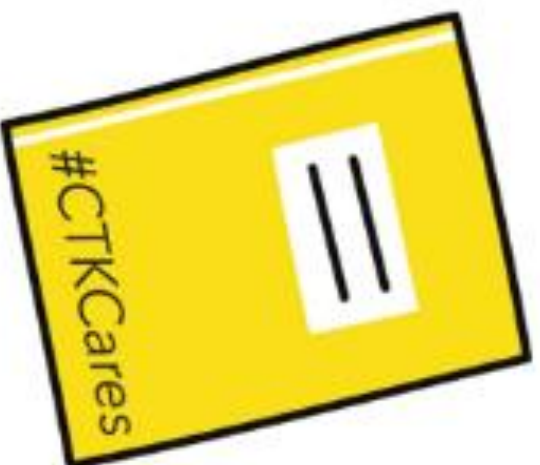




CHRIST THE KING **KNOWLEDGE ORGANISER**

YEAR 7 LENT (Term 2)





Why should I self-quiz?

Your mind is split into two parts: the working memory, and the long-term memory. Everybody's working memory is limited, and therefore it can be very easily overwhelmed. Your long-term memory on the other than is effectively limitless.

You can support your working memory by storing key facts and processes in long term memory. These facts and processes can be retrieved to stop your working memory becoming overloaded.

This booklet contains knowledge organisers for each of your subjects. Each organiser has the key information that needs to be memorised to help you master the subject and be successful in lessons.

How often should I self quiz?

Research shows that regular self-testing improves knowledge retention; in order to learn the information in your knowledge organiser, you will need to work with it more than once! There are many ways to learn the material in your knowledge organiser.

How to use your Knowledge Organiser

- **Cover - Write - Check:** Cover up one section of the knowledge organiser and try to write out as much as you can from memory. Check the knowledge organiser to see if you are right; correct any mistakes and fill in any missing information in a different coloured pen.

Repeat this process at least twice to fill your page. You could also include content from the previous week's homework, especially if there were some parts that you struggled with.

- **Draw a mind map:** Jot down everything that you can remember from the knowledge organiser. Check accuracy, correct in a different coloured pen and repeat.
- **Revision Clock:** Draw a clock and add the topic in the middle. Break the clock face into 10-minute sections. Add notes from the knowledge organiser in each section. Cover the clock and recite the information aloud.
- **Create Flashcards:** Use the information from your knowledge organiser to create flashcards - these could be double sided, with a question on one side and the answer on another, or a keyword on one side and the definition on the other.

DID YOU KNOW?

Research shows a student remembers 50% more when they test themselves after learning something.



Homework Schedule

You should complete at least one hour of Home Learning per school day.

This will consist of:

- Knowledge Organiser and Online Learning as directed by your teachers.
- If you have no tasks set, carry out Knowledge Organiser activities as per the Knowledge Organiser timetable below.
- Two periods of 20 minute reading each week.

Week 1					
20 Minutes Per Subject	Monday	Tuesday	Wednesday	Thursday	Friday
Subject 1	English	Science	Maths (Mymaths)	Maths	English
Subject 2	RE	PE	RE	Science	Geography
Subject 3	Music	History	Technology / IT	MFL	Art

Week 2					
20 Minutes Per Subject	Monday	Tuesday	Wednesday	Thursday	Friday
Subject 1	Science	English	English	Maths (MyMaths)	Science
Subject 2	RE	Maths	RE	Drama	Geography
Subject 3	Music (Practical)	History	Technology / IT	MFL	Art (Practical)

Read 20 minutes a day and you'll read 1,800,000 words per year.

Reading for 6 minutes a day reduces stress by 68%.

Children learn 4,000 to 12,000 words per year through reading.



What are the homework expectations?

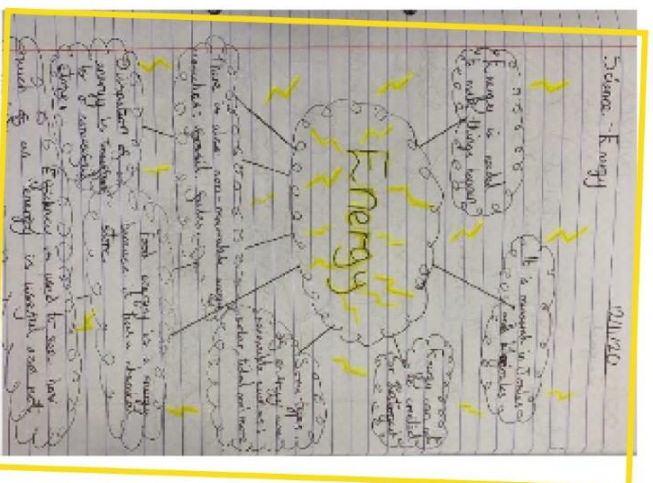
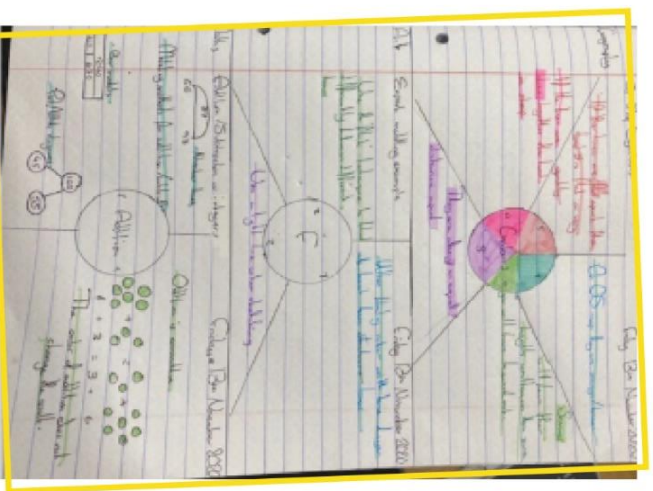
Each homework must meet the following 5 requirements:

- Write the complete title and date in full e.g Wednesday 7th June 2023 on each page and underline.
- You should include minimum of words to summarise the topic. Do not copy the words from the text.
- Make full use of the page for each topic by scaling your notes and images appropriately to use all the space.
- You must include diagrams, sketches, or cartoon doodles to visually represent the topic, try to use humour.
- Highlight key words and phrases, using underlines and highlighter pens, and explain technical terms.

How should I present my work?

Please remember that the same rules apply to the presentation of your homework as applies for your class work: **dates and titles** (which should be the name of the subject) **need to be underlined with a ruler** and you should **present your work as neatly as you are able to**.

If you are self-quizzing correctly, there should be **evidence of green pen on your page**. Here are some examples of how to set out your work:



DON'T FORGET!

Always record the date, topic, and page number in your Home Learning Book!

Formal Elements

A. Key Terms

Formal Elements	The parts used to make a piece of artwork.
Line	Line is the path left by a moving point. For example, a pencil or a brush dipped in paint. A line can be horizontal, diagonal or curved and can also change length.
Shape	A shape is an area enclosed by a line. It could be just an outline or it could be shaded in. Shapes can be geometric or irregular .
Form	Form is a three dimensional shape , such as a cube, sphere or cone. Sculpture and 3D design are about creating forms.
Tone	This refers to the lightness or darkness of something. This could be a shade or how dark or light a colour appears. Tones are created by the way light falls on a 3D object. The parts of the object on which the light is strongest are called highlights and the darker areas are called shadows .
Texture	This is to do with the surface quality of something, the way something feels or looks like it feels. There are two types of texture: Actual texture really exists, so you can feel it or touch it; Visual texture is created using marks to represent actual texture.
Pattern	A design that is created by repeating lines, shapes, tones or colours. The design used to create a pattern is often referred to as a motif . Motifs can be simple shapes or complex arrangements.
Colour	Red, yellow and blue are primary colours , which means they can't be mixed using any other colours. In theory, all other colours can be mixed from these three colours.

G. Wider Thinking

Youtube - How to Shade Basic Forms
www.artcyclopedia.com

D. Stretch and Challenge

- Keep it light until it's right - don't press down hard when drawing.
- What formal elements can you see in the painting by Hokusai?

B. Colour Theory

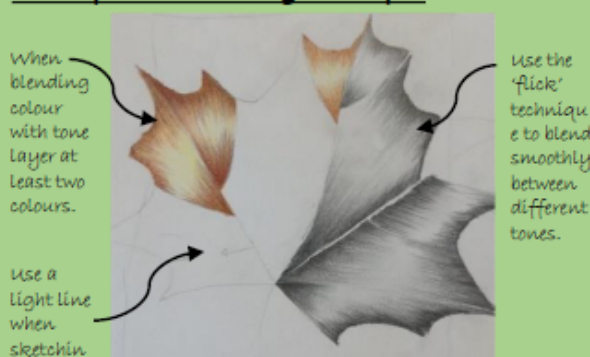


This is called a
Colour Wheel.

Primary	Secondary
red + yellow	=orange
red + blue	=purple
blue + yellow	=green

- Tertiary colours** are created by mixing a primary colour and the secondary colour next to it on the colour wheel.
- Colours that are next to each other on the colour wheel are called **harmonious**.
- Complementary colours** are colours that are **opposite** each other on the colour wheel. When complementary colours are used together they create **contrast**. Adding a colour's complimentary colour will usually make a darker shade. This is often preferable to adding black.
- Warm colours are colours on the red side of the wheel. These are red and include orange, yellow and browns.
- Cool colours are colours on the blue side of the wheel. These are blue and include green, purple and most greys.

F. Expert modelling example



C. Composition

The term composition means 'putting together,' and can apply to any work of art or photography, that is arranged or put together using conscious thought. There are numerous approaches or "compositional techniques" to achieving a sense of unity within an artwork, depending on the goals of the artist.

For example, a work of art is said to be aesthetically pleasing to the eye if the elements within the work are arranged in a balanced compositional way. However, there are artists such as Salvador Dali whose sole aim is to disrupt traditional composition and challenge the viewer to rethink balance and design elements within art works.

Rule of thirds

The rule of thirds is a guideline followed by some visual artists. The objective is to stop the subject and areas of interest from bisecting the image, by placing them near one of the lines that would divide the image into three equal columns and rows, ideally near the intersection of those lines.



Painting: Great Wave off Kanagawa, by Hokusai

E. Existing similar examples



What formal elements can you see in this work?

WHAT AM I
DOING
WELL ?

WHAT DO I
NEED TO DO
TO IMPROVE ?

WHAT TOOLS CAN WE USE
TO CREATE A POWERFUL
ATMOSPHERE ?

YEAR 7 MACBETH

What happens in Macbeth?

Three witches predict great things for Macbeth.

Lady Macbeth persuades Macbeth to kill King Duncan to get the throne.

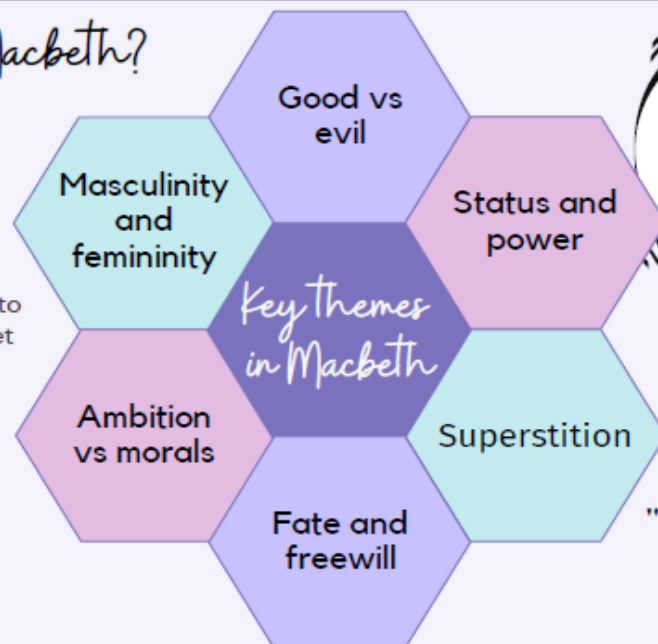
Macbeth kills Duncan and becomes King of Scotland.

Macbeth has his best friend, Banquo, murdered.

Macbeth begins to think that he's invincible while also losing his grip on reality.

Lady Macbeth can't live with the crimes she's helped commit and takes her own life.

There is a battle and Macduff decapitates Macbeth.



I have no spur
To prick the sides of my intent, but only
Vaulting ambition, which o'erleaps itself
And falls on th'other

Macbeth
(Act 1 Scene 7)

**OUT!
DAMNED SPOT!**

Lady Macbeth
(Act 5 Scene 1)

Unsex me here,
And fill me from the
crown to the toe top-full
Of direst cruelty.

Lady Macbeth
(Act 1 Scene 5)

"There's daggers
in men's smiles."

"IS THIS A DAGGER WHICH I SEE BEFORE ME,
THE HANDLE TOWARD MY HAND?"

"What's done cannot
be undone."

"BY THE PRICKING OF MY THUMBS,
SOMETHING WICKED THIS WAY COMES."

**NOTHING IS
but what is not.**

Macbeth
(Act 1 Scene 3)

Rehearsal and performance techniques: Tools to improve your character and engage the audience.

MONOLOGUE

An extended speech by one character; sometimes to another character, sometimes to the audience, sometimes to themselves.

CROSSCUTTING

Showing two scenes side by side on stage and cutting from one to the other; often to show a contrast or two locations.

SOUNDSCAPE

An ensemble (group of actors) use their voices and bodies to create the sounds of a real or imaginary location.

IMPROVISATION

Work that is created spontaneously or without rehearsal. Actors must listen to each other and respond to what is being said without a script.

ATMOSPHERE

The overall feeling or mood created by the actors in a scene. The atmosphere should affect the way to audience experience the scene or play.

CHORAL MOVEMENT

Using movement as a group to emphasise the words being spoken and add to the overall atmosphere being created.

CONSCIENCE ALLEY

All actors except one line up and share the thoughts of a particular character out loud in turn, as the actor playing that character walks down the 'alley'.

HOT SEATING

One actor sits in the 'hot seat'. Everyone in the ensemble asks the actor questions about their character's thoughts and feelings which they answer in role (as their character).

ROLE ON THE WALL

A rehearsal technique involving writing down everything you know about your character from the script. This helps to identify any gaps in your knowledge of the character.

WHAT AM I
DOING
WELL ?WHAT DO I
NEED TO DO
TO IMPROVE ?HOW ARE THE AUDIENCE
IMPACTED BY THE ACTING
AND DESIGN CHOICES ?YEAR 7
PETER PAN**CHARACTERISATION**

Using a range of physical and vocal skills to show a character who is different to you.

TONE OF VOICE

The emotion behind what your character says e.g. an angry tone, a surprised tone.

PITCH

How high or low your character's voice is.

ACCENT

The way a person speaks- can show where they are from and sometimes class or status.

PACE

The speed at which your character speaks or moves.

GESTURES

Using your hands (or sometimes eyes and head) to communicate meaning with other characters and the audience e.g. pointing/winking.

BODY LANGUAGE

Showing emotion through the way you sit, stand or position yourself.

FACIAL EXPRESSION

Showing emotion through your face- eyes, mouth, eyebrows...

moment effect scene
script stage skills physical
suggests choices successful design engaging audience line
words we use to talk about theatre
actor story dialogue character movement
director performance vocal

**Writing structure**

WHAT? Explain which element was successful.

HOW? Explain exactly how this moment was created.

WHY? Why was it successful? What impact did it have on the audience?

- One moment that stood out for me was...
- This helped to communicate to the audience that...
- This effect was created by...
- This could have been communicated more effectively by...
- The actor/designer used... successfully to create...

DESIGNER

The person in charge of making decisions about a particular element of the production.

SET

The scenery and furniture on the stage throughout the production.

PROPS

The items held or used by actors on stage to make the action more realistic.

COSTUME

What the actors wear when performing. Costume can denote character, historical era and the style of the production.

MUSIC AND SOUND

Live or recorded sound used to enhance a production and create a certain atmosphere.

LIGHTING

Lighting is used to make sure the audience can see the actors and set, focus their attention on what is important and to create a mood.

REVOLVE

A circular section of the stage which turns separately to the rest.

LEVELS

Used to create different locations or to show status on stage.

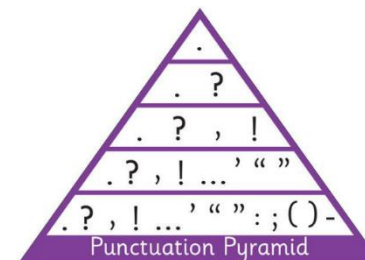
COLOUR/FIT/STYLE

Can suggest a character's personality, occupation or status.

Physical and vocal key words

Design Key words

Sentence Openers	
Way of starting a sentence	Example
Use a connective	While the rain poured down, Eros sat and wept bitter tears.
Using an ing clause	Stomping his colossal feet, Thor demanded attention.
Using an ed clause	Moved by his own beauty, Narcissus gazed lovingly at his own reflection.
Using a simile	As gently as a lamb, Cerberus lay down and fell asleep.
Using an adverb	Angrily, Grendel raised his giant fist and struck out at Beowulf.
Using a preposition	In the middle of the forest, Ndidi came across something mysterious.



Sentence type	Definition	Examples
Simple	main clause only with a subject, an object and a verb.	The girl walked down the street.
Compound	This type of sentence can be broken down into two separate sentences and features a connective to join the two parts together.	The girl walked down the street and then she crossed the road.
Complex	This sentence features a main clause with extra bits of detail added on and commas used to separate the clauses.	At two o' clock in the morning, the girl walked down the street, accompanied by a small dog.
Minor	Not really a proper sentence. One, two or even three words used for dramatic effect.	Walking silently. A girl. A dog. Darkness.

To build tension in writing you could:

- 1. Spend time setting the scene**
- 2. Drop hints to the reader**
- 3. Create pauses for dramatic effect**
- 4. Use minor sentences**

What features might a myth have?

1. Set in ancient times
2. Fantastical things can happen
3. Characters often have superpowers
4. They serve as a moral message
5. They might explain how something came into being in the natural world
6. They have elements of the supernatural
7. May feature a hero
8. Explain the actions of gods.

Exciting verb choices

unrelenting
whispered
blighting
blistering
stretching
shrivelled
hammering
ricocheting
resounding
pulsing
recoil

Exciting adjective choices

Emaciated
prominent
perpetual
frantic
brittle
brave
gigantic
terrifying

Technique	Definition	Example
adjective	A describing word	She created the spiralling mountains.
verb	An action or being word	A giant scallop shell glided to shore.
personification	When an object is given human attributes	She hears the whisper of leaves.
metaphor	Comparing one thing to something else by saying that it is that thing	The trees are shadows in the darkness of the forest.
Simile	Comparing one thing to something else by saying it is like that thing	At night that lake burns like a torch.
alliteration	When two or more words start with the same vowel sound	The cold, cramped cave sat high up on the mountain.
sibilance	The repetition of the s sound in two or more words in a sentence.	The slaving, shuddering, slobbering three headed dog.

Essential elements for a story

Setting
Characters
Plot
Moments of tension
Climax
Resolution

How to punctuate speech:

Punctuation is used in direct speech to separate spoken words, or dialogue, from the rest of a story. The words spoken by a character sit inside speech marks:

"Did you hear that noise?" whispered Sam.

Speech marks are sometimes known as inverted commas or quotation marks. Some writers use double speech marks and some use single speech marks. You can use either type as long as you are consistent!

Every time there is a new speaker in the conversation, a new line is used.

Each new section of dialogue is like beginning a new paragraph, so in a printed novel you will see that each new line is also **indented**.

Each new line of direct speech should also start with a capital letter.

Each section of direct speech should **end with a punctuation mark**.

