I have to wear... We have to wear... a (knitted) sweater a dress a shirt a t-shirt a (striped) jacket a cardigan a tie a skirt trousers socks shoes jeans tights yellow white black	rojo morado / violeta naranja rosa azul verde gris marrón oscuro / claro a rayas / a cuadros bonito / feo cómodo / incómodo formal / informal elegante práctico El uniforme... mejora la disciplina limita la individualidad Las diferencias económicas no son tan obvias.	red purple orange pink blue green grey brown dark / light striped / checked pretty / ugly comfortable / uncomfortable formal / informal smart practical Uniform... improves discipline limits individuality The economic differences are not as obvious
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¿Cómo es tu insti? En mi insti hay... Mi insti tiene... un salón de actos un comedor un campo de fútbol un patio un gimnasio una piscina una biblioteca una pista de tenis unos laboratorios muchas aulas Mi instituto / colegio es... mixto femenino / masculino público / privado El edificio es... Los edificios son... nuevo(s) antiguo(s) moderno(s)	What is your school like? In my school there is... My school has... a hall a canteen a football pitch a playground a gym a pool a library a tennis court some laboratories lots of classrooms My school is... mixed all girls / all boys state / private The building is... The buildings are... new old modern	amplio(s) pequeño(s) feo(s) atractivo(s) lo bueno / malo es que... lo mejor / peor es que... ni...ni... nada tampoco En mi escuela primaria... (no) habia... exámenes deberes instalaciones (deportivas) actividades extraescolares la educación infantil la educación primaria la educación secundaria el bachillerato la formación profesional el instituto	spacious small ugly attractive the good / bad thing is that... the best / worst thing is that... (n)either...nor... nothing / anything not either In my primary school... there was/were (not any)... exams homework (sports) facilities extra-curricular activities pre-school education primary education secondary education A levels vocational training secondary school
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¿Cómo vas al insti? Voy al insti... a pie / andando en bici en autobús en coche en metro en taxi en tren Salgo de casa a las...	How do you get to school? I go to school... on foot / walking by bike by bus by car by underground by taxi by train I leave home at...	Las clases empiezan a las... y terminan a las... Tenemos... clases al día por la mañana por la tarde Cada clase dura... el recreo la hora de comer	Lessons start at... and finish at... We have... lessons per day in the morning in the afternoon Each lesson lasts... break lunch
---	--	--	--

¿Cuáles son las normas de tu insti? Está prohibido... No se permite... No se debe... comer chicle usar el móvil en clase llevar uniforme ser agresivo o grosero correr en los pasillos llevar piercings ser puntual salir del instituto durante el día escolar	What are the rules in your school? It is forbidden... You are not allowed... You / One must not... to chew chewing gum to use your phone in lessons to wear a uniform to be aggressive or rude to run in the corridors to have visible piercings to be on time to leave the school during the school day	estoy de acuerdo no estoy de acuerdo En mi opinión, ... Pienso que / Creo que... es justo es injusto no es justo ¿Qué va! Las normas son... buenas / malas necesarias demasiado severas	I agree I disagree In my opinion, ... I think that... it's fair it's unfair it's not fair No way! The rules are... good / bad necessary too strict
---	---	--	---

¿Hay problemas en tu insti? Un problema es... el estrés de los exámenes el acoso escolar la presión del grupo Estoy estresado/a. Tengo miedo de... suspender mis pruebas. aprobar mis exámenes	Are there problems in your school? One problem in my school is... exam stress bullying peer pressure I am stressed out. I am scared of... fail(ing) my assessments. pass my exams	Hay (algunos) alumnos que... intimidan abusan sienten pánico hacen novillos quieren ser parte de la pandilla son una mala influencia	There are (some) pupils who... intimidate abuse feel panic skip lessons want to be part of the gang are a bad influence
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¿Qué vas a hacer? Voy a... Vamos a... participar en un intercambio viajar con mi clase conocer visitar llegar estar asistir a clases	What are you going to do? I'm going to... We're going to... take part in an exchange travel with my class meet / get to know visit arrive be attend lessons	ir a pie llevar ropa de calle ir / comer juntos ir de excursión hacer turismo hacer una visita guiada ver los edificios Va a ser... fácil / guay	walk wear (my/your/our) own clothes go / eat together go on a trip see the sights do a guided tour see the buildings It's going to be... easy / cool
--	---	--	--

Éxitos practico el judo toco la trompeta canto en el coro voy al club de (ajedrez) soy miembro del... club de teatro club de periodismo club de lectores club de fotografía desde hace...años el trimestre pasado... participé en... un maratón un torneo un concierto un campeonato un concurso	Successes / Achievements I do / have been doing judo I play / have been playing the trumpet I sing / have been singing in the choir I go / have been going to (chess) club I am / have been a member of the... drama club reporters club reading club photography club for... years last term... I took part in... a marathon a tournament a concert a championship a competition	hice / hicimos... una prueba una película gané / ganamos... un trofeo un premio toqué un solo ¡Fue un éxito! este trimestre el próximo trimestre voy a continuar con... voy a ir al club de... Los clubs extraescolares... son divertidos / geniales / interesantes Te ayudan a... aprender cosas interesantes hacer nuevos amigos	I did / we did... a test / exam a film I won / we won... a trophy a prize I played a solo It was a success! this term next term I'm going to continue with... I'm going to go to... club Extra-curricular clubs... are fun / great / interesting They help you to... learn interesting things make new friends
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