CHRIST THE KING

KNOWLEDGE ORGANISERS

#CtKCares

Year 7
Lent Term 1

SELF-QUIZZING

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 very easily become overwhelmed. Your long-term memory, on the other hand, is effectively limitless.

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

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

QUICK FACT

Did you know

Research shows students remember 50% more when they test themselves after learning something

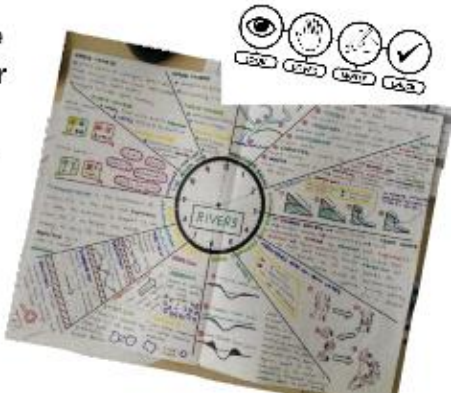
50%

How often should I self-quiz?

Research shows that regular 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 different ways to learn the material in your knowledge organiser.

How to use my Knowledge Organiser

1. 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 your green 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 you struggled with.
2. Draw a mind map, jotting down everything that you can remember from the knowledge organiser. Check accuracy, correct in green pen and then repeat.
3. 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.
4. Use your knowledge organisers to create flashcards. These could be double sided with a question on one side and the answer on the other. Alternatively, a keyword on one side and a definition o



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 minutes 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	Music	RE	Science	Geography
Subject 3	PE	History	Technology	MFL	Art

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

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.

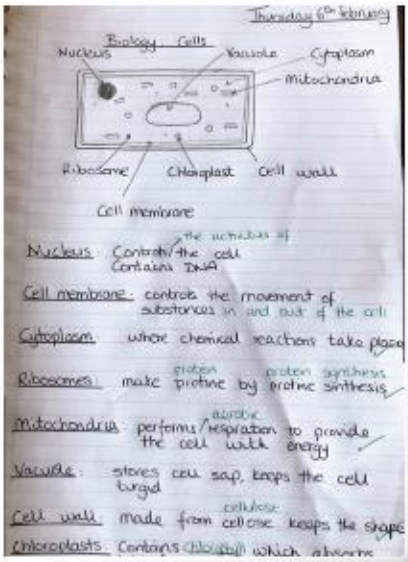
WHAT ARE THE HOMEWORK EXPECTATIONS?

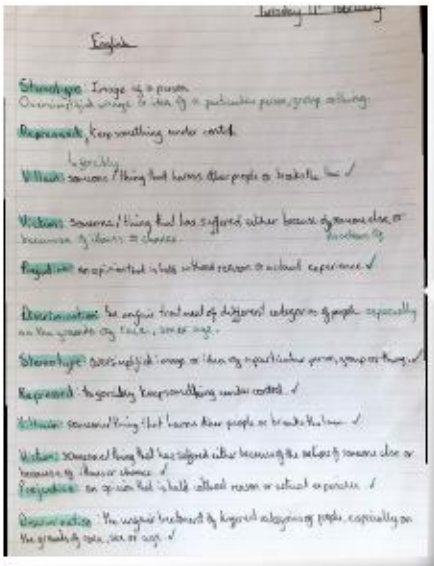
Each homework must meet the following 5 requirements:

1. Write the complete **title and date in full** eg. *Tuesday 9th September 2017* on each page, **underlined**
2. You should include a **minimum of words** to summarise the topic. Do not copy the words from the text.
3. Make **full use of the page** for each topic by scaling your notes & images appropriately to use of all the space.
4. You must include **diagrams, sketches** or **cartoon doodles** to visually represent the topic, try to use humour.
5. **Highlight key words** and phrases, using underline, highlighter pens. Explain technical terms

HOW SHOULD I PRESENT MY WORK?

Please remember that the same rules apply to the presentation of your homework as apply 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:





QUICK TIP

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

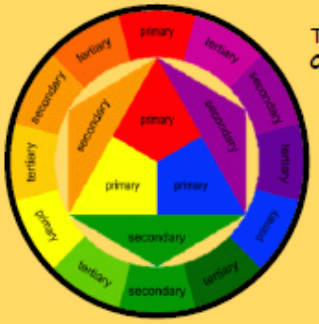
Youtube - How to Shade Basic Forms

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

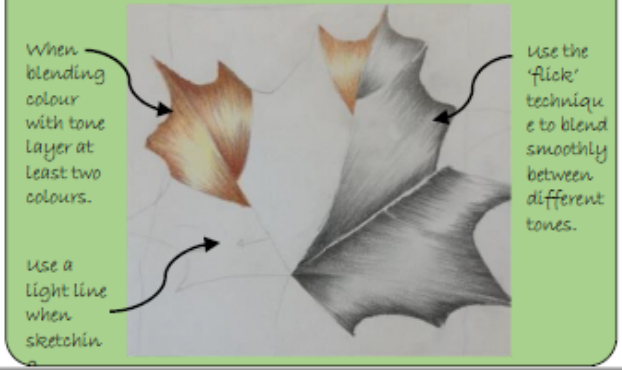


This is called a **Colour Wheel**.

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?

DRAMA KEYWORDS

RESPECT

Paying attention to and being positive about other people's contributions. No one is more or less important than anyone else.

ACTING

Using physical and vocal skills to show someone other than yourself.

EFFORT

How hard you work to give everything your best shot. You don't have to get everything right but you do need to try your best.

STAYING IN ROLE

Staying focused on the part that you play the whole way through a performance.

FOCUS

Your ability to concentrate and not be distracted (especially important during a game, rehearsal or performance).

TEAMWORK

Working with a group of people to achieve a goal.

Studio skills: Drama Expectations

Drama Technique
CHARACTERISATION
Using vocal and physical skills to show character

Drama Technique
FREEZE FRAME
A character tells the audience what the character is thinking

Drama Technique
THOUGHT TRACKING
A character tells the audience what the character is thinking

Y7 Drama — Baseline Autumn 1

THEATRE KEYWORDS

- ❑ Theatre Maker
- ❑ Actor
- ❑ Stage Positions
- ❑ Proscenium Arch
- ❑ In The Round
- ❑ Thrust
- ❑ Set
- ❑ Naturalism

Self-Reflection

What did I do well today?

What do I need to improve?

Who am I?

Do I participate?

Do I listen?

Can I stay focussed on the task?

Can I cooperate in the studio?

In the first term of Drama, your teacher will be looking for...

- Cooperation
- Concentration
- Control
- Communication
- Confidence
- Focus on task
- Teamwork/Group skills
- Listening

Y7 Drama Cowboys Autumn

Vocal Keywords

Accent to show an audience where a character is from; can also show emphasis in a word

Clarity you apply a clear speaking voice so the audience can hear you

Projection the strength of speaking whereby the voice is used loudly and clearly so an audience can hear you.

Physical Keywords

Movement how we change our bodies to walk in character. Movement is important to show we are **actors** (not just reading a script)

Body language changing your body to show character

Posture the way a character stands and holds their body

Expression facial expression to show a character's true feelings; vocal expression to ensure voice has feeling

Performance Keywords

Audience Awareness No backs to audience

Projection Use a loud and clear voice so you can be heard

Movement Add movement including gesture and facial expression

Space Use all your space to make sure you tell the story

CHALLENGE
To learn all your lines and be 'off script' when performing

Body language is...

I used movement when...

Cross cutting is...