Key language devices used by writers:

adjective	word that gives more information about a noun
alliteration	repetition of the same first letter
emotive language	language that is chosen to make the reader feel an emotion
imperative verb	a verb that gives an order or command
first person pronoun	a word that stands in place of a noun – it can be just refer to one person (I, me, my, mine) or to more than one person (we, us, our, ours)
juxtaposition	when two ideas are put close together, although they are very different
metaphor	a description of something as though it were something else, that uses a direct comparison
personification	when an object is given human qualities
repetition	words or phrases repeated to bring attention to an idea
rhetorical question	a question that is asked for effect and is not a request for information
rhyme	when two or more words have similar sounds, particularly at the end of lines in poetry
simile	a comparison introduced by 'like' or 'as'
verbs	a word used to describe an action (many verbs identify states or feelings rather than actions and can be very emotive / effective)
volta	a shift in mood or attitude

Key terms

ballad - a poem or song that describes tragic events in short stanzas, often with a moral purpose

context – information such as: where and when the text was written, who it was written by, and what was happening at the time when it was published.

purpose - the reason why a poet chose to write the poem – his or her intention

speaker – a character or voice that the poet has created when the poem was written. The poet writes the text and is not necessarily the same as the speaker.

stanza - a grouped set of lines within a poem (another way of saying verse)

title - the name of a poem, play, novel – that may give the reader some ideas about the text

Key skills

comparing –
identifying differences and similarities between two texts

analysing – *being able to explain the poet/s choices of form and language and comment on the effect*

How to write

Connectives you can use for comparison:

differences

however . . .

whereas . . .

conversely . . .

on the other hand

similarities

equally

in the same way

similarly

likewise

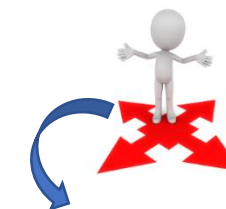
P oint	The speaker is presented as ... The writer makes us think that... The language of the text is used to... The structure of the text is used to... The writer suggests that ... The technique of...is used to... The writer shows us that... One way in which (use the key words from the question) is...
E vidence	For <u>example</u> ... This is shown in the line ... This is shown in the quotation... In the text it says '...' This is indicated in the line '...' For <u>instance</u> ...
T echnique	This is an example of a... The technique ... is used to... By using the technique... By using ... the writer shows that...
E xplain E ffect	This suggests/shows/implies/connote The effect on the reader is... This is used to show that... The connotations of this are...
R elate	Another example of the writer (use keywords from the question) is when... Overall, the writer makes us feel ... (relate back to the question and your ideas on this) Relate to why the writer wrote the text, what you think s/he was trying to convey) The author's intention was to...



What are the **techniques** a writer may have used?



Where have they been used in the text? This might need you to go back to the **evidence** and pick out keywords



Why have they been used? Can I **explain** them and comment on the effect?



YEAR 7 FRENCH - BONJOUR!

A. BONJOUR!

Bonjour	Hello
Salut	Hi
Ça va?	How are you?
Ça va très bien	I'm very well
Ça va	I'm ok
Comme ci, comme ça	So so
Ça va mal	I'm bad
Je suis	I am
content(e)	happy
fatigué	tired
malade	ill

B. LES MOIS

janvier	février	mars	avril
mai	juin	juillet	août
septembre	octobre	novembre	décembre

"Quelle est la date de ton anniversaire?"

Mon anniversaire c'est
le (number) + (month)

E.g. Mon anniversaire c'est le sept juin.

C. OÙ HABITES-TU?

J'habite à	I live in (town / city)
J'habite en France	I live in France
... en Angleterre	In England
... en Écosse	In Scotland
... en Espagne	In Spain
... en Italie	In Italy
... en Allemagne	In Germany
... en Australie	In Australia
... au pays de galles	In Wales
... aux états-unis	In the USA

Quel âge as-tu?
How old are you?

J'ai ____ ans
I have ____
years old

D. TU AS UN ANIMAL?

Oui, j'ai un chien	Yes I have a dog
J'ai un chat	I have a cat
J'ai un lapin	I have a rabbit
J'ai un hamster	I have a hamster
J'ai un cochon d'inde	I have a guinea-pig
J'ai une souris	I have a mouse
J'ai une araignée	I have a spider
Non je n'ai pas d'animal	No I don't have a pet

E. LES OPINIONS

J'adore	I love
J'aime	I like
Je préfère	I prefer
Je n'aime pas	I don't like
Je déteste	I hate
C'est	It is
Ils sont	They are
	super
	génial
	ennuyeux
	affreux
	super
	great
	boring
	awful

YEAR 7 FRENCH – MA FAMILLE

A. SIBLINGS

J'ai	I have
Je n'ai pas	I don't have
As-tu...?	Do you have...?
un frère	a brother
une soeur	a sister
qui s'appelle	who is called
qui s'appellent	who are called
Je suis	I am
fil unique	an only child (m)
fil unique	an only child (f)

As-tu des frères et soeurs?

C. LES CHEVEUX

J'ai	I have
Tu as	You have
Il/elle a	He / she has
les cheveux longs	Long hair
les cheveux courts	Short hair
les cheveux raides	Straight hair
les cheveux frisés	Curly hair
les cheveux blonds	Bond hair
les cheveux noirs	Black hair
les cheveux marron	Brown hair
les cheveux roux	Red hair
Je n'ai pas de cheveux	I don't have any hair

Tes yeux et tes cheveux sont de quelle couleur?



B. La famille

Mon père	My Dad
Ma mère	My Mum
Mon demi- frère	My step/half brother
Ma demi-soeur	My step/half sister
Mon grand-père	My Grandad
Ma grand-mère	My Grandma
Mon oncle	My Uncle
Ma tante	My Aunt
Mes cousins	My cousins
Mon ami	My friend

Connectives

et	and	car	because
mais	but	parce que	because
ou	or	cependant	however

D. Les yeux

J'ai les yeux bleus	I have blue eyes
Tu as les yeux verts	You have green eyes
Il a les yeux bruns	He has brown eyes
Elle a les yeux noisette	She has hazel eyes

Avoir – to have

J'ai	I have
Tu as	You have
Il a	He has
Elle a	She has
Nous avons	We have
Vous avez	You have
Ils ont	They have

E. Tu es comment?

Je suis grand(e)	I am tall
Je suis de taille Moyenne	I am average height
Je suis petit(e)	I am small

Être – to be


Je suis	I am
Tu es	You are
Il est	He is
Elle est	She is
Nous sommes	we are
Vous êtes	you are
Ils sont	They are

Qu'est-ce que tu fais pendant ton temps libre?

Pendant mon temps libre je fais beaucoup de choses.	1	<i>In my free time, I do lots of things</i>
Deux fois par semaine je joue aux échecs 	2	<i>Twice a week I play chess</i>
avec mon père ce qui est difficile mais fascinant.	3	<i>With my dad which is difficult but fascinating</i>
 J'aime bien le sport et souvent je fais au basket avec mes amis.	4	<i>I really like sport and often I play basketball with my friends</i>
 Quand il fait beau j'aime jouer aux boules cependant	5	<i>When the weather is good I like to play french bowls however</i>
quand il pleut j'aime faire de la natation. 	6	<i>When it rains I like to do swimming.</i>
 Je dirais que la natation est plus fatigant que les boules.	7	<i>I would say that swimming is more tiring than French bowls</i>
Hier j'ai joué aux jeux-vidéos c'était cool. 	8	<i>Yesterday I played video games it was cool</i>
Le weekend je vais aller au centre sportif ou je vais jouer au badminton, ce sera génial. 	9	<i>At the weekend I am going to go to the sports centre where I am going to play badminton, it will be great.</i>

FREE TIME

A. LES SPORTS

l'athlétisme	athletics
le badminton	badminton
le basket	basketball
le cyclisme	cycling
l'équitation	horse riding
le foot	football
le golf	golf
la gymnastique	gymnastics
le hockey	hockey
la natation	swimming
le patinage	skating
le ping-pong	ping-pong
la planche à voile	windsurfing
le rugby	rugby
le skate	skateboarding
le ski 	skiing
le tennis	tennis
le vélo	cycling
la voile	sailing
le volley-ball	volleyball
le patin à glace	ice skating
la plongée	diving



REMEMBER!

jouer à

faire de

Intensifiers

Très = very

Beaucoup = a lot

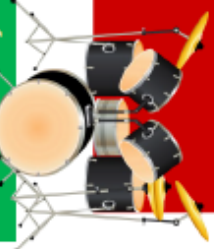
Un peu = a little

Assez = quite

Trop = too

B. LES ACTIVITÉS

jouer aux cartes	to play cards
jouer de la trompette	to play the trumpet
jouer de la batterie	to play the drums
jouer du clavier	to play the keyboard
faire les magasins	to go shopping
faire des courses	to go shopping
faire de la cuisine	to cook
faire de l'exercice	to do exercise
écouter de la musique	to listen to music
aller au club de jeunes	to go to the youth club
aller à la pêche	to go fishing
lire	to read
voir un film	to watch a film
regarder la télévision	to watch TV
dessiner	to draw
danser	to dance



ALLER—To go

Je vais
Tu vas
Il/elle va
Nous allons
Vous allez
Ils/elles vont



D. OPINION PHRASES

J'aime	I like
Je n'aime pas	I don't like
Je déteste	I hate
Je préfère	I prefer
C'est	It is
C'était	It was
Ce sera	It will be
Ce serait	It would be
Ça me plaît	It pleases me
Je trouve ça	I find that
C'est vrai que	It's true that
Je le/la/les trouve	I find it/them



PAST TENSE

Present tense of *avoir*

+

Past participle:

er → é
ir → i
re → u

e.g. J'ai joué = I played

C. FREQUENCY PHRASES

normalement	normally
généralement	generally
de temps en temps	from time to time
souvent	often
jamais	never
tous les jours	every day
toujours	always
quelquefois	sometimes
parfois	sometimes
chaque soir	every evening

NEAR FUTURE TENSE

Present tense of *aller*

+

infinitive

e.g. Je vais jouer =
I am going to play



FREE TIME

E. LES ADJECTIFS

intéressant	interesting
passionnant	exciting
marrant	funny
bien	good
pas mal	not bad
ennuyeux	boring
affreux	terrible
nul	rubbish
chouette	brilliant
extra	great
fatigant	tiring
cher	expensive
barbant	boring

F. CONNECTIVES

et	and
mais	but
aussi	also
cependant	however
pourtant	however
néanmoins	nonetheless
donc	therefore
alors	so
par contre	on the other hand

G. MAKING PLANS

Bonne idée!	Good idea!
Chouette!	Great!
Je veux bien.	I'd like that.
D'accord.	Okay.
Bof,...	Well/So what...
Ça m'est égal.	I don't mind.
Tu plaisantes!	You must be joking!
Ça ne me dit rien.	I don't fancy that.
Je n'ai pas d'envie.	I don't want to.

I. TIME PHRASES

hier	yesterday
hier soir	yesterday evening
le week-end dernier	last weekend
l'année dernière	last year
quand j'étais jeune	when I was young
aujourd'hui	today
le matin	in the morning
en été	in summer
en hiver	in winter
demain	tomorrow
demain soir	tomorrow evening
le week-end prochain	next weekend
l'année prochaine	next year

H. MAKING EXCUSES



Je voudrais	I would like
ce soir	this evening
Je peux	I can
Je ne peux pas	I can't
Je dois	I have to
partir en vacances	to go on holiday
garder ma soeur	to look after my sister
Maman ne me laisse pas	My mum won't let me
de mauvaises notes	bad grades
désolé(e)	sorry
faire les courses	to do the shopping
faire mes devoirs	to do my homework
promener le chien	to walk the dog
ranger ma chambre	to tidy my room
rester à la maison	to stay at home
me laver les cheveux	to wash my hair








AVOIR

J'ai
Tu as
Il/elle a
Nous avons
Vous avez
Ils/elles ont

ESSENTIAL VERBS

JOUER—TO PLAY		FAIRE—TO DO	
Je joue	I play	Je fais	I do
Tu joues	You play (s)	Tu fais	You do (s)
Il/elle joue	He/she plays	Il/elle fait	He/she does
Nous jouons	We play	Nous faisons	We do
Vous jouez	You play (pl)	Vous faites	You do (pl)
Ils/elles jouent	They play	Ils/elles font	They do

Year 7 – HT4 - Free time

Le soir, j'aime regarder la télé avec ma famille au salon. 	1	<i>In the evening, I like to watch TV with my family in the lounge.</i>
 Surtout nous adorons les comédies et les documentaires.	2	<i>Especially we love comedies and documentaries.</i>
Parfois nous allons au cinéma, je préfère les films romantiques 	3	<i>Sometimes we go to the cinema I prefer romance films</i>
 mais mon frère aime les films d'horreur.		<i>But my brother likes horror films</i>
La semaine dernière j'ai vu Harry Potter c'était vraiment sensass.	4	<i>Last week I saw Harry Potter, it was really amazing.</i>
J'écoute de la musique tous les soirs dans ma chambre. 	5	<i>I listen to music every evening in my bedroom.</i>
J'adore la musique pop, mon chanteur préféré est Harry Styles.	6	<i>I love pop music, my singer favourite is Harry Styles.</i>
 A mon avis la musique pop est plus reposante que la musique rap.	7	<i>In my opinion, pop music is more relaxing than rap music.</i>
 Parfois, le soir je joue au jeux-vidéos ou je surfe sur internet.	8	<i>Sometimes, in the evening, I play computer games or I surf the internet</i>

Geography Topic 2: Russia



Location

1. Facts about the scale of Russia

Largest country in the world by area

In both Europe and Asia

Contains 9 time zones

14 bordering nations

Population of 145m

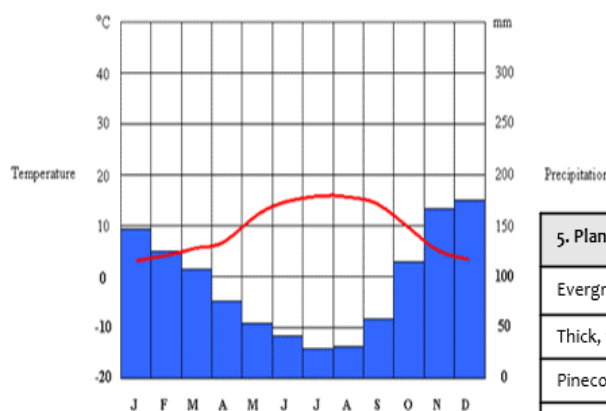
Coastline on the Arctic and Pacific Oceans



The flag of Russia

2. Physical features key words

Marsh	Low-lying area which is flooded in wet seasons or high tide and is waterlogged
Mountain	A large elevation rising to a summit
Mountain Range	A series of connected mountains
Peninsula	A piece of land almost surrounded by water or projecting into a body of water
Permafrost	Permanently frozen ground found in tundra and polar regions
Plain	Flat area at a low elevation
Plateau	Flat area at a high elevation
River	A large stream of water flowing in a channel to the sea, a lake or another river
Steppe	A large area of flat unforested grassland in SE Europe or Siberia
Volcano	A mountain or hill through which lava, rock, gas and ash has erupted



4. Biomes in Russia

Tundra	Taiga
Plain covered in permafrost	Coniferous forests
Found at high latitudes in both hemispheres	Largest terrestrial biome
Plants grow low to the ground to be protected from cold and wind	Found in the Northern Hemisphere including Russia, UK, Canada and Sweden.

8. Sectors of Industry

Primary	Collect raw materials
Secondary	Manufacturing
Tertiary	Providing services
Quaternary	Working with advanced technology

9. Economy in Russia key words

Commercial farming	Farming to make a profit
Subsistence farming	Farming to provide food for yourself – anything left after can be sold.
Livestock	Animals reared to make a profit

3. Climate Graphs

Climate graphs contain three pieces of information

- Months
- Temperature in degrees Celsius (line graph)
- Precipitation in millimeters (bar chart)

5. Plant adaptations in the Taiga

Evergreen trees
Thick, resinous bark
Pinecones
Long, shallow roots
Trees have long, thin needles
Downward sloping and springy branches

6. Population key words

Population Density	Number of people living in a given area
Densely populated	Many people living in an area
Sparsely populated	Few people living in an area

7. Calculating population density

$$\frac{\text{Population}}{\text{Area}} = \text{Population Density}$$

10. Economic Development in the Arctic

What is the Arctic?

- The Arctic is the area surrounding the North Pole.
- It is a large ocean (the Arctic) surrounded by land.
- Some of the ocean is covered in frozen saltwater called sea ice.

Who has rights to resources in the Arctic?

- All countries own 200 nautical miles extending from their coastline.
- This can be expanded to 350 nautical miles if a country can prove their landmass extends this far.
- Any resources found here belong to the country.
- Russia believes it has the rights to a large area of the Arctic because of this law.

Environmental impacts

- Oil spills
- Calving icebergs
- Melting sea ice
- Reduce population of species including seals
- Disrupt the food chain

Social and economic impacts

- Prevent nomads tending reindeer herds
- Reduce available land for settlements
- Conflict between nations
- Create jobs
- Lower energy prices
- Provide energy for populations

Year 7 Geography Topic 3: Weather and Climate

1. Key words

Weather	The state of the atmosphere at a particular place and time
Meteorology	The study of the atmosphere
Weather forecast	Atmospheric data is used to describe expected weather
Precipitation	Any water falling from the sky such as rain, snow and hail.
Air pressure	The weight of the air pushing down on the earth
Air mass	Body of air with uniform conditions
Anticyclone	High pressure system leading to stable weather conditions
Depression	Low pressure system leading to unsettled weather
Front	Boundary between two air masses – one hot and one cold.

2. Measuring Weather

Weather	Unit	Instrument used
Temperature	Degrees centigrade	Thermometer
Air pressure	Millibars	Barometer
Sunshine	Hours	Campbell-Stokes sunshine recorder
Wind speed	Knots	Anemometer
Rainfall	Millimetres	Rain gauge
Cloud Cover	Oktas	

3. Formation of rainfall

1. Warm air rises and cools
2. Cool air reaches the dew point and condensation occurs
3. Clouds form
4. Cloud grows and when it can no longer hold the moisture rainfall occurs

4. Types of rainfall

Relief	Caused when air is forced to rise over upland areas
Convectional	Caused by prolonged heating of the ground
Frontal	Caused by cold and warm air meeting in the atmosphere

5. Weather systems

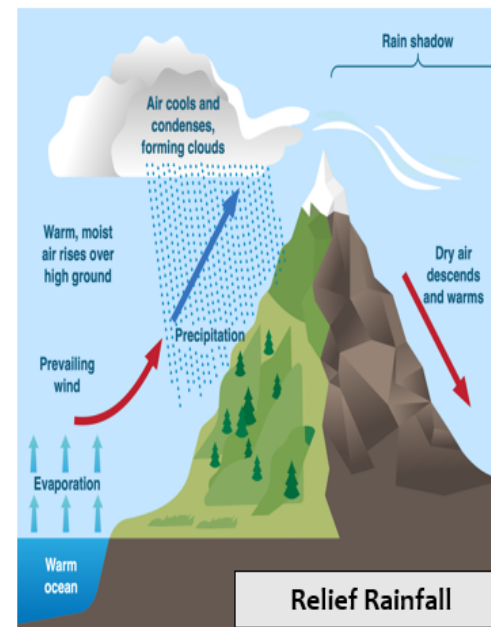
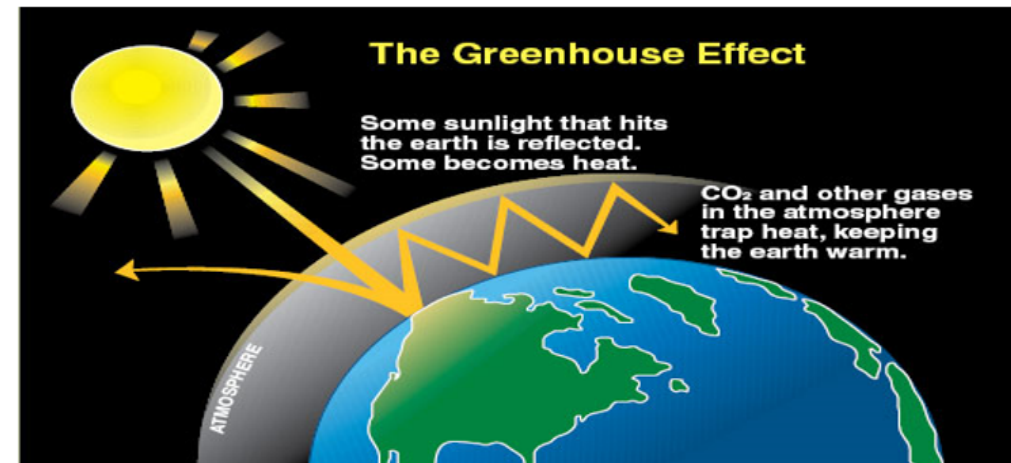
Anticyclone	Depression
High pressure	Low pressure
Clear and dry in summer – can lead to heatwaves	Changing unsettled weather over a period of days
Cooler temperatures at night	In the UK they come from the Atlantic and move West to East
Cold, dry days in winter	Cold front brings showers and strong winds
Frost and fog common in winter	Warm front brings light rain and light winds

6. Factors affecting climate

Latitude	Position on the earth north or south of the equator
Distance from the sea	Water retains heat much longer than land, keeping places warmer for longer.
Altitude	Height of the land above sea level.
Prevailing wind	The direction from which most wind usually blows

7. The greenhouse effect

The natural process of trapping the sun's warmth in our lower atmosphere which warms the earth



8. Climate Extremes Key words

Tropical storm	Intense low pressure weather system formed over oceans
Desertification	Fertile land turning into desert over time
Climate Change	The change in global climate largely attributed to CO ₂ emissions from human activity
Greenhouse gas	Gasses in the atmosphere which trap heat
Extreme Weather	Weather which does not match the expected pattern e.g. blizzard or heatwave

9. Effects of tropical storms

- Heavy rainfall
- High winds
- Storm surges

10. Effects of desertification

- Soil erosion
- Crop failure
- Famine
- Hunger

Geography Topic 4: Settlement and Urbanisation

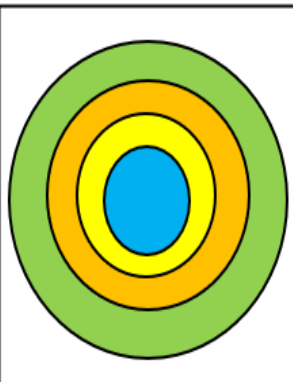
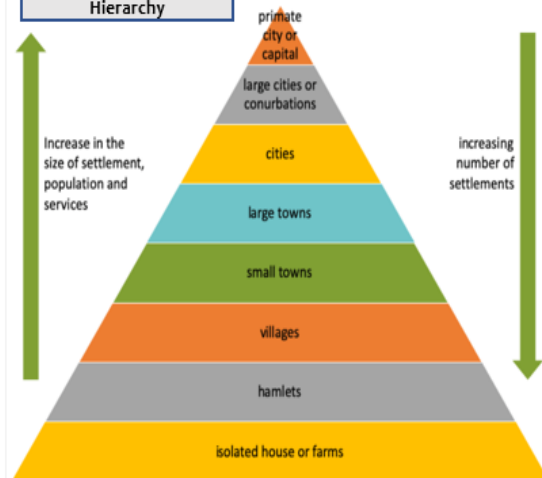
1. Settlement and Urbanisation key words

Settlement	Where people live
Site	The place the settlement is located
Situation	Where the settlement is in relation to other settlements and surrounding features
Settlement hierarchy	Order of settlements in a region or country by population OR services
Land-use	The function of the land – what it is used for.
Terraced Housing	Row of similar houses joined together by their side walls
Traffic congestion	Slow speeds, longer travel times and queues when traveling in a vehicle.
Derelict building	Empty building which is no longer used and in a poor state of repair.
Retail	The selling of goods
Regeneration	Improving the buildings and landscape to provide benefits for an area
Urbanisation	The increasing percentage of a population living in urban areas
Megacity	A city with a population of over 10 million people

3. Early factors in choosing settlement location

Flat land
Raw materials
Water supply
Defendable site
Fertile soil
Shelter
Transport links

4. Settlement Hierarchy



5. HIC Urban Land-Use Model

CBD	Central Business District. The commercial centre of an urban area.
Inner City	Mainly terraced housing in grid patterns, originally built near to factories to house workers.
Suburbs	Residential area mainly made up of private, semi-detached housing.
Rural-Urban Fringe	The edge of a city where it meets the countryside

6a. Challenges in HIC urban areas

Traffic congestion
Derelict buildings
Lack of green space
Crime
Changing shopping habits

6b. Opportunities in HIC urban areas

Transport links
Education opportunities
Entertainment and leisure
Retail
Close-knit communities

7. Urban Transport Systems

Integrated Public Transport	Combining modes of transport for ease and efficiency of use
Congestion Charge	Charging polluting cars for entering an urban area
Park and Ride	Cars are parked on the outskirts of an urban area and drivers take public transport from there to the CBD

8. LIC/NEE Urban Land-Use Model



Central Business District (CBD)
Industry along transport route
Shanty towns
Basic housing
High cost housing

8. LIC/NEE Urban Land-Use Model

Shanty towns	Self-built housing on the edge of cities
Basic housing	Formally constructed housing with services such as water and electricity
High-cost housing	Similar in structure and style to those found in HICs

9. Causes of urbanisation in LIC/NEE Cities

Natural Increase	Birth rate is higher than death rate
Rural-urban migration	The movement of people from the countryside to cities
Push factor	A reason a person has for leaving a place
Pull factor	A reason a person has for moving to a place

10. Challenges in LIC/NEE Urban Areas

Healthcare	Lack of access to healthcare facilities and trained doctors, nurses and midwives
Education	Not enough schools and a shortage of teachers. Wages are low for teachers.
Water supply	Not all the population have access to running water in an urban area
Energy supply	Shortages of supply because homes are not properly connected to the energy grid.
Crime	Lack of education and jobs mean some turn to crime for income.
Informal economy	Poorly paid jobs with no benefits and no tax is paid to the government from these jobs
Air pollution	Traffic congestion and pollutants from factories in the air create smog and unsafe air

2. Population key words

Population change	Change in the number of people in a specified area over time
Birth Rate	Number of babies born per 1,000 of population
Death Rate	Number of deaths per 1,000 of population

HALF TERM THREE – Early Modern Britain

1. Henry VIII and the break from Rome

Catholicism	The faith, practice and church order of the Roman Catholic Church
Protestant	A form of Christianity that began in C16th
The Pope	The head of the Catholic Church
Catherine of Aragon	Henry VIII's first wife whom he wanted to divorce
Act of Supremacy	An Act passed by Parliament in 1534 which made Henry and his successors Supreme Head of the Church of England
Dissolution of the monasteries	Monasteries were closed down and their assets taken

2. Mary I

Bloody Mary	Henry VIII's oldest Catholic daughter
Heretic	A person who does not have the same opinion as what is generally believed
Persecution	Treated badly because of beliefs, ethnicity, religion
Phillip of Spain	The King of Spain, who was Catholic, tried to marry Mary I to rule England with her
Executed	Killed by guillotine, hanging or burning at the stake

3. Elizabeth I

Elizabeth I	The youngest daughter of Henry VIII, a Protestant
Puritan	An extreme Protestant. They want no sign of Catholicism in the country
Book of common Prayer	Prayers that were in English. Edward introduced it and it was reintroduced during Elizabeth's reign
Counter-Reformation	Actions to change England back to a Catholic country took place during Elizabeth's reign

4. The Spanish Armada

Spanish Armada	A fleet of ships from Spain
Burning fireships	Ships set on fire and allowed to set sail
Empire	A group of states or countries ruled over by one monarch or government

5. Mary Queen of Scots

Mary Queen of Scots	Elizabeth I cousin who was a Catholic and wanted to rule England as well as Scotland
Plotting	Secretly making plans to carry out an illegal or harmful action
The Babington Plot	A plot to assassinate Elizabeth I by Charles Babington (a Catholic exile), and Mary herself. Mary's letter to Babington was seized and Babington was executed. Elizabeth was forced to sign Mary's death warrant

6. Local History

Rufford Abbey	An example of an Abbey which was dissolved during Henry VIII's reign
Monks	A member of the religious community, living under vow and chastity, and obedience to God
George Talbot	Transformed the Abbey into a country house

6. Medicine in Tudor England

Vesalius	A physician who studied the anatomy (inside the body) and created drawings of the body for students to learn from
Dissect	To cut open to see what is inside.
The Anatomy	The inside of the body and where parts of the body are in the structure
Pare	A French Barber Surgeon
Artificial limbs	False limbs that were made for people who had amputations
Ligatures	Thread used to tie veins to stop bleeding

7. Source analysis - key words

Utility	How a source is or isn't useful to us
Reliability of the source	How trustworthy is the source
Interpretations	People's opinions about an event or individual
Provenance of a source	The origin of a source- What is the source? Who created it? When was it created? Why was it created?
Source content	What is the source about?

8. Timeline of key dates

1509	Henry VIII becomes King
1534	The Act of Supremacy
1547	Edward VI becomes King
1553	Mary I becomes queen
1558	Elizabeth I becomes queen
1586	The Babington Plot
1588	The Spanish Armada

HALF TERM Four– The Stuarts**1. James I**

James I	King of Scotland and England in 1603. Brought up as a Protestant
King James' Bible	Became the standard version of the Bible for the next 250 years
Repressive laws	Laws that were unfair. Catholics hoped James would end these laws that were introduced during Elizabeth's reign.

2. The Gunpowder Plot

The Gunpowder Plot	A plot against James I and Parliament as a result of the repressive laws towards Catholics
Robert Catesby	Leader of the gunpowder plotters. A Catholic gentleman
Guy Fawkes	Found with 36 Barrels of gunpowder placed directly under the House of Lords
Lord Monteagle	A member of the House of Lords. Received a letter warning him of the plot
Hung, drawn and quartered	Hung by a rope, the abdomen was cut out, then pulled apart by the limbs

**3. Charles I**

Absolute Monarch	A ruler who has supreme authority and power
Henrietta- Maria	French Princess. Charles I wife. A Catholic
Ship Money	A tax that Charles I expands to raise money
Personal Rule	Charles ruled for 11 years without Parliament
Raising the standard	Charles summons an army to fight parliament. This is from Nottingham
Short Parliament	Parliament were not happy with Charles about his actions over his personal rule, so he dissolved them after 3 weeks
Long Parliament	Stayed in power for 20 years

4. The English Civil War

Triennial Act	Ensured Parliament met at least once every 3 weeks
Roundheads	Parliaments' Army who had short hair cuts
Cavaliers	The Royalists army, fighting for Charles I. They had long hair, contrasting with the Roundheads
Civil War	A war between two sides in the same country. The English Civil War was between the Roundheads and Cavaliers
New Model Army	A professional national army and could be sent anywhere in the country. They were strictly disciplined

5. Oliver Cromwell

Oliver Cromwell	Leader of the New Model Army. Ruled the country after Charles I
The Lord Protector	Cromwell did not want to be called King, but this title gave him the powers of a king

6. Execution of Charles I

Rump Parliament	The remaining MPs after the ones who supported Charles were banned from entering the House of Commons
Show Trial	Charles's trial was just for 'show'. The decision to execute him had already been made
Treason	Attacking a state or the authority of a country
Peter Bradshaw	A lawyer who was appointed as the judge for Charles's trial. He was so afraid of being assassinated, he wore a bullet-proof hat

7. William Harvey

Blood circulation	The way the blood flows around the body
Physician	A medical doctor. Harvey was the physician for King James I and Charles I
Harvey's discovery of the heart	Harvey found out that the heart acted as a pump and pumped blood around the body
Witch trials	Harvey was asked by Charles I to assess whether 4 suspicious women were witches

8. Timeline of key dates

1603	James I became king of England
5 th November 1605	The Gunpowder Plot
1625	Charles I becomes King
1634	William Harvey sent to assess if 4 women were witches
22 nd Aug 1642- 3 rd Sept 1651	The English Civil War
30 th January 1649	The Execution of Charles I
Dec 1653- Sept 1658	The rule of Oliver Cromwell

Year 7 ICT Knowledge Organiser

Logging on

USERNAMES these begin with 20 followed by First Name Initial and then Surname. Bob Smith would be 20bsmith

Strong Passwords are usually more than 8 characters with a mixture of uppercase, lowercase letters, numbers and symbols. They should be changed frequently. You should never share passwords.

ONE DRIVE is where you save all your personal documents at Christ the King. You can access this using your email address to login to Office.Com.

Email Address example:

20bsmith@christtheking.notts.sch.uk

Sending Email we use Outlook at Ctk to send Emails. You should type an email address into the To: field. If you want to send a copy of the message to another person use the CC: field – this stands for **CARBON COPY**. If you do not want anybody to know you are sending a person a copy you should use the **BCC – Blind Carbon Copy box**. You can use the **High Importance button** to mark your message as important.

Key Vocabulary

Personal Data – data that can be used to identify an individual. This could be Name, date of birth or home address.

Spam – irrelevant or unwanted emails or messages, usually sent to a lot of people. Normally used for advertising or spreading harmful programs. To reduce spam, tick the 'do not share my email box' on forms.

Identity Theft is when somebody pretends to be you using your person information, usually stolen online or through theft. Thieves may set up bank accounts and credit cards in your name.

Geo Tagging is when your location is tagged in social media posts or saved to a picture when you take it. Posting your location can be dangerous.

Phishing is when somebody pretends to be somebody you trust, usually in an email and asks for information which will help access your accounts or steal your identity. You should always check emails asking for information to see if they are trustworthy.

Firewall – security software preventing unauthorised access to a computer.

Anti Virus – Software that scans and removes malicious/harmful software on your computer.

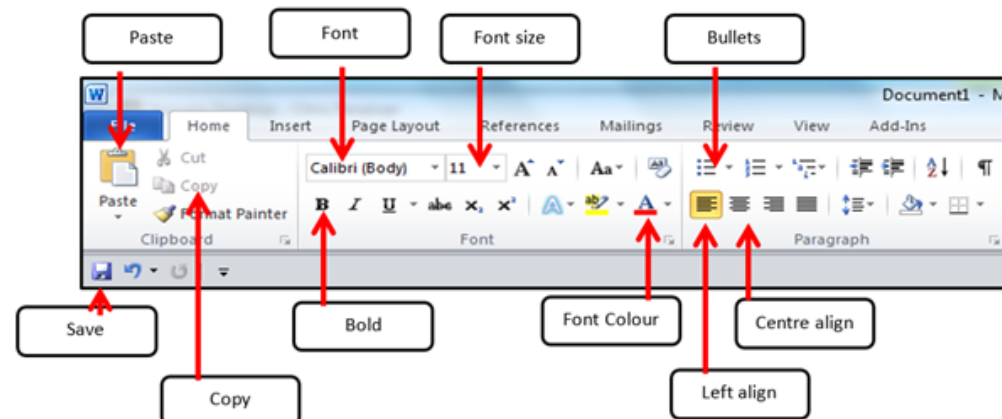


Microsoft Teams

At CTK we use Microsoft Office Teams in class, for assignments, and to connect with students. You can also download the 'Teams' app on your desktop or phone, then use your **School email** and **password** to sign in to access it.

Vocabulary

File	A specific piece of data held on a computer
Folder	A virtual location where programs, files and other folders can be located
Shortcut key	A combination of keys that when pressed simultaneously, perform some task that ordinary requires to use a mouse.
Email	Messages sent electronically over a computer network
Attachment	A computer file sent along with an email message
Search engine	A computer program that is used to look for information on the internet
Social network	An online platform that allows users to create a public profile and interact with other users on the website
Online profile	A social identity that an internet user establishes in online communities and websites
Privacy settings	The part of a social networking website, internet browsers, piece of software. Etc. that allows you to control who sees information about you
Cyberbullying	Using technology to bully someone
Virus	A program or piece of code that is loaded onto your computer without your knowledge and runs against your wishes and has detriment effect





Unit - Keywords

Cyberbullying

The bullying of another person using the internet, mobile phones and other digital devices, with the intent to deliberately upset them.

Netiquette

Correct or acceptable way of communicating on the internet.

Cyberstalking

Repeated use of electronic communication to harass or frighten someone.

Online Grooming

Deliberate act taken to befriend and create an emotional connection with a child, resulting in not good intentions.

Sexting

Sending sexually explicit messages or images by cell phones and other electronic devices.

Password

A secret word or phrase that must be used to gain access to something.

Hacking

Gaining access to a computer, with the intention of stealing data or causing damage

Download

Copying data from one computer system to another, typically over the internet.

Chat room

A website, or part of a website which allows people to communicate via a computer network in real time.

Block

Action taken to stop interactions from set people via online communication.

Spam

An email that is sent to a large number of people and mostly consists of advertising.

Websites you can Trust

No one is in charge of the internet so anyone can post or publish anything to it. Some content may be unsuitable. Websites that you can trust include those from:

- the Government – if the address has 'gov.uk' in it, it's a UK Government website
- the National Health Service (NHS) – if the address has 'nhs.uk' in it, it's an NHS website
- the Police – the official website is www.police.uk
- the BBC – all of the BBC's websites have 'bbc.co.uk' in their address

10 Ways To Stay Safe On Facebook

- 1) Monitor suspicious activity/links.
- 2) Remove friends as appropriate.
- 3) Keep your wall clean.
- 4) Turn off Facebook Chat.
- 5) Change your password often.
- 6) Be careful who you share your password with.
- 7) Hide your year of birth.
- 8) Keep your private info private.
- 9) Adjust your privacy settings.
- 10) Protect your mobile device.

Ways in which to reduce SPAM

Spam is very difficult to avoid but there are ways to reduce it:

- Use a spam filter – most email clients try to stop spam from reaching you by using a spam filter. It recognises common spam emails and stops them from getting through. Check your spam email regularly as sometimes real emails are mistaken for spam.
- Do not give your email address out – if you don't trust the website or if supplying your email address is optional, don't give it to them.

Free anti-virus applications

- AVG
- Avast!
- Microsoft Security Essentials

Digital Footprint

Your digital footprint is everything on the Internet that's about you. This could mean photos, audio, videos, texts, your posts on friends pages, etc.

As you get older, a strong online presence can bring with it all kinds of benefits

Does this give a good online impression/digital footprint?



Andrew Field @andyfield · 2m

Can't be bothered going 2 school today I hate school



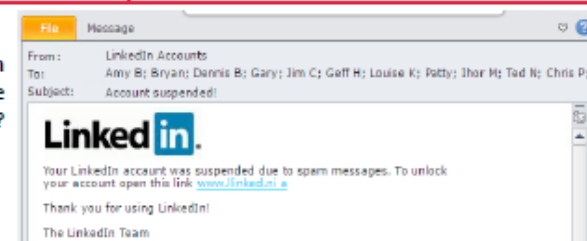
As an internet user, you need to know if something is real or fake. Criminals on the internet try to get information from people.

Phishing

Top Ten ways to Prevent Phishing

1) The message contains a mismatched URL	2) You didn't initiate the action
3) URLs contain a misleading domain name	4) You're asked to send money to cover expenses
5) The message contains poor spelling and grammar	6) The message makes unrealistic threats
7) The message asks for personal information	8) The message appears to be from a government agency
9) The offer seems too good to be true	10) Something just doesn't look right

Spot the Problem
What is the issue with the following email?



What would you?

You get an email from someone you don't know

1. Delete it straight away and tell a parent
2. Reply to the email and ask who they are
3. Open the email to see what it is

A random person in a chatroom asks for your picture

1. Find a good photograph and send it to them
2. Ask them to send their picture to you first
3. Do not send your picture and tell an adult



BLOCK IT



ZIP IT



FLAG IT

Year 7 Mathematics

Term 2A: Applications of number



What do I need to be able to do?