Drama Technique Freeze Frame
A moment of stillness to enhance a scene

Drama Technique Cross cutting (or split scene) to show two scenes happening at once

Drama Technique Thought Tracking
A character tells the audience what the character is thinking

Retrieval Tasks
1. to complete the thought clouds with definitions/example
2. Revise the skills and definitions
3. Learn your lines

Cowboy Creating Skills

- ❑ Change your body language
- ❑ Practicing an accent
- ❑ Apply posture
- ❑ Apply gesture
- ❑ Facial expression

Cowboy Rehearsal Skills

- ❑ Group skills
- ❑ Teamwork
- ❑ Listening
- ❑ Practice lines

Cowboy Performance Skills

- ❑ Accent
- ❑ Use of space
- ❑ Gesture
- ❑ Projection
- ❑ Off script
- ❑ Staying in role

Self-Reflection

What did I do well?

What do I need to improve?

Who am I?

- ✓ Do I participate?
- ✓ Do I listen?
- ✓ Can I stay focussed in rehearsal?
- ✓ Can I cooperate in the studio?

In this topic, you will be assessed on:

- Characterisation
- Vocal skills
- Accent

Teacher observation:

- Effort
- Focus
- Respect
- Support for others

Y7 Non-Fiction Reading and Writing

- When we read a text we make ASSUMPTIONS based upon what we read, this is called **INFERENCE.** Inference is an important part of reading because it is the way that we can determine what the writer thinks more deeply.
- **Non-Fiction** texts are based upon facts and real-life events.
- Some examples of Non-Fiction texts are:

Newspaper Autobiography Advert Biography Letter Review Advert Leaflet Instruction manual

Purpose

Non-fiction texts can have different purposes including:

Persuade - convince the reader to believe something

Inform - teach the reader new information about a topic

Explain – tell the reader how to do something or how it works

We change the language we use depending upon the purpose of the text.

Persuasive Language techniques

Direct Address	– uses 'you' to speak to the reader directly
Metaphor	- describing something as something else with similar qualities
Oxymoron	– two adjacent words which are opposites
Hyperbole	– exaggerated statements not meant to be taken literally
Simile	– compares two things using 'like' or 'as'
Exaggeration	– representing something as better or worse than it actually is
Adjective	– describes a person, place or thing
Rhetorical Question	– a question which requires no answer
Emotive language	– words chosen to evoke an emotional response
Facts and Statistics	– real evidence used to prove a point, can be %
Irony	– say the opposite of what you mean in order to be humorous

Compare– state the similarities and differences between the language and meaning of two texts

Writing a comparison

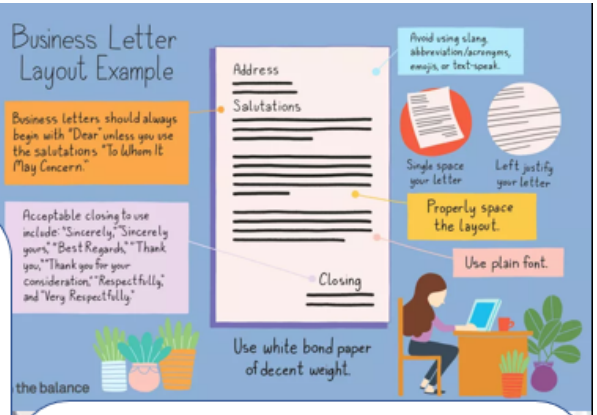
When we are comparing two texts, we need to use the following vocabulary to show similarities/ differences:

Similarly

Whereas

Both

In contrast



Persuasive Structural features

To write an effective argument we can use:

Repetition – repeat words or phrases

Counterargument – acknowledge the other side to an argument

Short sentences – add impact

Autobiography – writing about real events of your life

Biography – writing about real events of someone else's life

Summarise – state the key points of what has been read

Viewpoint – how different people/writers see a situation/topic

How to write about non-fiction:

Point	The writer makes us think that…
Evidence	For example, …. One quote to show this is…
Technique	This is an example of the writer using a….
Explain	This suggests/shows/implies/connotes/indicates/ Evokes to the reader…. This is used to show that… The connotations of this are…
Relate	This links to … At the time that the text was written, …

Y7 The Victorians & Christmas Carol Knowledge Organiser

Overview of the Victorian Era

Victorian Era – this is the period of **Queen Victoria**'s reign, from 1837 until her death in 1901. The 1800s was a period of rapid **industrial development** throughout Britain. It was characterized by the **growth of factories**, and the mass production of **manufactured goods.** There were many changes to how people lived because the population of England doubled between 1800 and 1850. **Cities** grew as people moved from the countryside to find work.

Living Conditions of the Poor

Previously, the rich and poor had lived in the same districts: the rich in the main streets; the poor in the service streets behind. Now, wealthier people moved out of town centres to the new **suburbs** – leaving the poor housed in the city centre. Much of the housing for the poor was demolished in order to make factories. Thus many of the poor were forced to live on the street and in **slums**.

Key vocabulary for the Victorian Era

Christmas Carol (published 1843)

Dickens (1812 – 1870)

exploitation (in particular child labour)

Industrial Revolution (countryside / cities / suburbs / factories / poverty / slums)

Malthus

Victorian Era (1837 – 1901)

workhouses (Poor Law / Poor Law Amendment)

working class / middle class / upper class

Key skills: understanding context

The **context** of a text is information such as: **where** and **when** it was written, **who** it was written by, and **what** was happening at the time (politically and socially), when it was **published**. All of these influence the **writer's purpose** and the **effect** it has on its audience. In order to understand a text it helps to understand something about the time s/he was writing.

Charles Dickens

Charles Dickens (1812 – 1870) wrote 15 novels as well as short stories, essays, and articles. In Year 10 you will study **A Christmas Carol** which Dickens wrote in response to British social attitudes towards poverty, particularly child poverty. Although Charles Dickens is best described as **middle class**, he was sympathetic to the suffering of the poor (**working class**), perhaps because he had some insight into their working conditions. When he was 12, he was sent to work in a factory because his father had been imprisoned for not paying a debt.

Additional information

Programme about Workhouses and Children's Homes in Victorian Britain

(lesson 6)

https://www.bbc.co.uk/programmes/p011t0t5

Interview with Jacqueline Wilson and the creators of the CBBC series 'Hetty Feather' (lesson 5)

https://foundlingmuseum.org.uk/events/picturing-hetty-feather/

More information about Charles Dickens

https://www.charlesdickensinfo.com/

Point	The writer makes us think that . . .
Evidence	For example . . .
Technique	This is an example of the writer using a . . .
Explain **E**ffect	This is used to show that. . . The effect on the reader is . . .
Relate	I think the writer was trying to make the reader feel. . .

Make a Point
Sum up the main answer to the question in one full sentence. **Use Evidence to support** your point.

Can you identify any **Techniques** that the writer has used? **Explain** why you selected that quotation – what's the **Effect** on the reader?

Can you **Relate** your ideas to historical knowledge?