By the end of this unit you should be able to:

- Understand properties of addition/ subtraction
- Use mental strategies for addition/subtraction
- Use formal methods of addition/subtraction for integers
- Use formal methods of addition/subtraction for decimals
- Solve problems in context of perimeter
- Solve problems with finance, tables and timetables
- Solve problems with frequency trees
- Solve problems with bar charts and line charts

Keywords

- Commutative:** changing the order of the operations does not change the result
Associative: when you add or multiply you can do so regardless of how the numbers are grouped
Inverse: the operation that undoes what was done by the previous operation (The opposite operation)
Placeholder: a number that occupies a position to give value
Perimeter: the distance/ length around a 2D object
Polygon: a 2D shape made with straight lines
Balance: in financial questions – the amount of money in a bank account
Credit: money that goes into a bank account
Debit: money that leaves a bank account

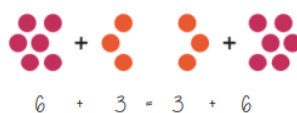
Addition/ Subtraction with integers



Modelling methods for addition/ subtraction

- Bar models
- Number lines
- Part/ Whole diagrams

Addition is commutative



The order of addition does not change the result

Subtraction the order has to stay the same

$$360 - 147 = 360 - 100 - 40 - 7$$

- Number lines help for addition and subtraction
- Working in 10's first aids mental addition/ subtraction
- Show your relationships by writing fact families

Formal written methods

	H	T	O
+	1	8	7
+	5	4	2

	H	T	O
-	4	2	7
-	2	4	9

Remember the place value of each column
You may need to move 10 ones to the ones column to be able to subtract

Addition/ Subtraction with decimals

4	.	3	8
7	.	9	0
			+

0 can be used to fill empty places with value

The decimal place acts as the placeholder and aligns the other values



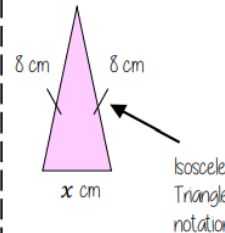
If represents 1 instead of 100

$$5.43 + \frac{8}{10}$$

Revisit Fraction – Decimal equivalence
 $5.43 + 0.8$

Solve problems with perimeter

Perimeter is the length around the outside of a polygon



Isosceles Triangle notation

The triangle has a perimeter of 25cm
Find the length of x

$$8\text{cm} + 8\text{cm} + x\text{cm} = 25\text{cm}$$

$$16\text{cm} + x\text{cm} = 25\text{cm}$$

$$x\text{cm} = 9\text{cm}$$

Solve problems with finance

$$\text{Profit} = \text{Income} - \text{Costs}$$

Credit – Money coming into an account

Debit – Money leaving an account

Money uses a two decimal place system
14.2 on a calculator represents £14.20

Check the units of currency – work in the same unit

Tables and timetables

Distance tables

London	Cardiff	Glasgow	Belfast
211	493	177	
556	392		
518			

This shows the distance between Glasgow and London
It is where their row and column intersects

Bus/ Train timetables

Harton	1005	1045	1130
Bridge	1024	1106	1147
Aville	1051	1133	1205
Ware	1117	1202	1233

Each column represents a journey, each row represents the time the 'bus' arrives at that location

TIME CALCULATIONS – use a number line

Two-way tables

	H	T
H	HH	HT
T	TH	TT

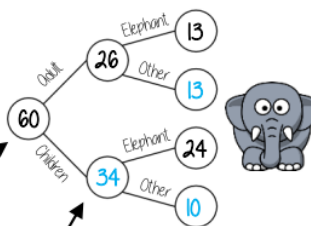
Where rows and columns intersect is the outcome of that action

Frequency trees

60 people visited the zoo one Saturday morning

26 of them were adults. 13 of the adult's favourite animal was an elephant. 24 of the children's favourite animal was an elephant.

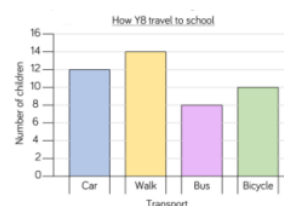
The overall total "60 people"



A frequency tree is made up from part-whole models
One piece of information leads to another

Probabilities or statements can be taken from the completed trees
e.g. 34 children visited the zoo

Bar and line charts



Use addition/ subtraction methods to extract information from bar charts

e.g. Difference between the number of students who walked and took the bus
Walk frequency – bus frequency

When describing changes or making predictions

- Extract information from your data source
- Make comparisons of difference or sum of values
- Put into the context of the scenario

Year 7 Mathematics

Term 2B: Applications of multiplication and division



What do I need to be able to do?

By the end of this unit you should be able to:

- Understand and use factors
- Understand and use multiples
- Multiply/Divide integers and decimals by powers of 10
- Use formal methods to multiply
- Use formal methods to divide
- Understand and use order of operations
- Solve area problems
- Solve problems using the mean

Keywords

Array: an arrangement of items to represent concepts in rows or columns

Multiples: found by multiplying any number by positive integers

Factor: integers that multiply together to get another number.

Mil: prefix meaning one thousandth

Centi: prefix meaning one hundredth

Kilo: prefix meaning multiply by 1000

Quotient: the result of a division

Dividend: the number being divided

Divisor: the number we divide by

Factors

Arrays can help represent factors
 5×2 or 2×5
Factors of 10
 1, 2, 5, 10
 10×1 or 1×10

The number itself is always a factor

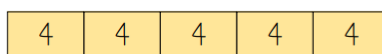
Square numbers have an **ODD** number of factors

Factors of 4
 1, 2, 4

Factors of 36
 1, 2, 3, 4, 6, 9, 12, 18, 36

Be strategic
 - Lay factors out in pairs can help you not to miss any

Multiples



Bar models can represent by something is a multiple. Eg 20 is a multiple of 4

Lowest Common Multiples

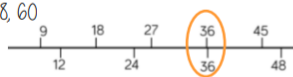
LCM of 9 and 12

9: 9, 18, 27, 36, 45, 54

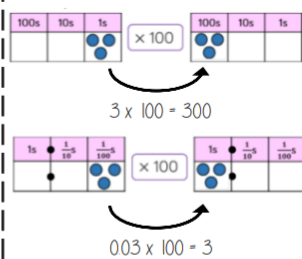
12: 12, 24, 36, 48, 60

The first time their multiples match

LCM = 36



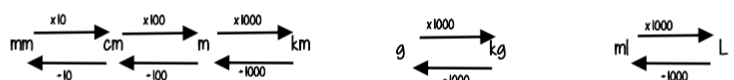
Multiply/Divide by powers of 10



Repeated multiplication and division by powers of 10 is commutative
 $\div 10$ then $\div 10 \rightarrow \div 100$

Metric conversions

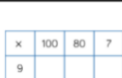
Useful Conversions



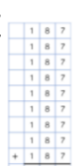
Multiplication methods



Long multiplication (column)



Grid method



Repeated addition

Less effective method especially for bigger multiplication

Multiplication with decimals

Perform multiplications as integers
 eg $0.2 \times 0.3 \rightarrow 2 \times 3$

Make adjustments to your answer to match the question: $0.2 \times 10 = 2$
 $0.3 \times 10 = 3$

Therefore $6 \div 100 = 0.06$

Estimations: Using estimations allows a 'check' if your answer is reasonable

Division methods

$3584 \div 7 = 512$

Short division
 $7 \overline{) 3584}$

Complex division

$\div 24 = \div 6 \div 4$
 Break up the divisor using factors

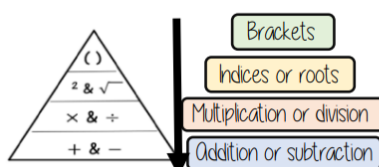
Division with decimals

The placeholder in division methods is essential – the decimal lines up on the dividend and the quotient

$24 \div 0.02 \rightarrow 24 \div 0.2 \rightarrow 240 \div 2$

All give the same solution as represent the same proportion
 Multiply the values in proportion until the divisor becomes an integer

Order of operations



If you have multiple operations from the same tier work from left to right

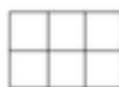
eg $10 - 3 + 5 \rightarrow 10 - 3 \rightarrow 7 + 5$

$$\begin{array}{|c|c|} \hline 6 \times 4 & 8 \times 2 \\ \hline 24 & 16 \\ \hline \end{array} = 40$$

Area problems

Rectangle

Base x Perpendicular height



Parallelogram/ Rhombus

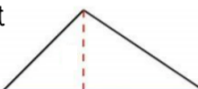
Base x Perpendicular height



Triangle

$\frac{1}{2} \times \text{Base} \times \text{Perpendicular height}$

A triangle is half the size of the rectangle it would fit in



Mean problems

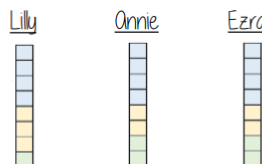
Mean – a measure of average
 It gives an idea of the central value

Lilly, Annie and Ezra have the following cubes



24 in total

Finding the mean amount is the average amount each person would have if shared out equally



The mean number of blocks would be 8 each

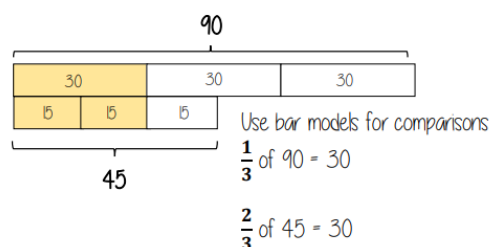
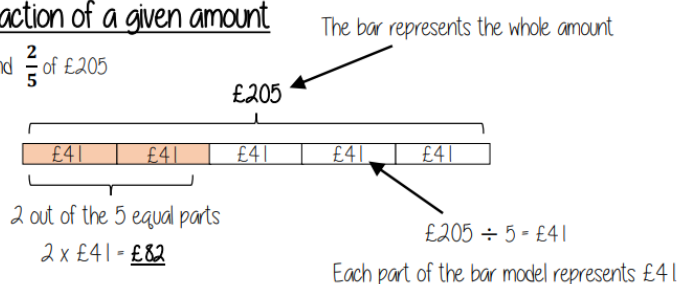
Year 7 Mathematics

Term 2C: Fractions and percentages of amounts

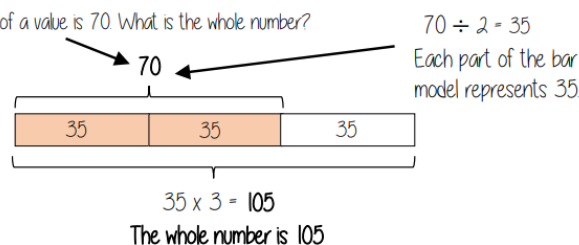
What do I need to be able to do?

By the end of this unit you should be able to:

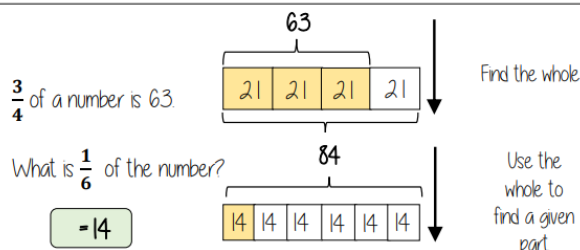
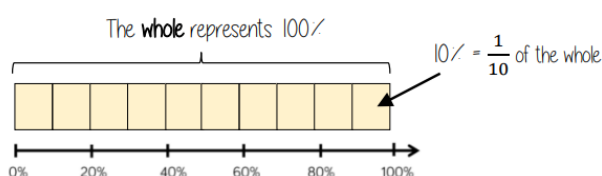
- Find a fraction of a given amount
- Use a given fraction to find the whole or other fractions
- Find the percentage of an amount using mental methods
- Find the percentage of a given amount using a calculator

Keywords**Fraction:** how many parts of a whole we have**Equivalent:** of equal value**Whole:** a number with no fractional or decimal part**Percentage:** parts per 100 (uses the % symbol)**Place Value:** the value of a digit depending on its place in a number. In our decimal number system, each place is 10 times bigger than the place to its right**Convert:** change into an equivalent representation, often fraction to decimal to a percentage cycleFraction of a given amountFind $\frac{2}{5}$ of £205

$$\therefore \frac{1}{3} \text{ of } 90 = \frac{2}{3} \text{ of } 45$$

Use a fraction of amount $\frac{2}{3}$ of a value is 70. What is the whole number?

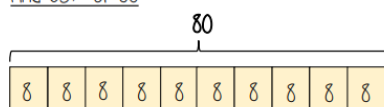
The wording of the question is important to setting up the bar model

Find the percentage of an amount (Mental methods)

$$10\% = \frac{1}{10} \text{ of the whole} \quad 50\% = \frac{5}{10} = \frac{1}{2} \text{ of the whole}$$

$$20\% = \frac{2}{10} = \frac{1}{5} \text{ of the whole} \quad 5\% = \frac{1}{20} \text{ of the whole}$$

Find 65% of 80



For bigger percentages it is sometimes easier to take away from 100%

Method 1

$$65\% = 10\% \times 6 + 5\% \\ = (8 \times 6) + 4 \\ = 52$$

Method 2

$$65\% = 50\% + 10\% + 5\% \\ = 40 + 8 + 4 \\ = 52$$

Find the percentage of an amount (Calculator methods)Using a multiplier

Find 65% of 80

Fraction, decimal, percentage conversion

$$65\% = \frac{65}{100} = 0.65$$

The multiplier

$$0.65 \times 80 = \underline{52}$$

Using the percent button

Find 65% of 80

This brings up the % button on screen
You will see 65%

Type 65

Press **SHIFT** **(%)**Press **x** 80 and then press =

You can also use the calculator to support non calculator methods and find 1% or 10% then add percentages together

"of" can represent 'x' in calculator methods

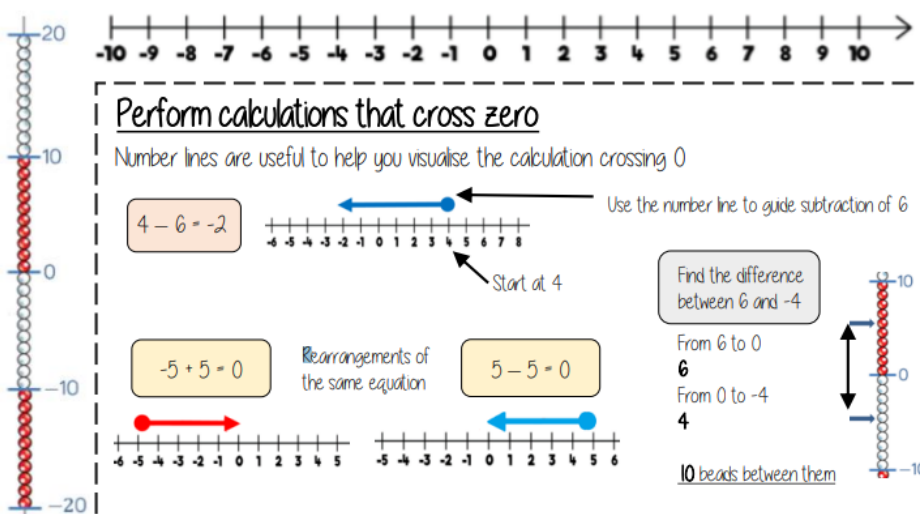
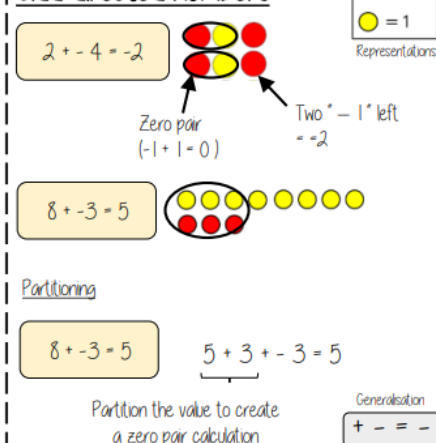
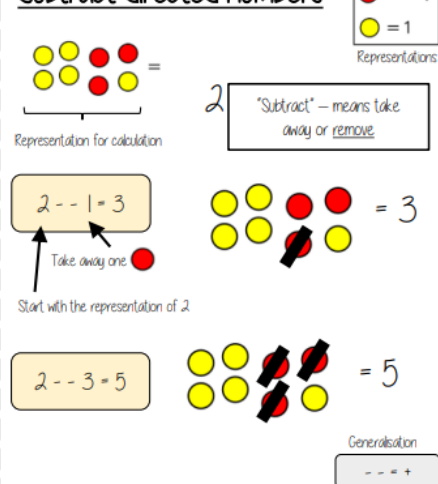
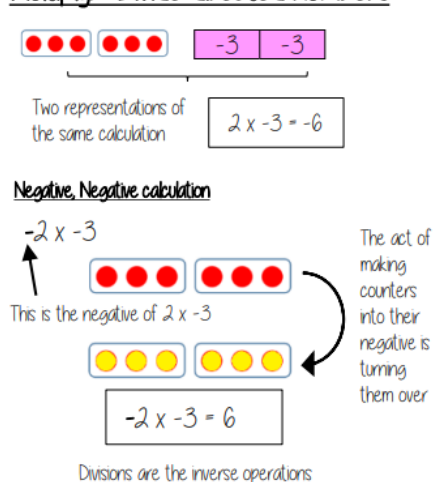
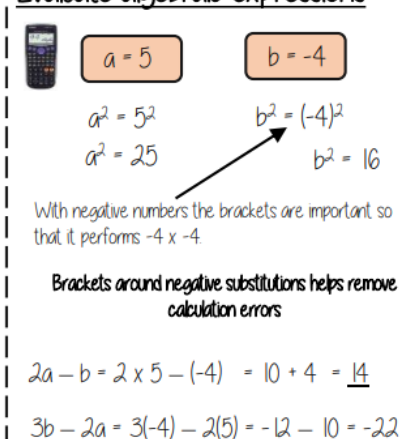
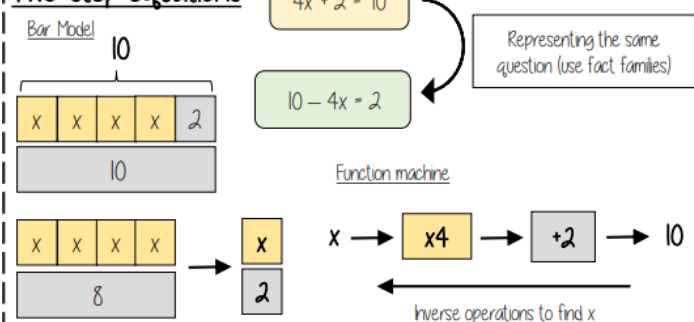
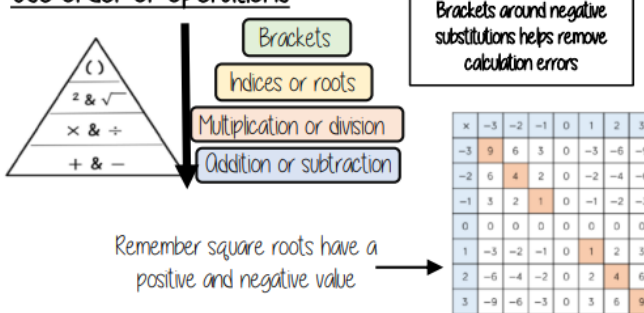
Year 7 Mathematics

Term 2D: Operations with equations and directed numbers

What do I need to be able to do?

By the end of this unit you should be able to:

- Perform calculations that cross zero
- Add/ Subtract directed numbers
- Multiply/ Divide directed numbers
- Evaluate algebraic expressions
- Solve two-step equations
- Use order of operations with directed number

Keywords**Subtract:** taking away one number from another.**Negative:** a value less than zero.**Commutative:** changing the order of the operations does not change the result**Product:** multiply terms**Inverse:** the opposite function**Square root:** a square root of a number is a number when multiplied by itself gives the value (symbol $\sqrt{\quad}$)**Square:** a term multiplied by itself**Expression:** a maths sentence with a minimum of two numbers and at least one math operation (no equals sign)Add directed numbersSubtract directed numbersMultiply/ Divide directed numbersEvaluate algebraic expressionsTwo-step equationsUse order of operations

Year 7 Mathematics

Term 2E: Addition and subtraction of fractions

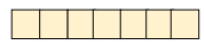
What do I need to be able to do?