Year 7 English
Shakespeare's Context
(in preparation for the study of Macbeth)

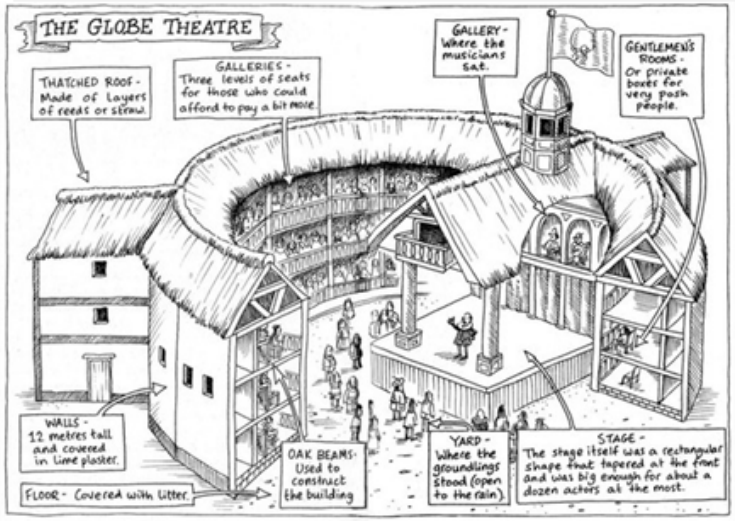
Theatre in the Elizabethan/Jacobean period

At the beginning of the 16th century many plays were based upon religious themes. These were called 'morality plays' and showed good and bad conduct. Others, called 'miracle plays' showed scenes from the Bible.

The main exception to this were the plays put on by wandering groups of actors, known as 'strolling players'. The plays put on by these groups were often far from religious and the authorities tried to ban them.

The themes of plays changed during Elizabeth's reign and English playwrights began to write comedies and tragedies. By the end of her reign playwrights such as Marlowe, Johnson and Shakespeare were writing the plays for which they are now famous.

As the watching of plays became more popular, theatres were built instead of using the courtyards of inns. The popularity of stage plays led to the building of the Rose, Swan and Globe Theatres in London between 1587 and 1598.



The main features and popularity of the Elizabethan/Jacobean theatre

- The theatre was open and plays had to be performed in daylight.
- A flag would be flown from the top of the theatre to show a play was going to be performed.
- People sat around the stage in galleries.
- The cheapest place was in front of the stage where ordinary people stood. They were known as 'groundlings'.
- There was very little scenery – a character would tell the audience where the scene was set.
- Women's parts were played by boys.
- Long speeches gave actors a chance to change their clothes.
- There was generally plenty of violence in the plays – Tudor audiences loved it.
- Many enjoyed going to the theatre as it provided good entertainment, an escape from their everyday lives and the chance to socialise and catch up on the latest news.
- Many nobles attended the theatre and the showing of a new play became a social event.
- Puritans disapproved of the non-religious nature of the plays which could lead to bad habits and behaviour. They believed it kept people from going to church.
- The authorities were unhappy because they believed it encouraged people to miss work and be idle, they also felt that theatres were ideal places for thieves and vagabonds to operate and where plague and other infectious diseases could spread.

Topic	Macbeth - Detailed Contextual Information
1) First Performance	Macbeth was first performed in 1606, likely with King James I in the audience. Shakespeare may have wanted to please the King through his play's representation of the dangers of challenging monarchy.
2) Historical Inspiration	The play's characters were inspired by historical sources. The real Macbeth ruled Scotland in the 11th century after killing King Duncan but many other facts were changed considerably. James I also claimed to believe that he was a descendant of Banquo and Fleance.
3) Divine Right of Kings	James I promoted the concept of the divine right of kings throughout his reign: the monarch is appointed by God and, therefore, any opposition to him is sacrilegious. In a speech before Parliament James I argued 'Kings are justly called gods.' (1609)
4) Gunpowder Plot	The Gunpowder Plot in 1605 involved Catholics attempting to blow up Parliament and the royal family. Robert Catesby's involvement shocked King James, who had considered Catesby to be one of his most loyal noblemen. Scholars have speculated that the play's characterisation of Macbeth may have been partly modelled on him.
5) Supernatural	Belief in the the supernatural was far more prevalent than it is today. King James I wrote a book on the subject - 'Daemonologie' (1596) - in which he called witches 'detestable slaves of the Devill' and confidently asserted that 'such assaultes of Sathan are most certainly practized'.
6) Gender Roles	Jacobean society was highly patriarchal. Women were typically regarded as emotionally and intellectually weaker than men, needing a husband to look after them. The man was considered to be the head of a marriage and his family.
7) Religious Belief	In the previous century the state religion had changed between Mary, Queen of Scots and Elizabeth I. Under James I as both King and Head of the Church, the country remained strictly Protestant. The Jacobean public was generally god-fearing, interpreting religious concepts such as heaven and hell literally. James I also commissioned a new English translation of the Bible in 1604 which is still read to this day.

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

Quel âge as-tu?
How old are you?

J'ai ___ ans
I have ___ years old

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 etats-unis	In the USA

1 – **un**
2 – **deux**
3 – **trois**
4 – **quatre**
5 – **cinq**
6 – **six**
7 – **sept**
8 – **huit**
9 – **neuf**
10 – **dix**
11 – **onze**
12 – **douze**
13 – **treize**
14 – **quatorze**
15 – **quinze**
16 – **seize**
17 – **dix-sept**
18 – **dix-huit**
19 – **dix-neuf**
20 – **vingt**
30 – **trente**
40 – **quarante**
50 – **cinquante**
60 – **soixante**
70 – **soixante-dix**
80 – **quatre-vingt**
90 – **quatre-vingt- dix**
100 – **cent**

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	super	super
Ils sont	They are	génial	great
		ennuyeux	boring
		affreux	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
fils unique	an only child (m)
fille unique	an only child (f)

As-tu des frères et soeurs?

	Masculine Singular / Vowel or H	Feminine Singular	Plural (Masculine and Feminine)
MY	mon	ma	mes
YOUR	ton	ta	tes
HIS / HER	son	sa	ses

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

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

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

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

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

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

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

ALLER—To go

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

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

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

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 plait	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

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 mauvaise 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	
Je joue	I play
Tu joues	You play (s)
Il/elle joue	He/she plays
Nous jouons	We play
Vous jouez	You play (pl)
Ils/elles jouent	They play

FAIRE—TO DO	
Je fais	I do
Tu fais	You do (s)
Il/elle fait	He/she does
Nous faisons	We do
Vous faites	You do (pl)
Ils/elles font	They do

Year 7 – HT4 - Free time

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

1. Weather and Climate 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.

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

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	

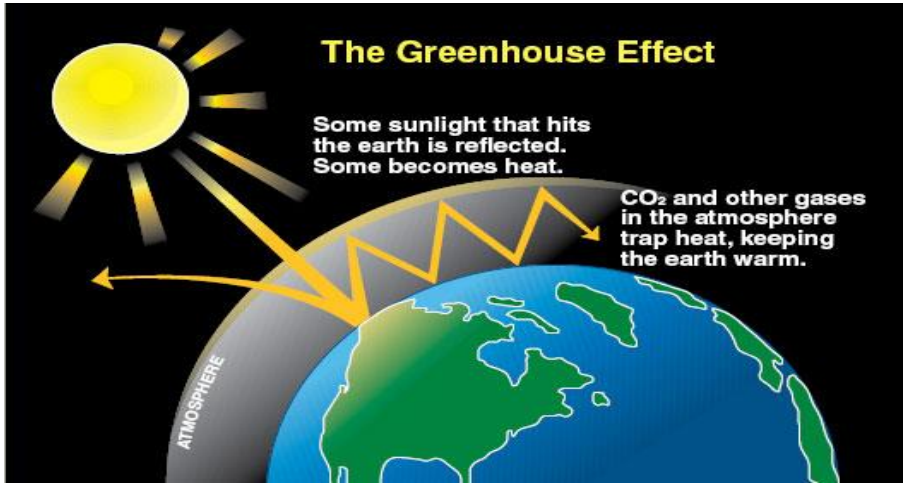
4. Types of rainfall	
Relief	Caused when air is forced to rise over upland areas
Convectional	Caused by prolonged heating of the ground
Frontal	Caused by cold and warm air meeting in the atmosphere

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

Trapping of 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 CO2 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

History - Power in Early Modern Britain

1. key features	
The Reformation	Henry VIII becomes Head of the Church and England becomes a Protestant country
Counter Reformation	England reverts back to Catholicism
The Spanish Armada	Spain invades England under Elizabeth I
The Gunpowder Plot	Guy Fawkes tries to blow up the Houses of Parliament
Witchcraft	Women were accused of being witches
The English Civil War	A war within England between Charles I and Parliament

2. The English Monarchs	
Henry VIII	King who turned England into a Protestant country
Mary I	Henry VIII's daughter with Catherine of Aragon. Reverted England back to Catholicism
Elizabeth I	Daughter of Henry and Anne Bolyen. A Protestant
James I	Son of Mary Queen of Scots. King of Scotland and England. A Protestant
Charles I	Son of James I. Angered Parliament by wanting to become an Absolute Monarch. A Protestant King, but upset Protestants by being married to a Catholic
Oliver Cromwell	A Puritan (extreme Protestant) Led the New Model Army against Charles I in the English Civil War. Took over as Lord Protector of England after Charles

3. Henry VIII and the Reformation	
Causes	Henry VIII wanted a male Heir, fancied Anne Boleyn, Henry needed money
Protestant religion	Follows the Church of England
Dissolution of the Monasteries	Destroying the buildings of the Catholic Church
Rufford Abbey	An Abbey in Nottinghamshire which was destroyed during the Reformation

4. Elizabeth I and the Spanish Armada	
Portraits	Pictures of monarchs were painted by artists at the time. They often depicted them to be more attractive that what they really were.
Marriage	Elizabeth never married- instead believing that she was married to her country and did not need a man to rule.
The Spanish Armada	A fleet of 130 ships from Spain sent by King Philip II of Spain to try and invade England
Protestants V Catholics	Elizabeth was considered to be more sympathetic towards Catholics than her sister, Mary, was of Protestants. Her sister burned 300 Protestants at the stake. Elizabeth executed 48 Catholic Priests and 20 Laymen

5. James I, The Gunpowder Plot and Witchcraft	
Guy Fawkes	A disgruntled Catholic who wanted England to be a Catholic country
Houses of Parliament	The building in London where the Politician and king met to make the laws of the country
Treason	Going against authority. The Gunpowder Plot was considered to be Treason, which was punishable by death
Witchcraft	James I condemned witches in his book. Women who made herbal remedies to heal the sick were treated with suspicion. Men were only allowed to be doctors at the time.

6. Charles I, the English Civil War and Execution	
Absolute Monarch	A monarch who believes that only God can tell them what to do. This made Parliament angry as he didn't consult them
New Model Army	An army based upon ability rather than someone's position in society. Cromwell realised that just because a person was rich, it didn't mean they were a good soldier
Execution of Charles I	Charles was accused of Treason. He was given a 'show trial' where the court had already decided that he was guilty before the trial.

7. Source analysis - key words	
Utility	How a source is or isn't useful to us
Reliability	Can we trust the source?
Interpretations	People's opinions about an event or individual
Provenance	What is the source? Who created it? When was it created? Why was it created?
Source content	What does the source tell us. Does our knowledge match up with what the source says?

8. Timeline of key dates	
1509	Henry VIII becomes King
1534	Henry VIII declares himself the Head of the Church of England
1547	Edward VI becomes King
1553	Mary I becomes queen
1558	Elizabeth I becomes queen
May 1558	The Spanish Armada
1603	James I becomes King
1605	The Gunpowder Plot
1625	Charles I becomes King
1642-1651	The English Civil War
1649	The Execution of Charles I

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.

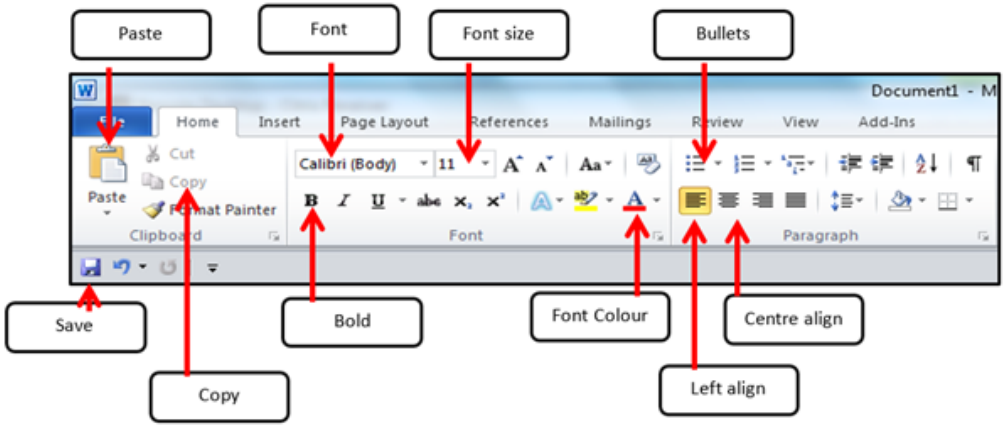
Firewall – security software preventing unauthorised access to a computer.

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 fata 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



E-Safety

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 intensions.
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	Gainnig access to a computer, with the intension 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.

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

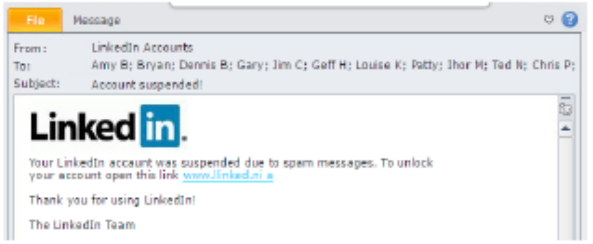
Does this give a good online impression/digital footprint?

Phishing

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

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?



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

What would you?

You get an email from someone you dont 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

CHRIST THE KING - KNOWLEDGE ORGANISERS MATHS

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

6 + 3 = 3 + 6

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

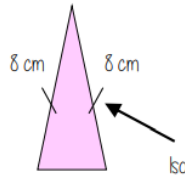
If  represents 1 instead of 100

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

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

8cm + 8cm + $x$cm = 25cm
16cm + $x$cm = 25cm
$x$cm = 9cm

Solve problems with finance

Profit= Income - 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		
211	Cardiff		
556	493	Glasgow	
518	392	177	Belfast

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 CALCUALTIONS – use a number line

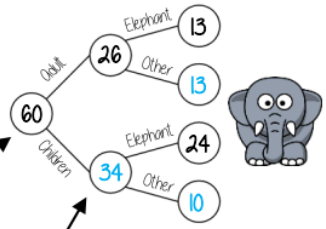
Two-way tables

	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.