By the end of this unit you should be able to:

- Convert between mixed numbers and fractions
- Add/Subtract unit fractions (same denominator)
- Add/Subtract fractions (same denominator)
- Add/Subtract fractions from integers
- Use equivalent fractions
- Add/Subtract any fractions
- Add/Subtract improper fractions and mixed numbers
- Use fractions in algebraic contexts

Keywords**Numerator**: the number above the line on a fraction. The top number. Represents how many parts are taken**Denominator**: the number below the line on a fraction. The number represent the total number of parts**Equivalent**: of equal value**Mixed numbers**: a number with an integer and a proper fraction**Improper fractions**: a fraction with a bigger numerator than denominator**Substitute**: replace a variable with a numerical value**Place value**: the value of a digit depending on its place in a number. In our decimal number system, each place is 10 times bigger than the place to its rightRepresenting Fractions
 $\frac{1}{4}$
is represented in
all the images


$1 \div 4$

Mixed numbers and fractions

Improper fraction



Mixed number

In this model 5 parts make up a whole

Fractions can be bigger than a whole

Add/Subtract unit fractions

Same denominator

$\frac{1}{12} + \frac{1}{12} - \frac{1}{12} = \frac{2}{12}$

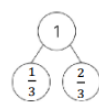


With the same denominator ONLY the numerator is added or subtracted

Add/Subtract fractions

Same denominator

$\frac{2}{7} + \frac{3}{7} = \frac{5}{7}$

Sequences

$\frac{1}{3}, 1, 1\frac{2}{3}, 2\frac{1}{3}, 3, \dots$
 $+\frac{2}{3} \quad +\frac{2}{3}$
 Represent this on a number line to help

Add/Subtract from integers

$1 - \frac{2}{6} = \frac{4}{6}$

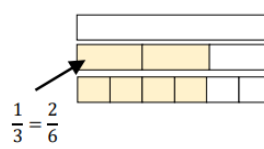
$3 + \frac{1}{6} = 3\frac{1}{6}$

The denominator indicates the number of parts a whole is made up of

Equivalent fractions

Numerator and denominator have the same multiplier

$\frac{2}{3} = \frac{4}{6}$

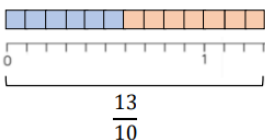


$\frac{1}{3} = \frac{2}{6}$

Add/Subtraction fractions (common multiples)

Addition/Subtraction needs a common denominator

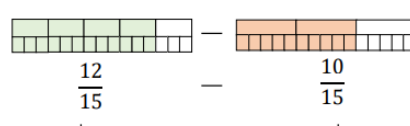
$\frac{3}{5} + \frac{7}{10}$
 $\frac{6}{10} + \frac{7}{10}$



$\frac{13}{10}$

Add/Subtraction any fractions

$\frac{4}{5} - \frac{2}{3}$

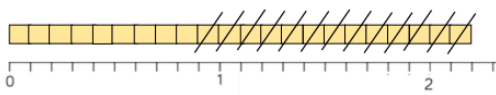


$= \frac{2}{15}$

Use equivalent fractions to find a common multiple for both denominators

Add/Subtraction fractions (improper and mixed)

$2\frac{1}{5} - 1\frac{3}{10}$
 $2\frac{2}{10} - 1\frac{3}{10}$
 $\frac{22}{10} - \frac{13}{10} = \frac{9}{10}$



- Convert to an improper fraction
- Calculate with common denominator

Partitioning method

$2\frac{1}{5} - 1\frac{3}{10} = 2\frac{2}{10} - 1\frac{3}{10} = 2\frac{2}{10} - 1 - \frac{3}{10} = 1\frac{2}{10} - \frac{3}{10} = \frac{9}{10}$

Fractions in algebraic contexts

$p = 5 \quad m = 2$

$k - \frac{5}{8} = 2$

Apply inverse operations

$k = 2 + \frac{5}{8}$

$\frac{5}{8} + \frac{7}{9} = \frac{25}{27}$

Form expressions with fractions

$b + \frac{7}{9} \rightarrow b + \frac{7}{9}$

$\frac{p}{8} + \frac{1}{m}$

Substitution

$\frac{5}{8} + \frac{1}{2}$

Fractions and decimals

$\frac{1}{10} = 0.1$

$\frac{1}{100} = 0.01$

Example

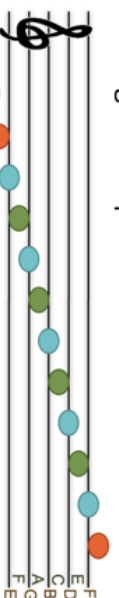
$\frac{6}{10} + 0.3 \rightarrow 0.6 + 0.3$

$\frac{6}{10} + \frac{3}{10}$

Remember to use equivalent fractions and common denominators

How to read pitches

- The blobs of the notes are arranged on the lines and spaces of the stave. The higher the blob on the stave, the higher the pitch.



MELODY

Football	E	●	E
Dinner	C	●	C
Boy	A	●	A
Good	F	●	F
Every			

You can remember the notes on the lines with '**Every Good Boy Deserves Football**', and the notes in the spaces spell '**FACE**'. Remember to go **upwards** when doing this!



C. Keyboard Chords

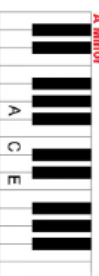


G Major

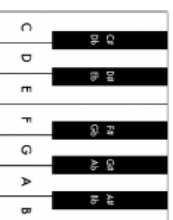
F Major



A Minor



F. Black Keys and Sharps and Flats



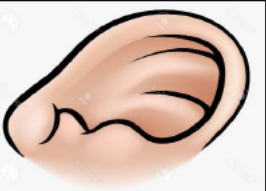
There are five different black notes or keys on a piano or keyboard. They occur in groups of two and three right up the keyboard in different pitches. Each one can be a SHARP or a FLAT. The # symbol means a SHARP which raises the pitch by a semitone (e.g. *C# is higher in pitch to the right than C*). The b symbol means a FLAT which lowers the pitch by a semitone (e.g. *Bb is lower in pitch to the left than B*). Each black key has 2 names – it's the same as Db – there's just two different ways of looking at it! Remember, black notes or keys that are to the RIGHT of a white note are called SHARPS and black notes to the LEFT of a white note are called FLATS.

Musical Knowledge : Listening

Definitions

When you are listening to a piece of music:

- ✓ Does it sound **happy** (major tonality) or **sad** (minor tonality)?
- ✓ Which instruments can you hear?
- ✓ How would you describe the rhythm?
- ✓ What are the **key features** of the piece?
- ✓ Which words could you use to describe the tempo? Is it fast or slow?



T.DRIPS

Use **TD RIPS** -

Tempo, Dynamics, Rhythm, Instrumentation, Pitch, Structure to describe music.

Key words

Tempo Fast Slow **Allegro** **Lento**
Dynamics Forte **Piano**
Rhythm Straight **Synco**pated
Instrumentation
Pitch Treble Clef High or Low
Bass Clef Strophic Rondo
Structure Ternary

Question using key words

- How are melodies used? Are they simple or complex?
- ✓ Are the notes high or low in pitch? Do the notes make sudden leaps or move in small steps?
- ✓ Are the **dynamics** (volume) loud or soft?
- ✓ How would you describe the **structure**?
- How many different sections of music can you hear?
- ✓ How would you describe the **style** of music? Which genre of music would you describe it as?

LISTENING SKILLS

Appraisal

'an act of assessing something.'

"What am I hearing?"



Musical knowledge : Composing

Definitions

Composing Using the Elements

- Texture**: how layers of sound within a piece of music interact.
- Dynamics**: How loud or soft a musical sound is.
- Rhythm**: Musical patterns, measured in time e.g. 4 beats in every bar is common time.
- Instrumentation**: The instruments and musical sections used in a composition e.g. strings, percussion etc.
- Pitch**: how high or low a musical note or sound is.
- Structure**: the parts which make up a composition e.g. section A, section B.



What is 'harmony'?

The sound of two or more notes heard simultaneously. This includes chords and melodies heard in a piece of music.

What does 'composition' mean?

Composition is the art of creating music, by composing parts and developing ideas to create a piece of music.

COMPOSITION

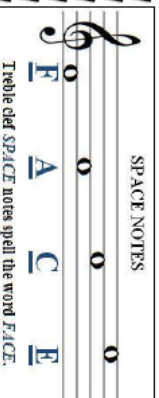
Composition Tips

- ✓ Listen to a range of music for inspiration.
- ✓ Play an instrument.
- ✓ Sing and train your ears.
- ✓ Practice.
- ✓ Learn the software well.

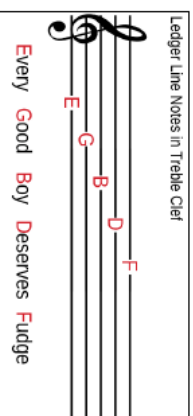
Key words

Key Notes

Using music notes in composition



Crochet: a note worth 1 beat.
Quaver: a note worth 1/2 a beat.
Minim: a note worth 2 beats.
Semibreve: a note worth 4 beats.



Every Good Boy Deserves Fudge

Musical knowledge 2: rhythm notation

Definitions

1. **Pulse** = the underlying count in the music. Like a heartbeat. You clap/dance to this. You *feel* it rather than *hear* it.



2. **Rhythm** = long and short notes, and the gaps between them:

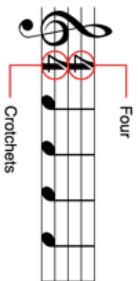


Bars and time signatures

1. Notes on the stave are divided up into bars by bar lines.



2. The time signature = two numbers at the start of the music. It tells us how many beats are in a bar: how we count in the piece.



3. The top number tells us how many beats are in a bar. The bottom number tells us what sort of beats they are.

How to read rhythms

1. These are the basic types of notes. American note names are more logical: here, the UK names are in brackets.

Note/Rest Name	Note Symbol	Rest Symbol	Note/Rest Value (Length)
Whole Note/Rest (Semibreve)			4 beats
Half Note/Rest (Minim)			2 beats
Quarter Note/Rest (Crotchet)			1 beat
Eighth Note/Rest (Quaver)			1/2 beat

Pairs or 4s of quavers are beamed together. Remember each blob is a note.

2. Rhythms can be made up of any combination of notes or rests, as long as each bar adds up correctly.

3. A dot after a note adds on half as much again: $\underset{\cdot}{\text{note}}$ = note + note = 3 beats

$\underset{\cdot}{\text{note}}$ = note + note = 1½ beats

4. A triplet squeezes three notes into the time it normally takes to play two:



Rugby

Basic Rules

1	Two halves consisting of 40 minutes
2	Each team has 15 players on each side
3	Passes must be played with the ball travelling backwards
4	Tackling cannot be made above shoulder height
5	Attacking players must remain behind the ball whilst active or you run the risk of being called offside

Scoring

1	Try	awarded when a player places the ball down in their opponent's dead ball area behind the goal. 5 points are awarded.
2	Conversion	a free kick that the team is awarded after a try to earn 2 bonus points. A successful kick needs to pass between the upper posts and top bar on the goal.
3	Penalty Kick	will gain a team 3 points and is awarded to a team when the opposing team causes an
4	Drop Goal	can be kicked out of the hand as long as the ball bounces first and can earn a

Skills

1	Running with the ball	Carry the ball in two hands, accelerate into spaces, run direct and look to pick gaps in defensive lines. Draw players towards creating space for others to run into
2	Passing (Offloading)	Pass with accuracy over speed, good communication prevents mistakes. Always be prepared to receive a pass with your hands up ready. Throw a pass you'd like to receive.
3	Tackling	Low body position, shoulder drive below the hip, head safe side, lock arms to prevent leg drive, try to land on the tackled player, release once player is fully grounded
4	Rucking	Low body position - hips above shoulders, stay on feet if you want to play the ball. Drive opposition players off or create a solid base to play from

Rugby Pitch

- 1, Goal line (try line)
- 2, Half way line
- 3, 22m, 10m and 5m line

Injuries in Sport

Types of Injury

	Injury	Description
1	Sprain	Damage to a ligament that crosses a joint.
2	Fractures	Broken bones caused by impact, twisting or repetitive stress on the bone.
3	Dislocation	Joint injuries that occur when the bones meeting at a joint are dislodged through impact, twisting or pre-existing weakness to that area
4	Concussion	Caused by violent impacts to the head
5	Abrasion	Damage to the skin caused by impacts and collisions
6	Torn Cartilage	Cartilage lines the end of bones and can be damaged through twisting actions
7	Overuse injuries	Caused by repetitive actions or poor technique.

How to Treat an Injury (RICE method)

R	Rest	Immobilise the injured part
I	Ice	Apply an ice pack or other cold object to the affected area
C	Compression	Ensure the ice pack or compress is firmly pressed against the
E	Elevation	Raise the injured limb above the level of the heart

The RICE method helps to reduce swelling and pain! Used most commonly for soft tissue injuries or injuries where swelling is likely to occur.

Prevention of Injury

1	Follow rules and apply them fairly
2	Always use protective equipment. Ensure all protective equipment is in good condition

Handball

Key Words:

3 seconds on the ball	Players are only allowed to have possession of the ball for 3 seconds.
Contact	Contact is allowed in handball.
Goalkeeper	Goalkeeper can leave the D but not in possession of the ball.
Corners	Awarded if the ball comes off a defender and goes behind the goal.
Penalty throw	Awarded if a defender steps into the D.

Skills:

Shooting	Players can shoot from outside of the D or by performing a jump shot.
Dribbling	Players can move with the ball by bouncing but only for 3 seconds.
Passing	Passing is done with one hand or two and can include a shoulder pass and bounce pass.

Famous Player

Danish player Mikkell Hansen
Three time world player of the year.
Olympic, World and European champion.



Rules:

A match consists of two periods of 30 minutes each. Each team consists of 7 players; a goalkeeper and 6 outfield players.

Outfield players can touch the ball with any part of their body that is above the knee.

Once a player receives possession, they can pass, hold possession or shoot.

If a player holds possession they can have the ball for up to 3 seconds, after they can dribble or take three steps (without dribbling).

Only the goalkeeper is allowed to come in contact with the floor of the goal area.

Goalkeepers are allowed out of the goal area but must not retain possession if they are outside the goal area.

Positions in Handball:

Goalkeeper: a player who is positioned inside the goalkeeping area responsible for defending goals.

Left Wing: attacking player responsible for left hand side of the court.

Left Back: stands to the left of centre back and tries to prevent the opposition from shooting.

Centre back: stands in the middle of the court and provides both defending and attacking options.

Pivot player: an attacking player who travels along the opponents six metre line.

Right Back: has some responsibilities as the left back down the opposite side.

Right Wing: has the same responsibilities as the left wing but down the opposite side.

Lifestyle Choices

Lifestyle choices - the choices you make that can affect your health and fitness.

1) Eating a healthy diet:

- Boosts your energy levels, so you are better able to enjoy life.
- Will supply your body with the central nutrients it needs for a healthy immune system helping you fight off illnesses
- Reduces the risk of developing serious health conditions such as heart disease type 2 diabetes high blood pressure high cholesterol or stroke
- Communication stress levels and improve your sleep patterns
- Will help you lose weight if you are currently overweight or maintain a healthy weight

2) Eating an unhealthy diet:

- Leads to deficiencies in essential nutrients and causes health conditions such as osteoporosis and rickets as well as fatigue and muscle weakness
- Leads to an increase in weight and body fat which puts you at risk of developing health conditions such as heart disease type 2 diabetes high blood pressure high cholesterol and stroke
- Can affect your concentration levels and make you feel lethargic making it more difficult to find the energy to exercise
- Can affect your quality of sleep
- Can cause you to feel guilty and depressed especially if you overeat

3) Living an active life:

- Lowers your risk of disease
- Lowers your risk of developing mental health conditions such as depression or dementia
- Please yourself esteem the quality of your sleep and your energy levels
- Reduces stress and anxiety
- Improve your fitness levels

4) Living an inactive life:

- Increases your risk of disease
- Increases your risk of low self esteem anxiety and depression
- Decreases your muscle mass overall strength and energy levels making daily tasks such as carrying shopping bags more difficult

5) A good work/rest/sleep balance:

- Improve your physical emotional and social health
- Makes you feel more in control of your life helping to reduce stress
- You are better at making good decisions

6) A poor work/ rest/ sleep balance can:

- Increase your risk of depression
- Lead to weight gain
- Increase your risk of illness and disease
- Increase stress and anxiety
- Results in poor quality sleep

Netball

Key Words:

Contact
Replaying
Distance
Free pass
Penalty pass

Skills:

Passing
Catching
Footwork
Attacking
Defending
Shooting

Rules:

A team consists of 7 players (GK,GD,WD,C,WA,GA,GS)

You cannot move with the ball.

You cannot snatch or hit the ball out of a player's hands.

You cannot contact another player (pushing or barging).

You must stand 1 metre away from the person with the ball (known as 1m distance).

You cannot hold the ball for more than 3 seconds.

You cannot replay the ball (drop it and pick it up again).

You must stay within your designated area of the court.

Netball Court Positions



FREE PASS GIVEN	PENALTY PASS GIVEN
Travel with the ball.	Contact another player.
Distance less than 1m.	Contact on the ball when held by a player.
Holding the ball for over 3 secs.	
Replaying the ball.	
Offside.	

Famous Netball players:



Helen Housby



Imogen Allison

Factors of Participation

AGE

Ageing affects people in different ways.

Children need to develop gross motor skills from an early age to become confident movers.

Adolescents experience a growth spurt that changes their physical development.

Older people may experience decrease in flexibility and strength and weight gain making participation in sport more difficult.

GENDER

There is a big drop in girls' participation in sport each week from the age of 11. By age 14, boys are twice as active than girls.

Research shows that common barriers to participation for girls or women are due to: They don't see the relevance of sport in their lives

They dislike taking part with boys or men who play too aggressively

They are more motivated by having fun, making friends, and keeping fit than excelling

SOCIO-ECONOMIC STATUS

Socio-economic status recognises that fact that income and wealth influence people's life experiences. For example, the more money you have, the more likely you are to participate in sport. This could be due to these following factors:



ETHNICITY

Over half of people in black and minority ethnic (BME) communities do no sport or physical activity.

One of the main reasons why BME communities have lower rates of participation is the lack of BME role model involved in leading and organising sport. For example, only 5% of coaches are from BME communities and only 7% of sports professionals (other than performers) are from BME communities.

DISABILITY

The participation of disabled people in sport is much lower than that of non-disabled people, for all age groups. This is due to:

Physical barriers – e.g. a lack of adapted equipment

Logistical reasons – e.g. a lack of transport or inappropriate communication

Psychological reasons – e.g. lack of confidence and other people's attitudes

Key Words:

Push

Let

Defensive

Balance

Movement

Skills:

Serve

Forehand

Backhand

Topspin

Backspin

Famous table tennis players:

Fan Zhendong



Kelly Sibley

Table Tennis**Rules:**

1. Games are played to 11 points and must be won by 2 points
2. Alternate serves every 2 points, unless it gets to 10-10 where you change to 1 serve each
3. In singles the serve can land anywhere on the table
4. A serve that touches the net on the way over is a "let" which means you can take the serve again
5. Volleys are not allowed
6. During a rally, if your ball hits the net and goes over itself it is your point
7. If you touch the table with any part of your body you automatically lose the point

Table tennis shot	How to play it
1. Forehand and back-hand push	<ul style="list-style-type: none"> • Face the paddle slightly towards the ceiling. • Strike the ball gently in order to ensure it stays on the table. • This is a defensive shot.
2. Forehand and back-hand topspin	<ul style="list-style-type: none"> • Face the paddle slightly towards the table and hit the ball at the peak of its bounce. • Do this with speed to gain topspin. • This is an attacking shot.

Types of Feedback in Sport

There are two types of feedback...

1. Intrinsic Feedback	<ul style="list-style-type: none"> • This is the physical feel of the movement as it is performed • It helps the performer to solve problems themselves • It helps them to develop skills independently
2. Extrinsic Feedback	<ul style="list-style-type: none"> • This is provided by external sources during or after a performance • It can come from teachers, coaches or teammates.

Feedback can also be experienced at different times...