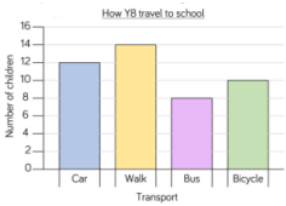


The overall total "60 people"

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

MATHS

CHRIST THE KING - KNOWLEDGE ORGANISERS

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.
Mili: 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

Factors of 10
1, 2, 5, 10

5 x 2 or 2 x 5

10 x 1 or 1 x 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

4	4	4	4	4

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

Lowest Common Multiples

LCM of 9 and 12

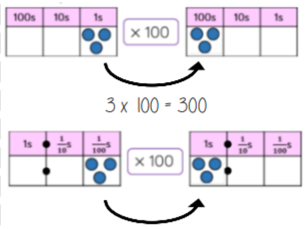
9: 9, 18, 27, 36, 45, 54

12: 12, 24, 36, 48, 60

The first time their multiples match

LCM = 36

Multiply/ Divide by powers of 10



3 x 100 = 300

0.03 x 100 = 3

Repeated multiplication and division by powers of 10 is commutative

÷ 10 then ÷ 10 ⟶ ÷ 100

Metric conversions

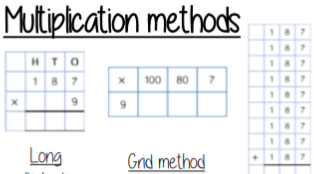
Useful Conversions

mm ⟶ x10 ⟶ cm ⟶ x100 ⟶ m ⟶ x1000 ⟶ km (and back: ÷10, ÷100, ÷1000)

g ⟶ x1000 ⟶ kg (and back: ÷1000)

ml ⟶ x1000 ⟶ L (and back: ÷1000)

Multiplication methods



Long multiplication (column)

Grid method

Repeated addition

Less effective method especially for bigger multiplication

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

Multiplication with decimals

Perform multiplications as integers
eg 0.2 x 0.3 ⟶ 2 x 3

Make adjustments to your answer to match the question: 0.2 x 10 = 2
0.3 x 10 = 3

Therefore 6 ÷ 100 = 0.06

Division methods

3584 ÷ 7 = 512

Short division

$$7\overline{)3\ {}^{3}5\ 8\ {}^{1}4}\quad 5\ 1\ 2$$

Complex division

÷ 24 = ÷ 6 ÷ 4

Break up the divisor using factors

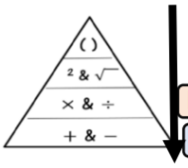
Division with decimals

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

24 ÷ 0.02 ⟶ 24 ÷ 0.2 ⟶ 240 ÷ 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



Brackets

Indices or roots

Multiplication or division

Addition or subtraction

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

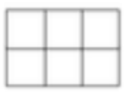
eg 10 – 3 + 5 ⟶ 10 - 3 ⟶ 7 + 5

6 x 4 + 8 x 2

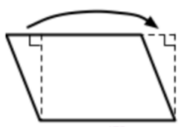
24 + 16 = 40

Area problems

Rectangle
Base x Perpendicular height

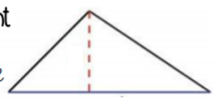


Parallelogram/ Rhombus
Base x Perpendicular height



Triangle
½ x Base x Perpendicular height

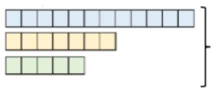
A triangle is half the size of the rectangle it would fit in



Mean problems

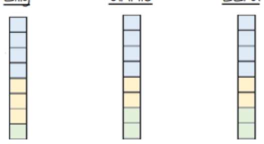
Mean – a measure of average
It gives an idea of the central value

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 cycle.

Fraction of a given amount

Find $\frac{2}{5}$ of £205

The bar represents the whole amount

£205

£41 | £41 | £41 | £41 | £41

2 out of the 5 equal parts

2 x £41 = **£82**

£205 ÷ 5 = £41

Each part of the bar model represents £41

90

30 | 30 | 30

15 | 15 | 15

45

Use bar models for comparisons

$\frac{1}{3}$ of 90 = 30

$\frac{2}{3}$ of 45 = 30

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

Use a fraction of amount

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

70

35 | 35 | 35

35 x 3 = 105

The whole number is 105

70 ÷ 2 = 35

Each part of the bar model represents 35

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

$\frac{3}{4}$ of a number is 63

63

21 | 21 | 21 | 21

Find the whole

What is $\frac{1}{6}$ of the number?

= 14

84

14 | 14 | 14 | 14 | 14 | 14

Use the whole to find a given part

Find the percentage of an amount (Mental methods)

The **whole** represents 100⁄

10⁄ = $\frac{1}{10}$ of the whole

0% 20% 40% 60% 80% 100%

10⁄ = $\frac{1}{10}$ of the whole

50⁄ = $\frac{5}{10}$ = $\frac{1}{2}$ of the whole

20⁄ = $\frac{2}{10}$ = $\frac{1}{5}$ of the whole

5⁄ = $\frac{1}{20}$ of the whole

Find 65⁄ of 80

80

8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8

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

Method 1
65⁄ = 10⁄ x 6 + 5⁄
= (8 x 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 x 80 = **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 × 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

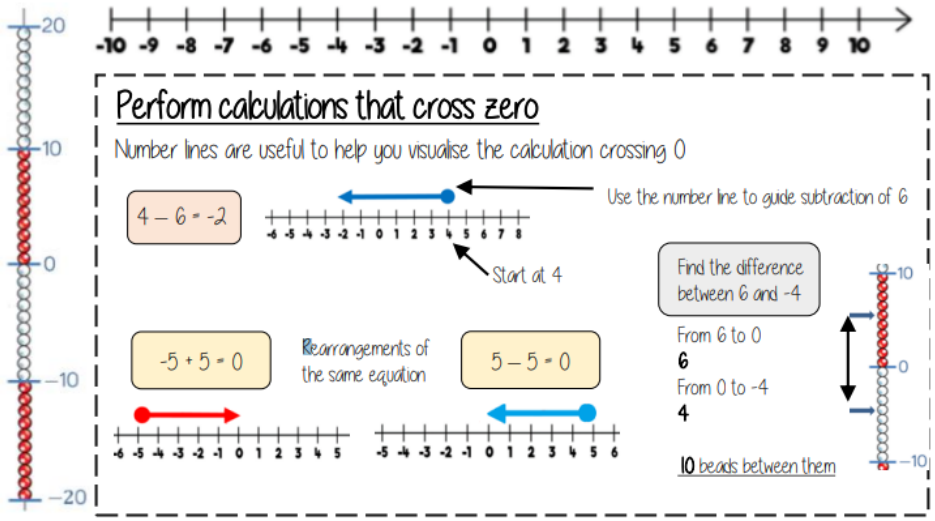
What do I need to be able to do?

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 $\sqrt{}$)
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)



Perform calculations that cross zero

Number lines are useful to help you visualise the calculation crossing 0

4 – 6 = -2

Use the number line to guide subtraction of 6

Start at 4

-5 + 5 = 0

Rearrangements of the same equation

5 – 5 = 0

Find the difference between 6 and -4

From 6 to 0
6
From 0 to -4
4

10 beads between them

Add directed numbers

= −1
= 1
Representations

2 + - 4 = -2

Zero pair
(-1 + 1 = 0)

Two "– 1" left
= -2

8 + -3 = 5

Partitioning

8 + -3 = 5

5 + 3 + - 3 = 5

Partition the value to create a zero pair calculation

Generalisation
+ – = –

Subtract directed numbers

= −1
= 1
Representations

=

Representation for calculation

2

"Subtract" – means take away or remove

2 - - 1 = 3

Take away one

Start with the representation of 2

= 3

2 - - 3 = 5

= 5

Generalisation
– – = +

Multiply/ Divide directed numbers

-3 -3

Two representations of the same calculation

2 x -3 = -6

Negative, Negative calculation

-2 x -3

This is the negative of 2 x -3

The act of making counters into their negative is turning them over

-2 x -3 = 6

Divisions are the inverse operations

Evaluate algebraic expressions

a = 5

b = -4

$a^2 = 5^2$
$a^2 = 25$

$b^2 = (-4)^2$
$b^2 = 16$

With negative numbers the brackets are important so that it performs -4 x -4

Brackets around negative substitutions helps remove calculation errors

2a – b = 2 x 5 – (-4) = 10 + 4 = 14

3b – 2a = 3(-4) – 2(5) = -12 – 10 = -22

Two-step equations

Bar Model

10

x x x x 2

10

4x + 2 = 10

10 – 4x = 2

Representing the same question (use fact families)

Function machine

x x x x

8

x

2

x → x4 → +2 → 10

Inverse operations to find x

Use order or operations

( )
² & √
× & ÷
+ & –

Brackets
Indices or roots
Multiplication or division
Addition or subtraction

Brackets around negative substitutions helps remove calculation errors

Remember square roots have a positive and negative value

×	-3	-2	-1	0	1	2	3
-3	9	6	3	0	-3	-6	-9
-2	6	4	2	0	-2	-4	-6
-1	3	2	1	0	-1	-2	-3
0	0	0	0	0	0	0	0
1	-3	-2	-1	0	1	2	3
2	-6	-4	-2	0	2	4	6
3	-9	-6	-3	0	3	6	9

MATHS – KNOWLEDGE ORGANISERS – CHRIST THE KING

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

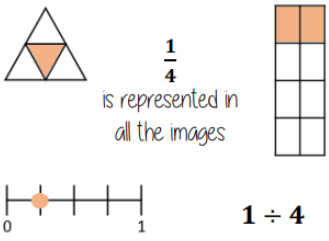
Mixed numbers: a number with an integer and a proper fraction

Improper fractions: a fraction with a bigger numerator than denominator

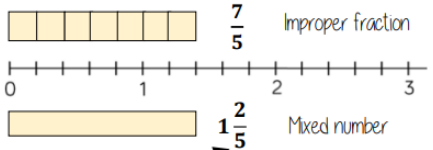
Substitute: replace a variable with a numerical value

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 right

Representing Fractions



Mixed numbers and fractions



Fractions can be bigger than a whole

Add/Subtract unit fractions

Same denominator

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

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

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

$\frac{1}{3}, 1, 1\frac{2}{3}, 2\frac{1}{3}, 3, \ldots$

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

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

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

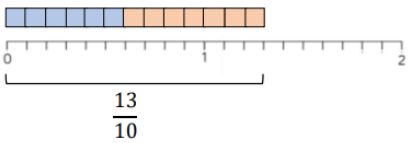
$\frac{1}{3} = \frac{2}{6}$

Add/Subtraction fractions (common multiples)

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

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

Addition/Subtraction needs a common denominator



$\frac{13}{10}$

Add/Subtraction any fractions

$\frac{4}{5} - \frac{2}{3} = \frac{2}{15}$

$\frac{12}{15} - \frac{10}{15}$

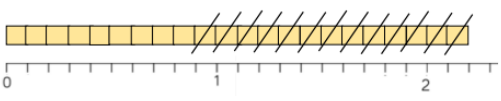
Use equivalent fractions to find a common multiple for both denominators

Add/Subtraction fractions (improper and mixed)

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

$2\frac{2}{10}$

$\frac{22}{10} - \frac{13}{10} = \frac{9}{10}$



- Convert to an improper fraction
- Calculate with common denominator

Partitioning method

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

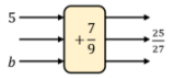
Fractions in algebraic contexts

$p = 5 \quad m = 2$

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

Apply inverse operations

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



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

CHRIST THE KING - KNOWLEDGE ORGANISERS

MATHS

Musical knowledge 3: pitch notation

Definitions

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

2. **Melody** = tune. This has **pitch** as well as rhythm (i.e. it goes up and down):

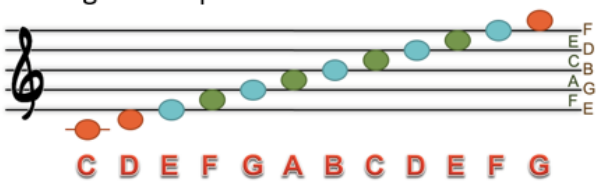
Words for describing melodies

MELODY

Register– how high or low the notes are
Range – the distance from the lowest note to the highest: wide or narrow
Sequence – a pattern that repeats, ascending or descending
Scalic (moving in a scale) or **broken chord** (moving in chord shapes) movement
Steps (going to a next-door note) or **leaps** (jumping to a note further away)
Ornaments (extra notes added to decorate)
Melodic **ostinato/riff:** a repeating pattern

How to read pitches

1. 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.

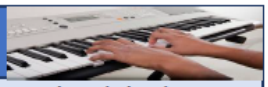


2. Notes alternate being on a line and in a space.
3. Notes higher or lower than the stave have their own little line called a **ledger line,** like middle C shown above.

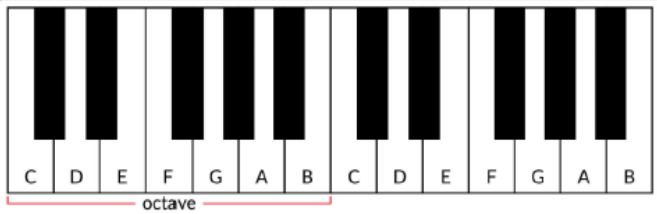
4. You can remember the notes on the **lines** with **'Every Good Boy Deserves Football'**, and the notes in the **spaces** spell '**FACE**'. Remember to go **upwards** when doing this!

KEYBOARD SKILLS

Exploring Treble Clef Reading and Notation

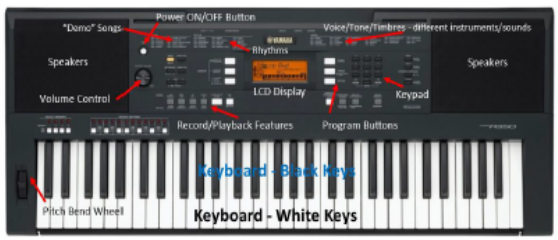


A. Layout of a Keyboard/Piano



A piano or keyboard is laid out with WHITE KEYS and Black Keys (see section G). C is to the left of the two Black Keys and the notes continue to G then they go back to A again. Notes with the same letter name/pitch are said to be an OCTAVE apart. MIDDLE C is normally in the centre of a piano keyboard.

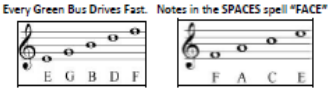
D. Keyboard Functions



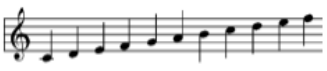
B. Treble Clef & Treble Clef Notation

A STAVE or STAFF is the name given to the five lines where musical notes are written. The position of notes on the stave or staff shows their PITCH (how high or low a note is). The TREBLE CLEF is a symbol used to show high-pitched notes on the stave and is *usually* ised for the right hand on a piano or keyboard to play the MELODY and also used by high pitched instruments such as the flute and violin. The stave or staff is made up of 5 LINES and 4 SPACES.

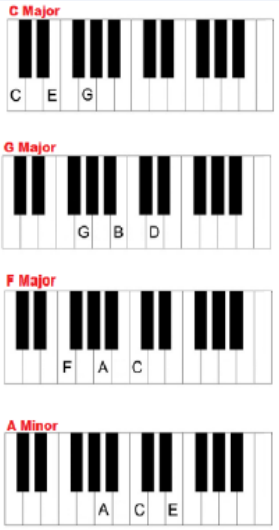
Every Green Bus Drives Fast. Notes in the SPACES spell "FACE"



Notes from MIDDLE C going up in pitch (all of the white notes) are called a SCALE.

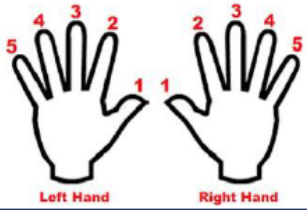


C. Keyboard Chords



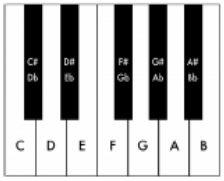
Play one – Miss one – play one – miss one – play one

E. Left Hand/Right Hand (1-5)



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 – C# is 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

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?