3. Concurrent Feedback	<ul style="list-style-type: none"> • This is experienced by the performer whilst completing the action • E.g. A gymnast will experience feelings of being in a balanced position whilst they successfully complete a handstand • It is often the case that concurrent feedback is also intrinsic feedback
4. Terminal Feedback	<ul style="list-style-type: none"> • This is experienced by the performer once the movement has been completed • For example, a cricketer receives terminal feedback about the quality of their shot once the ball reaches the boundary • It is often the case that terminal feedback is also extrinsic feedback

Interpretation and Analysis of Feedback Data

1. Data can be gathered and shared before, during and after a performance.
2. Quantitative data—where you measure amounts. E.g. number of successful passes made in football
3. Qualitative data—how somebody feels about something. E.g. gathering opinions on their most recent performance

Key Quotes

1	We believe in one Lord, Jesus Christ, the only Son of God, eternally begotten of the Father, God from God, Light from Light, true God from true God, begotten, not made, of one being with the Father. (Nicene Creed)
2	And a voice from heaven said, “This is my Son, whom I love; with him I am well pleased.” (Matthew 3:17)

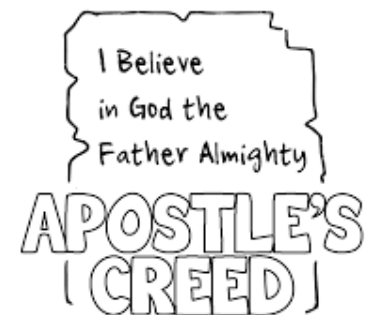


Key Words

1	Incarnation	Christians believe that God became man in the person of Jesus, truly human and truly divine.
2	Trinity	God as three in one – Father, Son and Holy Spirit.
3	Son of Man	A title for Jesus which suggests that he is both divine and human; it connects to the idea of him as a Messiah.
4	Son of God	A title of Jesus as the second person of the Trinity, reflecting his equal status to God the Father.
5	Christ	A title for Jesus, which means he was chosen by God.
6	Lord	A person who has power and authority; a title for God in the Old Testament, also used for Jesus in the New Testament.
7	Heresy	An opinion or belief that goes against Church teaching, or the denial of a revealed truth.
8	Arianism	The belief that was put forward by Arius in the 4 th century that Jesus was not divine.
9	<i>Lex orandi, lex credence</i>	Latin phrase meaning ‘the law of prayer is the law of belief’
10	Service	Supporting the needs of others and putting them before our own; this might include physical and spiritual needs for example.

Key Facts

1	The incarnation means that God became a human being in the form of Jesus to offer humans the chance of salvation.
2	The doctrine of the Trinity teaches that there is one God who is three persons: the Father, the Son (Jesus) and the Holy Spirit. The Trinity is reflected in prayer – for example, the Sign of the Cross.
3	The Nicene Creed is a statement of faith about the core beliefs held by Catholics, such as belief in the incarnation . It is said in Mass during the Liturgy of the Word and is structured around the three persons of the Trinity .
4	There are prophecies in the Old Testament which say that the Messiah will be God’s Son and in the New Testament God the Father calls Jesus his ‘beloved Son’ during the baptism of Jesus. It shows that Jesus is truly God.
5	Jesus has the title of Son of Man to show that he is a human being who wants to serve others. The title is also used to show Jesus’ divine power and authority.
6	Jesus also has the titles of ‘ Christ ’, ‘son of David’ and ‘ Lord ’. There are prophecies in the Old Testament about the Messiah including that the Messiah will be a descendent of King David.
7	Christians believe that Jesus showed agape (a selfless love) when he sacrificed himself on the cross. Catholic Social Teaching encourages Catholics to follow Jesus’ example.



Key Quotes

1	The Eucharist is the 'source and summit of Christian life.' (CCC 1324)
2	While they were eating, Jesus took bread, gave thanks and broke it, and gave it to his disciples, saying, "Take and eat; this is my body." (Luke 22:26)
3	A sacrament is an 'outward and visible sign of an inward, invisible grace.' (St Augustine)



Key Words

1	Paschal Mystery	The belief that Jesus' death and resurrection bring salvation to every human being.
2	Sacrament	Visible signs of God's grace that makes real what they symbolise; also the name given to the ceremonies that contain these signs.
3	Passover	A Jewish festival that celebrates God saving the Jewish people from slavery in Egypt.
4	Eucharist	The sacrament in which Catholics receive the body and blood of Christ; also called Holy Communion, the Lord's Supper, the Breaking of Bread and Mass.
5	Sacrifice of the Mass	The belief that Jesus' sacrifice is really made present to Catholics during the Eucharist.
6	Transubstantiation	The process by which the bread and wine actually become the body and blood of Jesus at the moment of consecration.
7	Holy Communion	Another name for the Sacrament of the Eucharist.
8	Lord's Supper	Another name for the Sacrament of the Eucharist.
9	Blessed Sacrament	A term which refers to the body and blood of Jesus in the Eucharist.

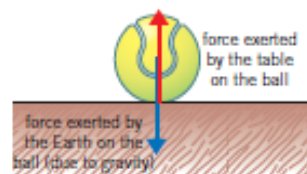
Key Facts

1	Sacraments are visible signs of God's grace. Catholics must receive the three sacraments of Initiation to become a full member of the Catholic Church: Baptism, Confirmation & Eucharist.
2	There are two other types of sacrament. Sacraments of Healing include the Anointing of the Sick & Reconciliation. Sacraments of Service are Holy Orders & Matrimony.
3	The Sacrament of the Eucharist is the most important sacrament. It is where the bread and wine becomes the body and blood of Jesus.
4	The Eucharist is important as it can bring a person closer to God, strengthen faith and provide forgiveness and protection from sin.
5	The Eucharist is the ' source and the summit ' that unites us with Christ, physically and spiritually through transubstantiation . We become the spiritual bread for others through our words and actions.
6	The Last Supper was a meal that Jesus shared with his disciples to celebrate Jewish Passover . During this meal, Jesus instituted the Sacrament of the Eucharist.
7	Most Christians around the world agree that Jesus is present in the Eucharist but they have different views on how this happens. For example Catholics believe that Jesus is physically present in the Eucharist whereas Anglicans believe that Jesus is spiritually present.
8	Jesus is present in the Mass in four ways: in the assembly of the faithful, in the reading of scripture, in the person of the priest and in the Blessed Sacrament .

What is a force?

- A **force** can be a **push** or a **pull**
- A force is measured in **Newtons (N)**
- We measure forces with a **newton meter**
- Forces explain why objects will move, change direction and change speed

- Forces always act in pairs, we call these **interaction pairs**
e.g. the tennis ball exerts a downward force of **weight** onto the table, the table exerts an equal and opposite reaction force onto the ball



Types of forces

- Contact forces** act when two objects are physically touching
- Air resistance** and **friction** are examples of contact forces
- Non-contact forces** act when two objects are physically separated (not touching)
- Examples of non-contact forces include **gravitational force** and magnetic forces
- We call the region where an object experiences a non-contact force a **field**, examples of these include gravitational fields and magnetic fields

Gravity

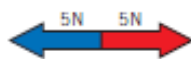
- Gravity** is a non-contact force that acts between two objects
- Gravitational force** pulls you back to Earth when you jump
- The size of the gravitational force depends on the mass of the two objects and how far apart they are
- Weight** is the downward force caused by gravity acting upon the mass of an object, it is measured in Newtons (N)
- Mass** is the amount of matter within an object, whereas weight is the downward force of the object, we measure mass in **kilograms**
- We calculate weight with the equation:

$$\text{weight (N)} = \text{mass (kg)} \times \text{gravitational field strength (N/kg)}$$

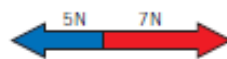
- The value of the gravitational field strength can vary, so although a person's mass would be the same on different planets, their weight would not be

Balanced and unbalanced forces

- When forces acting on an object are the same size, but acting in different directions, we say that they are **balanced**
- When forces are balanced, the object is either not moving (stationary) or moving at a constant **speed**
- When the two forces acting on an object are not the same size, we say that the forces are **unbalanced**
- When forces are **unbalanced**, the object will either be in **acceleration** or **deceleration**
- The **resultant force** is the difference between the two unbalanced forces



resultant = zero
stationary or
constant velocity



resultant = 2N
accelerating
to the right

Speed

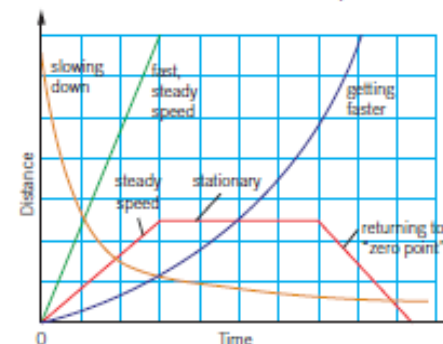
- Speed** is a measure of how quickly or slowly that something is moving
- We measure speed in meters per second (m/s), this means that distance must be in meters and time must be in seconds
- We calculate speed with the following formula:

$$\text{speed (m/s)} = \frac{\text{distance travelled (m)}}{\text{time taken (s)}}$$

- Relative motion** compares how quickly one object is moving compared to another
- If both objects are moving at the same speed, they are not changing position in comparison to one another, meaning that their relative speed is zero

Distance-time graphs

- Distance-time graphs** tell the story of a journey, they show how much distance has been covered in a certain period of time



- To find the average speed, the total distance must be divided by the total time



Key terms

Make sure you can write definitions for these key terms.

acceleration air resistance balanced contact force deceleration distance-time graph field force friction gravity gravitational force interaction pair
kilograms mass Newton newton non-contact pull push relative motion resultant force speed unbalanced weight

Chapter 1: Forces Keywords

	Key word	Definition
1	Acceleration	Speeding up
2	Air resistance	A non-contact force exerted by air particles on an object
3	Balanced	Forces acting on an object are the same
4	Contact force	When 2 objects are physically touching
5	Deceleration	Slowing down
6	Distance – time graph	A graph that shows the story of a journey
7	Field	The region where an object experiences a force
8	Force	A push or a pull
9	Motion	Movement
10	Gravity	A non-contact force that acts between 2 objects
11	Gravitational force	The force that brings you down to Earth when you jump
12	Interaction pair	Equal forces acting in opposite directions
13	Kilograms	The unit of measurement for mass
14	Mass	The matter which makes up an object
15	Newton	The unit of measurement for force
16	Non-contact	When 2 objects are not touching
17	Pull	A force
18	Push	A force
19	Relative motion	How quickly an object is moving compared to another
20	Resultant force	The difference between 2 unbalanced forces
21	Speed	A measure of how quickly or slowly something is moving
22	Unbalanced	When forces acting on an object are different
23	Weight	A downward force caused by gravity

Energy

- **Energy** is needed to make things happen
- It is measured in **joules** or **kilojoules**
- The **law of conservation of energy** says that energy cannot be created or destroyed, only transferred
- This means that the total energy before a change is always equal to the total energy after a change

Energy can be in different energy **stores**, including:

- **Chemical** – to do with food, fuels and batteries
- **Thermal** – to do with hot objects
- **Kinetic** – to do with moving objects
- **Gravitational potential** – to do with the position in a gravitational field
- **Elastic potential** – to do with changing shape, squashing and stretching

Food and energy

- Food has energy in a chemical energy store
- Different foods contain different amounts of energy
- Different activities require different amounts of energy
- Different people need different amounts of energy depending on what they do each day

Power and energy

- **Power** is a measure of how much energy is transferred per second
- Power is measured in **watts (W)**
- Each appliance has its own power rating to tell us how quickly it uses energy
- We can calculate power with the equation:

$$\text{power (W)} = \frac{\text{energy (J)}}{\text{time (s)}}$$

Non-renewable energy

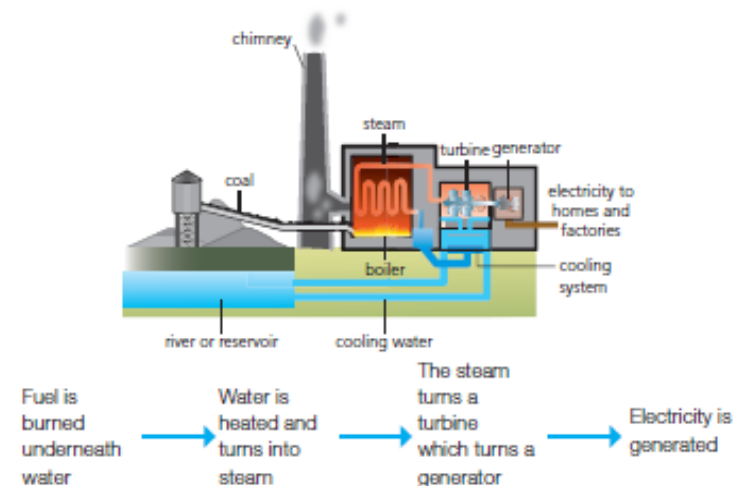
- **Non-renewable** energy cannot be replaced within your lifetime
- Non-renewable **energy resources** include coal, oil, natural gas and nuclear resources
- Coal, oil and natural gas are also known as **fossil fuels**, they release carbon dioxide when burned which contributes to global warming

Renewable energy

- **Renewable** energy can be replaced within your lifetime
- Renewable energy resources include wind, tidal, wave, biomass, solar, hydroelectric and geothermal
- Renewable energy resources do not produce much carbon dioxide, meaning that they have a smaller effect on global warming

Power stations

Thermal power stations burn coal, oil and natural gas, which are all non-renewable energy resources



Dissipation of energy

- We say that energy is **dissipated** when it is transferred to a nonuseful store, it cannot be used for what it was intended for
- Energy can be wasted through friction, heating up components or heating the surroundings
- **Efficiency** is a measure of how much of the energy has been used in a useful way, we can calculate this with the equation:

$$\text{efficiency (\%)} = \frac{\text{useful energy output}}{\text{energy input}} \times 100$$



Key terms

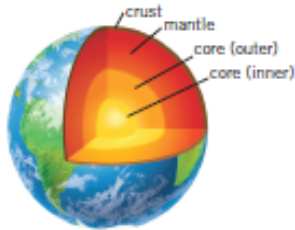
Make sure you can write definitions for these key terms.

chemical dissipated efficiency elastic potential energy energy resources fossil fuels gravitational potential joules kinetic kilojoules
law of conservation of energy non-renewable power renewable thermal watts

Chapter 3: Energy Keywords

	Keyword	Definition
1	Chemical	The energy store referring to food, fuels, and batteries
2	Dissipated	When energy is transferred to a non- useful store
3	Efficiency	The measure of how much energy has been used in a useful way
4	Elastic potential	The energy store referring to objects changing shape, squashing, or stretching
5	Energy	Energy is needed to make things happen
6	Energy resources	A source from which useful energy can be extracted
7	Fossil fuels	Coal, Oil and Natural Gas. They are an example of a chemical energy store
8	Gravitational potential	The energy store referring to an objects position in a gravitational field
9	Joules	The unit of energy. It has the symbol J
10	Kinetic	The energy store referring to moving objects
11	Kilojoules	The unit of energy. There are 1000J in 1kilojoule (kJ)
12	Law of conservation of energy	Energy cannot be created or destroyed only transferred
13	Non-renewable	An energy resource that cannot be replaced in a human lifetime
14	Power	The measure of how much energy is transferred per second
15	Renewable	An energy resource that can be replaced in a human lifetime
16	Thermal	The energy store referring to hot objects
17	Watts	The unit of power. The symbol is W

The Earth

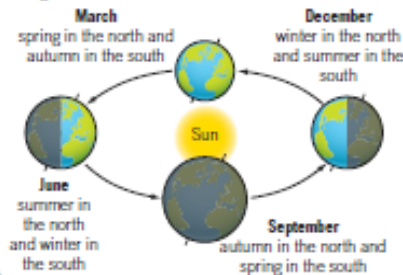


The Earth has three main layers:

- The **crust** is rocky and solid
- The **mantle** is made from mainly solid rock but this can flow
- The **outer core** is liquid metal and the **inner core** is solid

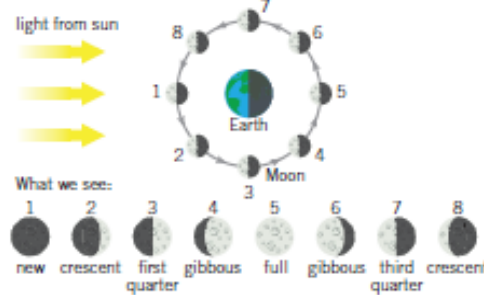
The spinning Earth

- The Earth takes 365 days to **orbit** the Sun, this is one **Earth year**
- The Earth takes 24 hours to spin on its axis, that is why we have day and night
- The Earth's **axis** has a tilt of 23.4° which gives rise to our **seasons**



The Moon

- The Moon is a **natural satellite** which orbits the Earth
- One orbit of the Earth takes 27 days and 7 hours, this causes us to see the **phases of the moon**
- The different phases of the moon are caused by different parts of the Moon being lit by the Sun



The night sky

- A **galaxy** is a collection of **stars**, our galaxy is known as the **Milky Way**
- Stars** produce their own light
- Planets** are large objects which do not produce their own light but orbit stars
- Natural satellites** include moons which can orbit planets
- Artificial satellites**, such as the International Space Station, are man made structures which can orbit planets



Types of rock

Type of rock	How it is formed	Properties	Uses
sedimentary rock	<ul style="list-style-type: none"> sediment piles up in one place and, over many years, sticks together by compaction or cementation compaction: weight of sediments above squeeze them into rocks cementation: another substance sticks the sediments together 	<ul style="list-style-type: none"> porous: made of small grains stuck together so there are holes that water can pass through soft: easy to break apart the sediments 	building materials (e.g. sandstone and limestone)
igneous rock	<ul style="list-style-type: none"> when liquid rock cools it turns into igneous rocks these are made of crystals locked tightly together magma: liquid rock underground-cools slowly and forms large crystal lava: liquid rock above the ground-cools quickly and forms small crystals 	<ul style="list-style-type: none"> durable and hard (difficult to damage): the crystals are locked tightly together not porous: there is no space between crystals 	pavement rail tracks
metamorphic rock	<ul style="list-style-type: none"> other rocks under that Earth are heated and put under pressure over time, these rocks become metamorphic 	<ul style="list-style-type: none"> not porous: there is no space between crystals 	marble used for kitchens slate used for roofing tiles

The Solar system

Our **solar system** consists of eight planets which orbit the Sun, four inner and four outer planets

Inner planets
Small and rocky planets
(**dwarf planets**)

Mercury, Venus, Earth, Mars

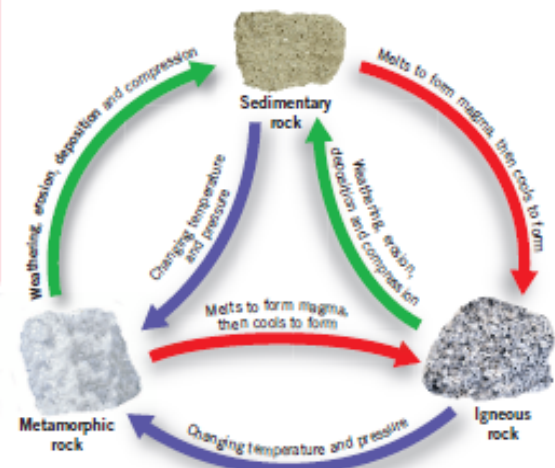
Outer planets
Gas giants

Jupiter, Saturn, Uranus, Neptune

- Between the inner and outer planets, between Mars and Jupiter, there is the **asteroid belt**
- The planets all orbit the Sun, but the path of their orbits are all slightly different, giving them the look of 'wandering' in the sky

The rock cycle

The **rock cycle** shows how rocks change and how their materials are recycled over millions of years



Key terms

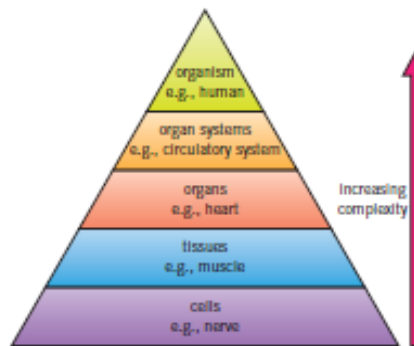
Make sure you can write definitions for these key terms.

asteroid belt artificial satellite axis crust deposition durable dwarf planet galaxy gas giants igneous rock lava inner core
magma mantle metamorphic rock milky way natural satellite outer core orbit phases of the moon planet porous rock cycle season
sediment sedimentary rock solar system star sun universe year

Chapter 7: Earth Keywords

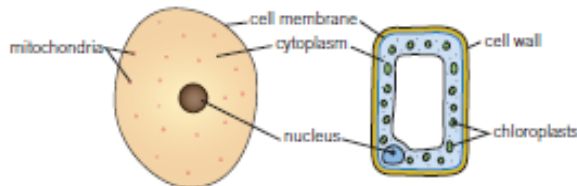
	Key word	Definition
1	Asteroid belt	A region of space between the orbits of Mars and Jupiter where most of the asteroids in our Solar System are found orbiting the Sun
2	Artificial satellite	Manmade structures which can orbit planets
3	Axis	A tilt of the Earth of 23.4° which gives rise to our seasons
4	Crust	The rocky solid outer layer of the Earth
5	Durable	Able to withstand wear, pressure, or damage; hard-wearing
6	Dwarf planet	A small rocky planet which orbits the Sun
7	Galaxy	A collection of stars
8	Gas giants	A large planet consisting of mainly hydrogen and helium
9	Igneous rock	Rock formed when hot, molten rock crystallizes and solidifies
10	Inner core	The innermost centre of the Earth
11	Lava	Hot molten rock erupted from a volcano
12	Magma	Hot fluid within the Earth's crust which lava and other igneous rock is formed when cooled
13	Mantle	The second layer of the Earth beneath the Earth's crust
14	Metamorphic rock	Formed when sedimentary rocks are subjected to high heat and high pressure
15	Milky Way	The name of our galaxy
16	Natural satellite	Natural objects which orbit a planet e.g. moons
17	Outer core	A fluid layer of the Earth composed of mostly iron and nickel
18	Orbit	The curved path of an object around the Sun
19	Planet	A celestial body moving in an orbit around a star
20	Rock cycle	The continually changing processes in rocks such as weathering, erosion, and large earth movements.
21	Sediment	Solid material that is moved and deposited in a new location
22	Sedimentary rock	Types of rock that are formed by the accumulation or deposition of small particles
23	Solar system	Our star, the Sun, and everything bound to it by gravity
24	Star	A luminous ball of gas, mostly hydrogen and helium, held together by its own gravity.
25	Sun	The Earth's star
26	Universe	All of space and time and their contents, including planets, stars, galaxies,
27	Year	The orbital period of a planetary body

Levels of organisation



Plant and animal cells

- To be able to **observe** a **cell** we need to use a **microscope**, this magnifies the cell to a point to which we can see it
- Plant and animal cells have small structures inside known as **organelles**, each of these performs a certain role which allows the cell to survive

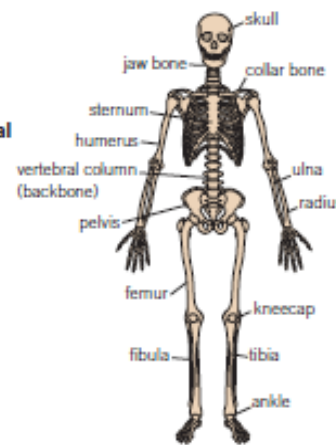


Specialised cells

- Specialised cells** are designed to carry out a particular function, because of this they have specific features and adaptations to allow them to carry this out
- Both plant and animal cells can be specialised, with these specialised cells working together to help the organism to survive

The skeleton

- The **skeleton** is made up of 206 **bones** which are a type of **tissue**
- Bones have a blood supply and are a living tissue
- The skeleton is part of the **muscular-skeletal system**
- The four main functions of the skeleton are:
 - To support the body – to keep you upright and hold **organs** in place
 - Protect organs – such as the skull protecting the brain
 - Movement – by working with muscles to allow you to move
 - Making blood cells – the **bone marrow** produces red and white blood cells



Muscles

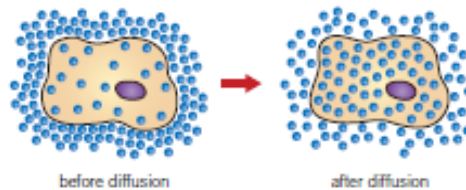
- Muscles** are a type of tissue which allows movement
- They pull on tendons which in turn pull on bones to allow movement
- Muscles like the triceps and biceps are known as **antagonistic muscle pairs**, they work together – as one contracts, the other will relax

Organs

- An organ is a group of tissues that have the same function
- They can work with other organs in an **organ system**, such as the respiratory system which uses organs like the heart and lungs to transfer oxygen around the body
- Vital organs are the organs that need to keep functioning for an **organism** to stay alive, e.g. the heart

Movement into and out of cells

- The process in which substances move into and out of cells is known as **diffusion**
- This occurs across the **cell membrane**
- During diffusion particles move from an area of high **concentration**, to an area of low concentration



- Oxygen and nutrients enter the cell by diffusion, carbon dioxide and waste products leave

Movement

Joints occur between bones and allow movement, there are three main types of joints

Hinge

For back and forward movement, e.g. knees

Ball and socket

For movement in all directions, e.g. hips

Fixed

Do not allow movement, e.g. skull

Joints have three main types of tissue:

Ligaments

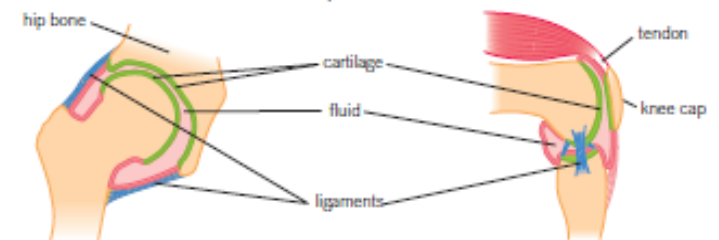
Connect bone to bone

Cartilage

Coats the end of bones as a protection

Tendons

Connects bone to muscle



Key terms

Make sure you can write definitions for these key terms.

antagonistic muscle pair bone bone marrow cartilage cell concentration diffusion joints ligaments microscope muscular skeletal system
nucleus organ organism organ system skeleton specialised cells tendons tissue

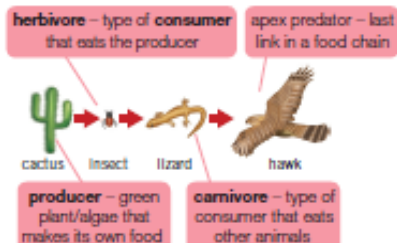
Chapter 8: Organisms Keywords

	Keyword	Definition
1	Antagonistic muscle pair	Muscles that work together, but in opposition to one another
2	Bone	An organ that forms the skeleton of vertebrates
3	Bone marrow	The soft blood-forming tissue that fills the cavity of bones
4	Cartilage	Coats the end of bones as protection
5	Cell	The building blocks of all living things
6	Concentration	The density of particles in a stated volume
7	Diffusion	The process where substances move into and out of cells
8	Joints	Allow the movement between bones
9	Ligaments	Tissue that connects bone to bone
10	Microscope	Scientific apparatus used to observe objects too small for the naked eye
11	Muscular skeletal system	The organ system of muscles and bones that provide movement to an organism
12	Nucleus	Hold s the genetic information of the cell
13	Organ	A group of tissues that work together to perform a function
14	Organism	A living thing that has an organised structure of cells, tissues, and organs
15	Organ system	A group of organs that work together to perform a certain function in an organism
16	Skeleton	The supporting framework of an organism
17	Specialised cells	Cells adapted to carry out a function
18	Tendons	Tissue that connects muscles to bones
19	Tissue	A group of the same cells carrying out a function

Food chains and webs

- Food chains** show the direction in which energy flows when one organism eats another
- The direction of the arrows represent the direction in which the energy flows
- Food webs** show how a number of different food chains are connected

Food chain



Food web



- Producers** are the organisms which start the food chain, they convert energy from the Sun, making their own food, these are often plants
- Prey** are organisms which are eaten by other organisms
- Predators** are the organisms which eat the prey

Disruption to food chains

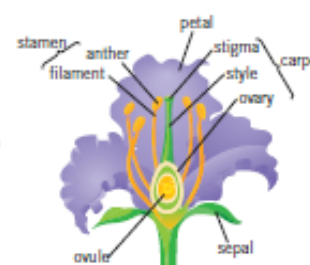
- Interdependence** is the way in which living organisms rely on each other to survive
- A food chain will be disrupted if one of the organisms die out
- If the producer dies out the rest of the food chain will also die out unless they have a different food source
- If the **consumer** population die out the number of organisms which they eat will increase unless they are eaten by another organism
- Bioaccumulation** is the process by which chemicals such as pesticides and insecticides build up along a food chain

Parts of a flower

Stamen

Male part of the flower

- The **anther** produces **pollen**
- The **filament** holds up the anther



Carpel

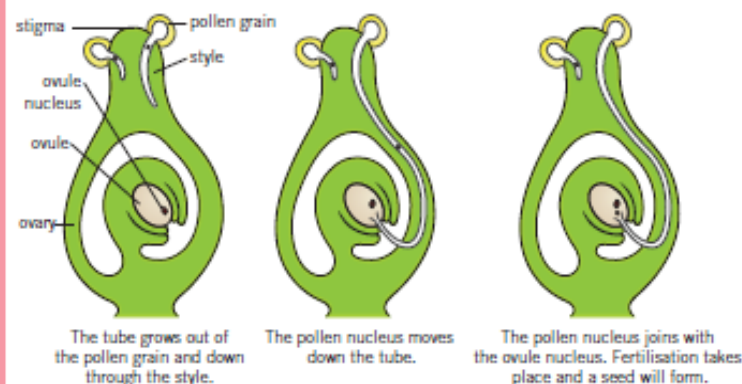
Female part of the flower

- The **stigma** is sticky to catch grains of pollen
- The **style** holds up the stigma
- The **ovary** contains **ovules**

Pollination and fertilisation

Pollination is the **fertilisation** of the ovule, the point at which the pollen is transferred to the ovule from the anther to the stigma, there are two types of pollination

- Cross pollination is between two different types of plant
- Self pollination happens within the same plant



Germination is the process in which the **seed** begins to grow, for this to occur the seed needs:

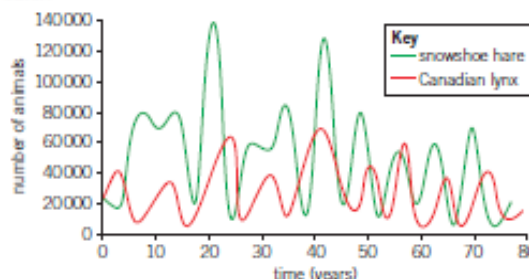
- Water to allow the seed to swell and grow and for the embryo to start growing
- Oxygen for that the cell can start respiring to release energy for germination
- Warmth to allow the chemical reactions to start to occur within the seed

Ecosystems

- All of the organisms which live in one area are known as a **population**
- An **ecosystem** is all of the organisms which are found in a particular location and the area in which they live in, both the living and non-living features
- A **community** are all of the areas in an ecosystem, the area in which the organisms live in is known as the **habitat**
- A **niche** is the specific role in which an organism has within an ecosystem, for example a panda's diet consists of 99% bamboo

Competition

- Competition** is the process in which organisms compete with one another for resources
- Animals compete for food, water, space and mates
- Plants compete for light, water, space and minerals
- The best competitors are those who have adapted in order to best gain these resources
- As the number of a predator in a population increases the number of the prey will decrease as more are being eaten
- As the number of the predator decreases the number of the prey will increase as less are being eaten
- The relationship between the predator and the prey is known as a **predator-prey relationship**



Key terms

Make sure you can write definitions for these key terms.

anther bioaccumulation carpel community competition consumer ecosystem fertilisation food chain food web germination habitat interdependence
niche ovary ovule petal predator prey producer pollen pollination population seed sepal stamen stigma style

Chapter 9: Ecosystems

	Keyword	Definition
1	Anther	The part of a plant that produces pollen
2	Bioaccumulation	The process by which chemicals build up in a food chain
3	Carpel	The female reproductive parts of a plant
4	Community	All the areas of an ecosystem
5	Competition	Where resources are limited, and one species has more of that resource than another
6	Ecosystem	All the organisms which are found in a location and the area in which they live
7	Fertilisation	When a female sex cell joins with a male sex cell
8	Food chain	The direction in which energy flows as one organism eats another
9	Food web	A diagram showing how different food chains are connected
10	Germination	The process in which the seed begins to grow
11	Interdependence	The way living organisms rely on each other to survive
12	Niche	The specific role an organism has in an ecosystem
13	Ovary	Contains the ovule
14	Ovule	The part of plant containing the ovum or egg cells
15	Petal	The brightly coloured part of a flower
16	Predator	An animal that eats another animal
17	Prey	The animal eaten by the predator
18	Producer	Organisms at the start of a food chain, they convert energy from the Sun
19	Pollen	The male sex cell of a plant
20	Pollination	The fertilisation of the ovule
21	Population	All the organisms that live in one area
22	Seed	An embryonic plant in a protective outer covering
23	Sepal	The outer casing of a flower
24	Stamen	The male reproductive part of a plant
25	Stigma	The part of a plant that catches the pollen
26	Style	The part of the plant that holds up the stigma

Changes of state

changes of state

state of matter

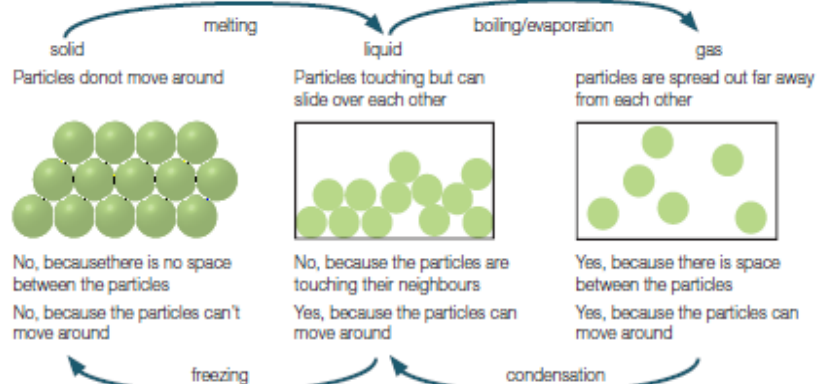
how do the particles move?

arrangement of particles

can it be compressed?

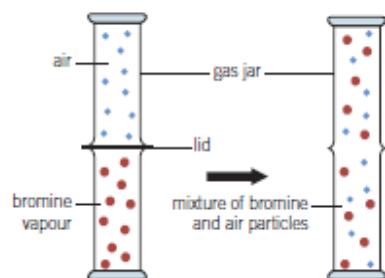
can it flow?

changes of state



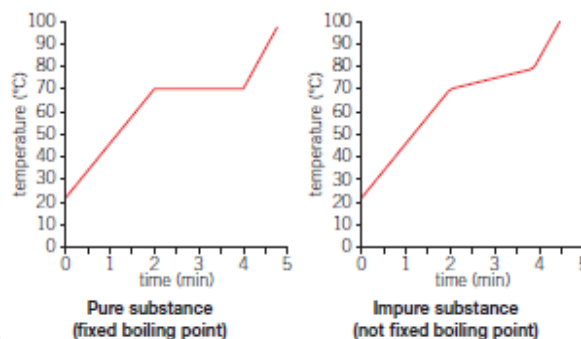
Diffusion

- Diffusion** is the movement of particles from an area of high concentration (lots of the same particle) to an area of low concentration (not a lot of the same particle)
- It is a random process which does not need energy
- The speed of diffusion can be increased by:
 - A higher temperature
 - Smaller particles diffusing
 - A gas rather than a liquid
- Diffusion does not happen in a solid as the particles can't flow



Melting and boiling points

- The **melting point** of a substance is the temperature at which it turns from a solid to a liquid, or a liquid to a solid
- The **boiling point** of a substance is the temperature at which it turns from a liquid to a gas or a gas to a liquid
- Pure substances** have a fixed (sharp) boiling or melting point, whereas **impure substances** have a range which appears as a diagonal line on a graph

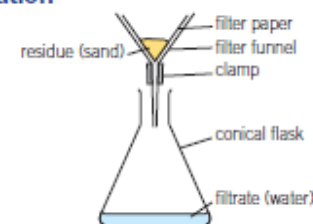


Mixtures

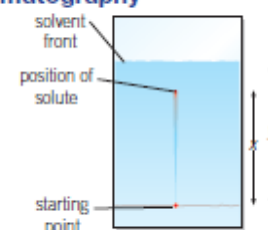
- Mixtures** are different **substances** which are together, they are not chemically bonded and so are easy to separate
- The substances which make up a mixture keep their own **properties** unlike those in a compound
- A mixture is an **impure** substance as it does not have a fixed melting point, instead it has a range
- A **solution** is a type of mixture which is made up of two parts
- A **solute** is the part which has dissolved in the solution
- A **solvent** is the liquid part which the solute has dissolved into
- The **solubility** of a substance is a measure of how much of it will **dissolve**
- Not all solutes will dissolve in all solvents
- Solutes which do not dissolve are known as **insoluble**
- Substances which do dissolve are known as **soluble**
- The **solubility** of a substance can be increased by increasing the temperature of the solution or by stirring the solution
- A **saturated solution** is one where the maximum amount of solute has dissolved in it, no more solute will be able to dissolve

Separating Mixtures

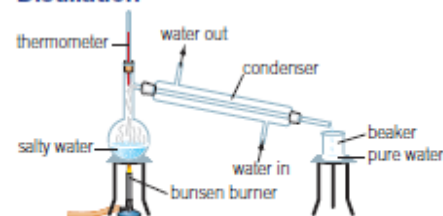
Filtration



Chromatography



Distillation



Evaporation



Key terms

Make sure you can write definitions for these key terms.

boiling point chromatography condensation diffusion dissolve distillation evaporation filtration freezing Impure substance melting point mixture
property properties pure substance saturated solution substance soluble solubility solute solution solvent

Keyword	Definition	Retrieval Question	Retrieval Answer
Boiling point	The temperature a liquid turns into a gas	State what is meant by a pure substance	Contains one substance only/not mixed with anything else/particles are all the same
Chromatography	The technique for the separation of mixed substances in a solution	State what is meant by a mixture	Contains two or more substances, which could be elements or compounds
Condensation	When a gas cools and forms a liquid	Name four common examples of mixtures	Air, seawater, rocks, foods (any sensible answers)
Diffusion	The movement of particles from an area of high concentration to an area of low concentration	What is the melting point like for a pure substance?	A pure substance has a fixed melting point
Dissolve	When a solid disappears into a liquid	What is the melting point like for an impure substance?	An impure substance melts across a range of temperatures
Distillation	The technique of separation of a mixture of liquids	State what a solution is	A mixture of a liquid with a solid or gas in it
Evaporation	When a liquid is heated and forms a gas	State what a solute is. Give an example	The solid dissolved in liquid, e.g. Salt, sugar (any sensible answers)
Filtration	The technique of separating a solid and a liquid	State what a solvent is. Give an example	The liquid that dissolves the solid, e.g. Water, alcohol (any sensible answers)
Freezing	When a liquid cools and forms a solid	Describe what happens to particles when they dissolve	Water particles surround each solid particle
Impure substance	2 or more elements or compounds not chemically joined	Can gases dissolve?	Yes (most)
Melting point	The temperature a solid turns into a liquid	State the meaning of the term saturated solution	A solution that cannot dissolve any more solid/solute
Mixture	Different elements or compounds that are not chemically joined	State what is meant by solubility?	The maximum mass of solute that dissolves in 100g of water
Property	A characteristic or behaviour of a substance	How does temperature affect solubility?	The higher the temperature, the greater the mass of solute that will dissolve
Properties	A group of characteristics or behaviours of a substance	What does a solubility curve show?	How much solid can dissolve in a solvent across a range of temperatures
Pure substances	A substance made up of just 1 chemical element or compound	What type of mixture is filtration used for?	An insoluble solid from a liquid
Saturated solution	A solution that cannot dissolve any more solute (solid)	What is a filtrate?	The solution that passes through filter paper
Substance	Any element, compound or mixture	What is a residue?	The solid that remains in the filter paper
Soluble	The property of dissolving	State 2 uses of filtration	Making coffee, river water (any sensible answers)