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?

Definitions

T.DRIPS

Use TDRIPS – Tempo, Dynamics, Rhythm, Instrumentation, Pitch, Structure to describe music.

LISTENING SKILLS

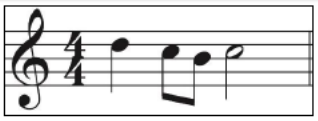
Appraisal

'an act of assessing something.'

"What am I hearing?"

Key words

- Tempo: Fast, Slow, Allegro, Lento
- Dynamics: Forte, Piano
- Rhythm: Straight, Syncopated
- Instrumentation
- Pitch: Treble Clef, Bass Clef, High or Low
- Structure: Strophic, Ternary, Rondo



Musical knowledge : Composing

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.

COMPOSITION

Definitions

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?

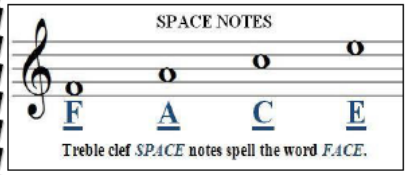
Composition is the art of creating music, by composing parts and developing ideas to create a piece of music.

Composition Tips

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

Key Notes

Key words



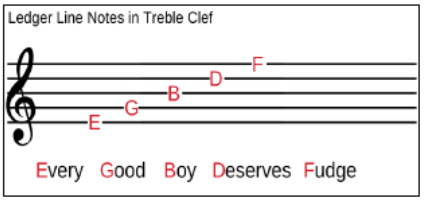
Using music notes in composition

Crotchet: a note worth 1 beat.

Quaver: a note worth ½ a beat.

Minim: a note worth 2 beats.

Semibreve: a note worth 4 beats.



Musical knowledge 2: rhythm notation

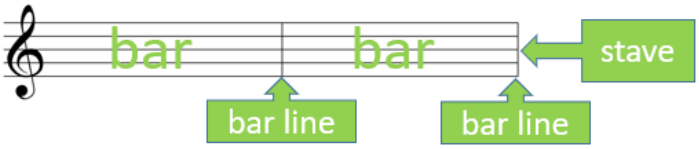
Definitions

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

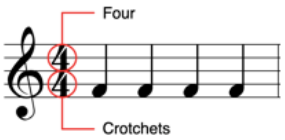
2. Rhythm = long and short notes, and the gaps between them:

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

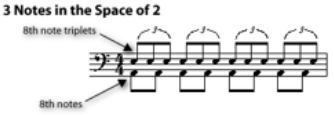
Pairs or 4s of quavers are beamed together. Remember each blob is a note.

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: 𝅗𝅥. = 𝅗𝅥 + ♩ = 3 beats

𝅗𝅥. = ♩ + ♪ = 1½ beats

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



Musical knowledge 1: the essentials

Layers of sound

Melody = **tune. One note at a time.** Can be sung or played on an instrument.

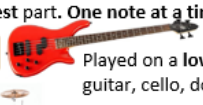
1. Melody

See opposite

2. Chords

Bass line = the **lowest** part. **One note at a time.**

3. A bass line



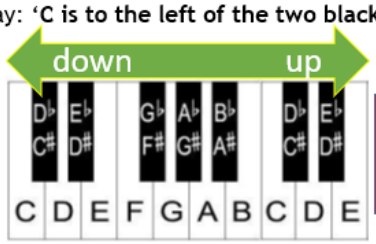
Played on a **low-pitched instrument** such as bass guitar, cello, double bass, tuba.

4. A beat

Beat = **rhythm**. Played on **unpitched** instruments such as **drums.**

Notes on a keyboard

1. Notes are in **alphabetical order, going up to G**
2. Say: '**C is to the left of the two black keys: C D E F G A B**'

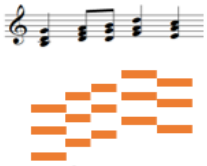


A note by itself CANNOT be major or minor!

3. Every **black note has two names: sharp # and flat b**
4. **F**lat = **l**ower than white note
5. **S**harp = **h**igher than white note

Chords

1. Chord = **2+ notes played together**



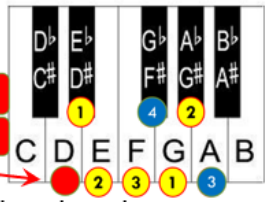
2. Chords can be **major or minor**

Major = 4 then 3 semitones. Sounds **happy**	Minor = 3 then 4 semitones. Sounds **sad**

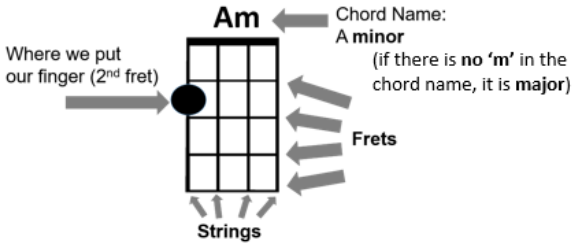
Semitone = the next note, counting white AND black

The bottom note of the chord = the **root**. The **root gives its name to the chord.**

D major
D F# A



3. Chords are usually played on the **keyboard, guitar, or ukulele.**



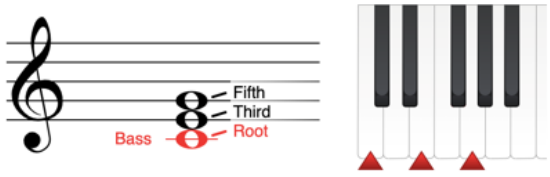
Left hand side of chord diagram = string **nearest your chin**

Musical knowledge 4: a cappella

Definitions and theory

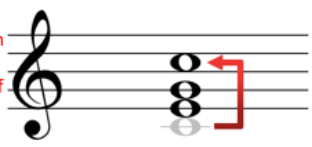
1. **A cappella** = music sung by voices alone: no instruments
2. **Key** = the set of notes used to create the music. Can be **major** (sounds happy) or **minor** (sounds sad)
3. **Inversion =** when you shuffle the order of the chord notes:

Root position chords follow the 4+3 or 3+4 pattern.

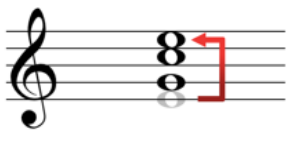


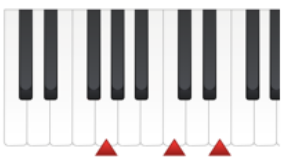
C major chord in **root position** (called this because the root note is in the bass (at the bottom)

C major chord in **first inversion** - now the **third** of the chord is in the bass.



C major chord in **second inversion** - now the **fifth** of the chord is in the bass.





These are all C major chords because they have C E and G in them.

Types of voices

1. **Soprano** = the highest female voice
2. **Treble** = a boy's unchanged voice
3. **Alto** = a lower female voice
4. **Tenor** = a high male voice
5. **Bass** = a low male voice

Articulation

Articulation is *how* the notes are played/sung.