Keyword	Definition	Retrieval Question	Retrieval Answer
Solubility	The measurement of how much substance will dissolve in a given volume of liquid	Describe how filtration can be used to separate sand from salt water	Add water to the mixture, stir to dissolve the salt, pour into a filter paper funnel, salt solution passes through, the residue is sand
Solute	The solid that is dissolved into a solution	Describe how evaporation can be used to separate salt from sea water	Heat the solution, water evaporates, the salt remains
Solution	The solid and liquid mixture. It consists of the solute and the solvent	State 2 uses of evaporation	Glue drying, making crystals (any sensible answers)
Solvent	The liquid part of a solution	Describe how distillation uses boiling and condensing to separate water from salt water	Heat the solution, water boils leaving the solution as steam, steam travels down a condenser and cools down, steam condenses to form liquid water Salt has a higher boiling point than water
		State the difference in properties that allows you to separate water and salt using distillation	
		What is chromatography used for?	Separate a mixture of dyes
		Describe how chromatography can be used to separate a mixture of substances	Place the substance on chromatography paper, lower into a beaker containing a solvent, allow the solvent to travel up the paper, dry the chromatogram
		Why do some substances travel further up the paper than others?	Some substances mix better with water/some substances are more strongly attracted to the paper
		State what a chromatogram is	The mixture separated on the paper
		State 2 uses of chromatography	Separate colours in a dye, identify nutrients in food (any sensible answers)

Research

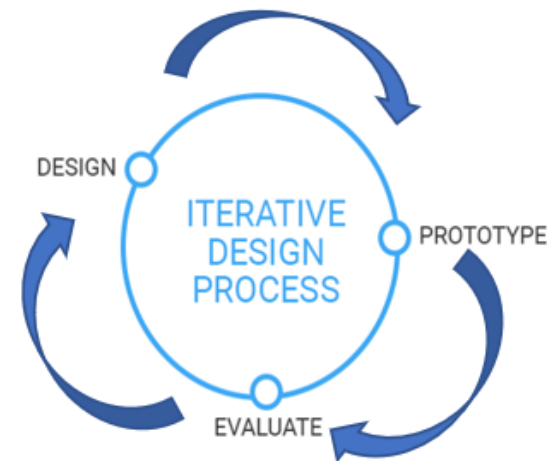
It helps designers to gain a better understanding of the problem that needs solving and equips us with the knowledge to be more successful when we start to design

Primary research	Collecting information/ data directly from people, first hand. Examples include interviews and observations, product analysis
Secondary research	Gaining information/ data from existing sources or published information. Examples include books and the internet
Product analysis	Examining an existing product to find out information about it. When analysing a product you may consider; how its made, what its made from, what its function is, strengths and weaknesses, cost to make, components used in manufacture, shape, colour, size
Target market	The person/ group of people you are designing your product for
Needs and wants	<p>Needs – what the target market needs a product to do in order for it to work</p> <p>Wants – desirable qualities that a target user would <i>like</i> a product to have</p> <p>For example: A target user needs a travel cup that will contain a liquid without it spilling but they may want it to have an adjustable handle to make it easier to carry</p>
Material investigation	Experimenting with materials to find out their working properties

Models and Prototypes

Designers make models and prototypes before deciding on a final design. Faults and improvements can be identified and corrected, before they manufacture a final product. Target user feedback can be gained along the way

Models	Models can be made whilst designing. They can be models of individual parts or the whole product. It helps designers see how parts/ a product will look and work
Prototype	A prototype attempts to simulate the final design, aesthetics, materials and functionality of the intended design. It is the final step before a product is manufactured. A prototype is made after lots of modelling has taken place



Iterative design:

A design process that works on a continuous cycle until a solution is found. A designer will produce designs, model the design, evaluate the success of the design. The process starts again with the designer making alterations until a suitable solution is found

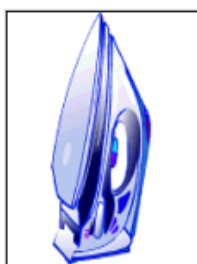
- S** **SUBSTITUTE:**
Replace a thing, or concept with something else.
- C** **COMBINE:**
Unite! What? Who? Ideas? Materials?
- A** **ADAPT:**
Adjust to a new purpose. Re-shape? Tune-up?
- M** **MODIFY, MAGNIFY, MINIFY**
Change the colour, sound, motion form, size.
Make it larger, stronger, thicker, 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...

SCAMPER:

When designing you can use different aspects of SCAMPER to improve/ alter your design. For example if your design is too complex, you may choose to eliminate parts of it to simplify the design

Key word	Definition
Fibre	A fibre is the smallest element of a fabric; it looks like a human hair.
Fabric	Textile fabrics are woven or knitted from yarn , which is made from fibres :
Woven	Fabric which constructed by interlacing two yarns at right angles to each other
Natural Fibre	Natural fibres are from plants and animals
Synthetic Fibre	Man-made fibres, such as those made from oil
Knitted	Fabric which is constructed using interlocking loops
Printing Technique	Fabric printing is a fun way to add colour and pattern to the surface of textiles
Renewable	They are replaced by new growth
Sustainable	They are replaced at a rate equal to or greater than the rate at which they are used)
Biodegradable	They decompose/rot
Dyeing	changing a textile's colour by soaking it in a dye bath

Embroidery Scissors



Iron

Fabric Shears



Needle

Fibres		
Fibres come from several sources and can be either:		
Natural	From plants or animals. Plants – Cotton and Linen Animals - Silk and Wool	They are renewable, sustainable and biodegradable
Synthetic	Manmade/ manufactured) From fossil fuels (coal, oil and gas). Nylon, Polyester, acrylic	Cannot be replaced, do not decompose and contribute to environmental problems if they end up in landfill.

Construction	Properties	Details	Example
Weaving	Weaving is a method of making fabric on a piece of equipment called a weaving loom. Woven Fabrics are strong and stable.	The yarns that go horizontally in direction across the loom are called weft yarns The threads that lie in a vertical direction in the loom are called warp yarns	
Knitting	Knitted fabrics are stretchy , comfortable and warm to wear . Weft knit: the rows of knitting in weft knitted fabric interlock with each other during the knitting process.	In weft knitting, the loops that run horizontally are called courses , and the threads that run vertically down the knitted fabrics are called wales . Weft knitted fabrics can be created on flat bed machines or circular knitting machines.	

Adding Colour to Fabric

Most fabrics start out as beige or white (loomstate).

There are 2 main ways to add colour to textiles – **Dyeing and Printing.**

Printing	Fabric printing is a fun way to add colour and pattern to textiles and can be done using various methods.	There are many ways to do this both by hand and by machine. <ul style="list-style-type: none"> • Block Printing • Screen Printing • Roller Printing • Transfer Printing
Dyeing	Fabric dyeing involves soaking fabric in a dye bath so that it absorbs the colour into the fibre	There are many ways to do this: Tie dye Batik Space dye Dip Dye

Applique


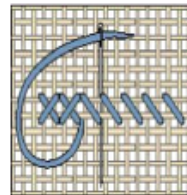

Applique is where fabric is sewn on to another piece of fabric using hand or machine stitches. It is mainly used to add decoration and colour, but can also have a function, for example, to strengthen or repair the knee area on children's trousers.

Hand Applique

Sewing applique by hand is time consuming, and stitching must be neat. Stitches are used that will seal the edges and stop them from fraying, for example, blanket stitch or satin stitch.

Machine Applique

Machine applique is the most common type, as it is quick and easy to do. A close zigzag stitch is often used to do this type of applique

Embroidery	Use	Process	Image
Running Stitch	This is used to hold fabric in position while it is being permanently stitched. Or create a dashed line.	To make a running stitch, bring the needle and thread up through the first hole then down through the next.	
Back Stitch	Used to create a solid line and join fabric together securely.	Bring the thread through on the stitch line and then take a small backward stitch through the fabric.	
Cross Stitch	Used to create decorative pictures	Bring the needle through on the lower right and take it through to the back one block up and one block to the left, bringing it through to the front again one block down to form a half cross. Continue in this way to the end of the row, and then complete the upper section of the cross.	
Blanket Stitch	Used on the edges of material for decoration or for fabric that is too thick to be hemmed	Secure the thread and bring the needle through both layers of the fabric. Pull the thread through gently but stop to leave a loose loop. Bring the needle and thread through the loop and pull tightly. From underneath the fabric bring the needle through wrap the loose thread under the needle and pull it tightly. Repeat this process along the edge of the fabric	

Year 7 – Design Technology: - Resistant Materials

Key topics: Health and Safety, Safety Signs, Plastics, Tools and Materials, Woods, Metals, Processes, Marking out, measurement, Cutting out, Shaping, Wasting And Finishing

1. Key Vocabulary & Definition

Health & Safety	Keeping yourself and others safe when using tools and equipment
Mandatory Signs	This means you must do therefore it is compulsory e.g. wear goggles
Prohibition signs	This means do not do e.g. do not run
Warning Signs	This refers to danger e.g. high voltage
Safe Condition	The safe way e.g. First Aid
Thermoplastic	A polymer that has a memory and can be reshaped when heated
Thermosetting plastic	A polymer that is heat resistant, once shaped it cannot be reformed
Hardwood	From deciduous tree. They are slow growing and more expensive
Softwood	From coniferous trees or evergreen trees that is fast growing. They have pines and cones.
Manufactured board	Sheet materials manufactured from layers or particles of wood – MDF, Plywood and chipboard
Ferrous	Metals that contain alloys
Non ferrous	Metals that do not contain iron e.g. aluminium
Alloys	Metals that are mixed with one or more element such as copper
Millimetres	

Processes

Wasting	Method used to remove and shape material through sawing, drilling, filing, laser cutting etc
Draw Filing	Method used to remove scratches from the acrylic
Cross Filing	Method used to smooth the edges of the acrylic
Wet and Dry	An abrasive paper used with water to shape and finish the edge of the acrylic
Finishing	Adding polish or finish to material to enhance, protect or preserve materials.

2. Health and safety



Example of rules in the workshop

1. Always listen carefully to the teacher and follow instructions.
2. Know where the emergency stop buttons are positioned.
3. Always wear an apron.
4. When attempting practical work all stools should be put away.
5. Report any damage to equipment as this could cause an accident.
6. Ask questions, especially if you do not fully understand.
7. Do not use a machine if you have not been shown how to operate it safely by the teacher.
8. Always be patient, never rush in the workshop.
9. Always use a guard when working on a machine.
10. Use tools carefully. Keep hands away from moving / rotating machinery.
11. keeping both hands behind the cutting edge.

3. Plastics

Most plastics are made of **fossil fuels**. Crude oil and natural gas go to refinement to be turned into multiple different products. Including ethane from crude oil and propane from natural gas.



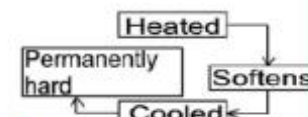
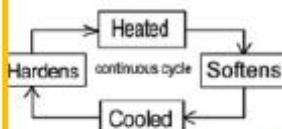
Plastics

Most Plastics are made from **Oil**

They come **self finished**

<https://www.youtube.com/watch?v=lwdUwffccM>

There are 2 main categories



Thermoplastics

Can be re-cycled

Have plastic memory

Can be re-shaped with heat

Acrylic

High Impact Polystyrene (HIPS)

Thermosetting Plastics

Can not be re-cycled

Heat resistant

No plastic memory

Epoxy Resin Glue

Phenol-formaldehyde

Workshop tools



A Coping Saw
A saw with a bow shaped handle. Used to cut out more detailed shapes in wood. The coping saw has a thin blade and can be used to cut around bends and curved edges such as circles.



A Junior Hacksaw
A fine-toothed saw used to cut metal and plastic. It is a smaller version of the regular hacksaw. A junior hacksaw cuts on the push stroke, which means the blade should always be placed in the frame with the teeth pointing away from the handle.



A Tenon Saw
A tenon saw is a straight back saw, which keeps the saw rigid. It is used for cutting straight lines in timber known as tenons. The tenon saw has crosscut teeth which allows it to cut across the grain of wood.



A File
A hand tool made of a case-hardened steel bar. It can be flat, rectangular, square, triangular, round or half rounded in shape. A file is used to remove material from a piece of wood, plastic or metal. The surface of the file has fine diamond grain which cut into the material.



A Bench Hook
A bench hook is a piece of equipment that is hooked over the edge of a workbench or secured in a workbench vice. It allows you hold your work in place while cutting, preventing your work from slipping.



A Try Square
A try square is a woodworking tool used for marking and checking 90° angles on pieces of wood.



A Bench Vice
It is attached to a workbench to hold your work securely in place while sawing, filing, drilling etc.



A G Clamp
G Clamps are used in the workshop, and they come in a range of sizes. They are used to clamp work securely to surfaces especially when drilling materials.



A Forster Bit
A drill bit that forms a flat-bottomed hole in material. It can drill whether the centre spur is engaging the workpiece.



A Pillar Drill
A free-standing machine used to drill holes of different sizes in various materials such as wood, plastics and metal.



A Former
A mould used to shape materials – plastics when heated and made pliable.



A Belt Sander
A vertical sander used to shape and finish material.



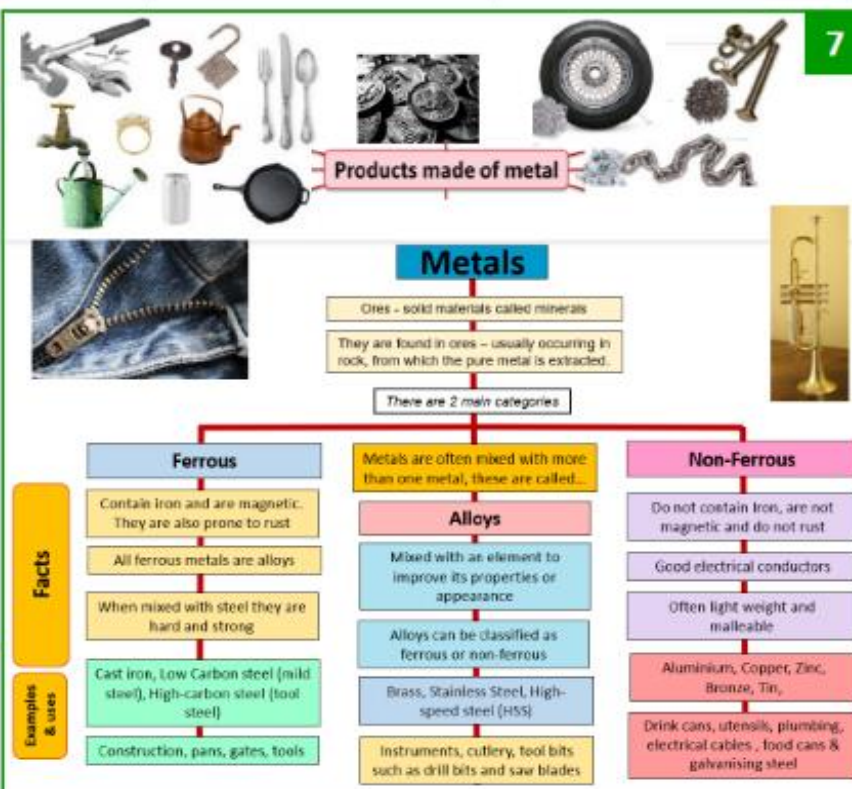
A Line bender
A line bender is used to heat polymers along a line so that they can be bent. Once the polymers soften, it will bend easily into shape around a former before being left to cool.

4



You will use these materials in your projects as you complete your practical work. Learn their properties and characteristics

MATERIALS			
WOOD	TYPE	CHARACTERISTICS	TOOLS
Pine	SOFTWOOD	Easy to work with, reasonably strong and light weight. Straight grain with lots of knots.	
Plywood	MANUFACTURED BOARD	Alternate layers of wood are glued together at 90 degrees to each other. Very strong, outside finished with a high quality veneer.	Tenon saw Coping saw Glass paper
Medium Density Fiberboard	MANUFACTURED BOARD	Woodchips are broken down into a pulp, mixed with glue and compressed. It has a smooth surface, which makes it easy to paint and finish.	
PLASTIC	TYPE	CHARACTERISTICS	
Acrylic	THERMOPLASTIC SHEET	Hard, shiny and resistant to weathering but scratches easily.	Coping saw Wet & dry
METAL	TYPE	CHARACTERISTICS	
Aluminum	NON-FERROUS SHEET	Durable, lightweight and resistant to corrosion. A good conductor of heat and electricity.	Jr. hack saw Emery cloth



A healthy balanced diet

Key topics: The Eatwell guide, the 4 C's, nutrients, knife skills, using the oven and hob, combining ingredients, shaping, forming, testing for readiness, weighing and measuring, washing up and clearing away.

1 The 4 C's



Cooking	Cleaning	Chilling	Cross Contamination
<p>Cooking kills bacteria.</p> <p>Food needs to be heated till steaming hot with the core temperature reaching 75°C for 30 seconds.</p>	<p>Cleaning kills bacteria.</p> <p>Wash hands before, during and after food preparation.</p> <p>Wash all work tops, utensils, chopping boards and equipment.</p> <p>Rinse fruit, salad and vegetables.</p>	<p>Chilling prevents microbial growth.</p> <p>Cool food to below 5°C as quickly as possible.</p> <p>Defrost food in the fridge.</p>	<p>Bacteria is transferred from one object to another.</p> <p>Keep raw and cooked food separate.</p> <p>Never wash raw meat.</p> <p>Keep raw meat and shellfish on the bottom shelf of the fridge.</p>

3 Basic knife skills



- Ensure you don't hurt yourself or others.
- Use a firm grip and even pressure.
- Always cut down towards the chopping board, never cut towards yourself.
- Carry a knife with the point facing downwards.
- Don't touch the knife blade.
- Always put a knife down, don't hand it to someone else.
- Never leave your knife soaking in the washing up bowl.
- Never catch a falling knife.
- Always hand your knife back in at the end of the lesson.

2 Preparing for a practical



4

Eatwell Guide

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.



8 tips for a healthy lifestyle. 5

- Base your meals on starchy foods.
- Eat lots of fruit and vegetables.
- Eat more fish.
- Cut down on saturated fat and sugar.
- Try to eat less salt- no more than 6g a day.
- Get active and try to be a healthy weight.
- Drink plenty of water.
- Don't skip breakfast.



6 Key Terms

Keywords	Definition
Cross contamination	When bacteria is transferred from one object to another.
Diet	The type of foods that a person eats. Some people have special diets depending on their age or needs.
Nutrients	Nutrients are chemical compounds in food that are essential for the body to function properly and maintain health.
Macro nutrients	These are nutrients that are needed by the body in large quantities; they are Carbohydrates, Proteins and Fats.
Micro Nutrients	These are nutrients that are needed by the body in small amounts; they are vitamins and minerals.
Health	This defines your physical wellbeing. Good health indicates that you are free from illness.
Enzymic browning	an oxidation reaction that takes place in some foods, mostly fruit and vegetables, causing the food to turn brown.

7 Nutrients

Nutrient	Function	Food sources
Carbohydrate	This is the primary source of energy .	Bread, pasta, rice and potatoes.
Fat	This is used as a secondary source of energy . It helps to insulate the body and maintains brain function .	Meats, cheese, butter, oils, nuts and seeds.
Protein	The bodies building block. Helps the body to grow and repair itself.	Nuts, eggs, fish, meat, beans and pulses.
Vitamins	There are many different vitamins and they play a vital role in keeping skin, eyes, hair and blood healthy .	Fruits and vegetables, meats, dairy, eggs, cereals, sunlight etc.
Minerals	Minerals help your body grow, develop and stay healthy. They help build strong bones, teeth, blood and nervous systems .	Dairy, vegetables, fish, meat, cereals etc.
Fibre	Prevent constipation , Increase the feeling of fullness , reduce the risk of heart disease, diabetes and some cancers	Wholegrain cereals, fruits and vegetables.
Water	it is a lubricant for joints and eyes; it is the main component of saliva ; it helps get rid of waste ; it helps regulate body temperature .	Juice, fruit, vegetables, soup, smoothies.



Chopping board



Weighing scales



Saucepan



Measuring spoons



Measuring jug



Grater



Colander



Sieve



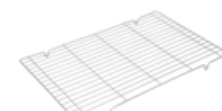
Peeler



Frying Pan



Rolling pin



Cooling rack



Vegetable knife