ARTICULATION

Strummed – on a guitar or ukulele, playing **all the notes of a chord**
Finger-picking – on guitar or uke, playing individual notes **one at a time**
Sustained – notes that are **held on**
Stab – a **short, accented chord**
Staccato – **short, detached** notes
Legato – notes that join **smoothly** together
Slurred – on a voice/wind instrument, going from one pitch to another **without articulating** the new note
Pizzicato – on a violin or cello, **plucking** the string
Arco – on a violin or cello, using the **bow**
Accents – notes that are **louder** than the surrounding notes

Year 7 Health and Fitness

Key Words

Diet

Carbohydrates

Fats

Protein

Vitamins

Minerals

Water

Fibre

Heart Rate

Stretching

Core Skills

3 Stages to a Warm Up:

Stage one: Raising the heart rate (jogging, fast walking, star jumps)

It is important because:

- It raises the body temperature and heart rate, which helps to warm the muscles
- Muscles react and contract faster when they are warm
- It increases the blood supply to the working muscles (more oxygen getting to the working muscles)

Stage two: Stretching

Stretching the muscles used in the activity that you are about to participate in. There are two different types of stretching - static or dynamic. It is important to stretch before an activity because:

- It reduces the risk of injury
- It stretches the muscles, making them longer and more flexible (increases the elasticity of the muscles)
- The range of movement around a joint is increased

Stage three: Practicing skills

Practice the skills of the game, such as passing, dribbling and shooting. This is important because:

- This warms up the specific muscles that will be working in the game
- You can get used to the surface/court lines/conditions on the day
- It can help you to mentally prepare ("Get in the zone!")

Diet

Diet is an essential part of providing our bodies with energy we need to maintain a healthy lifestyle and optimise performance.

Component of diet	Found in foods such as	Good for…
Carbohydrates	Potatoes, pasta	Energy source
Fats	Fish, butter, oils, diary	Energy source
Protein	Meat, fish, eggs and nuts	Muscle growth and repair
Vitamins	Oranges	Vision, healthy skin
Minerals(calcium.- iron)	Milk	Strong bones, teeth
Fibre	Cereal, wholemeal bread	Good digestive system

Lifestyle choices

Diet

Eating healthy	Eating unhealthy
1. Boosts energy levels 2. Reduces the risk of developing serious health conditions 3. Help lose weight	1. Leads to deficiencies 2. Increases weight and % body fat 3. Causes depression with poor body shape

Activity Levels

Active lifestyle	Inactive lifestyle
1. Boosts self esteem 2. Reduces stress and anxiety 3. Improves fitness levels	1. Increases risk of disease 2. Decreases muscle mass, strength and energy levels

Work / Rest/ Sleep

Good balance	Poor balance
1. Improves mood 2. Increases productivity at work 3. Contributes to quality of sleep	1. Increases the risk of depression 2. Leads to weight gain 3. Increased blood pressure

Drugs in Sport

Drugs used to improve sports performance are called **Performance Enhancing Drugs.**

Different performance enhancing drugs will have different effects depending on the type of activity/sport.

Reasons why athletes take performance enhancing drugs:

- Increase level of performance
- Decrease recovery time
- Be able to train harder/increase intensity
- Increase the chance of winning
- Pressure from the coach?

Anabolic Steroids

Adv: increases muscle mass, strength, power and bone growth → **train harder for longer**.

Side effects: infertility, high blood pressure, heart attacks, stroke → **result in death!**

Sports: athletics, weightlifting, boxing.

Diuretics

Acts as a 'masking agent' – flushes other drugs out.

Adv: increases the amount you urinate – causes weight loss.

Side effects: dehydration due to fluid loss and cramps.

Sports: Weight division sports e.g. Boxing; Horse racing.

Stimulants

Affects the Central Nervous System (CNS)

Adv: increases mental and physical alertness.

Side effects: High blood pressure, heart and liver problems and are addictive!

Sports: any sports where increased alertness is useful.

Peptide Hormones

1. **Growth Hormone:** increases muscle mass resulting in increased strength and power. **Sports:** athletics, weightlifting, boxing.
2. **EPO (Erythropoietin):** increases the amount of red blood cells in the blood, resulting in increase in oxygen supply to working muscles. **Sports:** cycling, long distance running.

Side effects: They can cause strokes, and heart problems; GH can also cause abnormal growth and diabetes.

Narcotic Analgesics

Kills pain but could make injuries worse long term.

Adv: avoid pain, can perform when injured.

Side effects: addictive with withdrawal symptoms, cause long term injury, low blood pressure and constipation.

Sports: any sports where masking pain is useful.

Beta Blockers

Drugs that control heart rate.

Adv: they lower heart rate, steady shaking hands, relax and calming effects

Side effects: low blood pressure, nausea, tiredness, depression and heart failure.

Sports: archery

Athletics

Athletics Events

Sprints	Middle distances	Throws	Jumps
100m 200m 300m 400m Hurdles	800m 1500m	Javelin Discus Shot Put	Long Jump Triple Jump High Jump

TESTING

Two types:

- **Blood**
- **Urine**

If tests are positive, then a B sample is needed/tested.
If the B sample is positive then the athlete is BANNED!

This could lead to a loss in medals and trophies as well as sponsorship or being sacked from the club.

Challenge

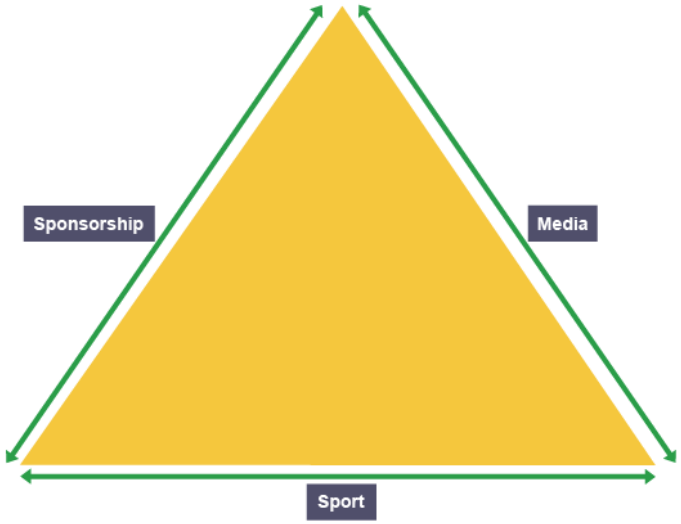
Research current World Records.

Find out the current CTK Athletics Records.

Commercialisation in Sport

Commercialism in sport is about making a profit from sport. This involves three main groups.

The golden triangle



The golden triangle shows the relationship between sport, the media and sponsorship. It represents the commercial – money-making – nature of sport.

The effects of media on sport

Types of media:

- Television and Radio
- Press
- Social Media and the internet

Positive influences of media:

- Raise awareness of sport
- Promote healthy active lifestyles
- Positive role models
- Celebrate effort and success
- Provide a sense of belonging
- Generate revenue and attract investment

Negative influences:

- Intrude on performers' privacy
- Showcase negative values and behaviour
- Undermine officials and their decisions
- Under-representing women's, black and minority ethnic and disability sport

Sponsorship in Sport

- ***Types of sponsorship:***
- -Individuals: wear a brand, endorse products and pay for travel costs
- -Teams/Clubs: wear kit, have a

Benefits of sponsorship for sport:

-Individuals: cover costs of kit/equipment

-Teams/Clubs: pays towards kit/equipment and facility maintenance

-Sports: pays for coaching

-Events: covers venue hire and catering

Disadvantages for sport:

- Sponsorship can be limited and withdrawn

-Some sponsorships give a bad image to sport (e.g. alcohol)

-Performers can become reliant on sponsor

Benefits for sponsors:

- Raise awareness of their brand/company

Advertise products and services

-Increases sales through media exposure

-Improves company reputation

Disadvantages for sponsors:

-Uncertain investment as sporting success not guaranteed

-If the sport or performers cause bad publicity, this reflects badly on the brand

Year 7 Health and Fitness Knowledge Organiser

Key Words

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Carbohydrates
Fats
Protein
Vitamins
Minerals
Water
Fibre
Heart Rate
Stretching

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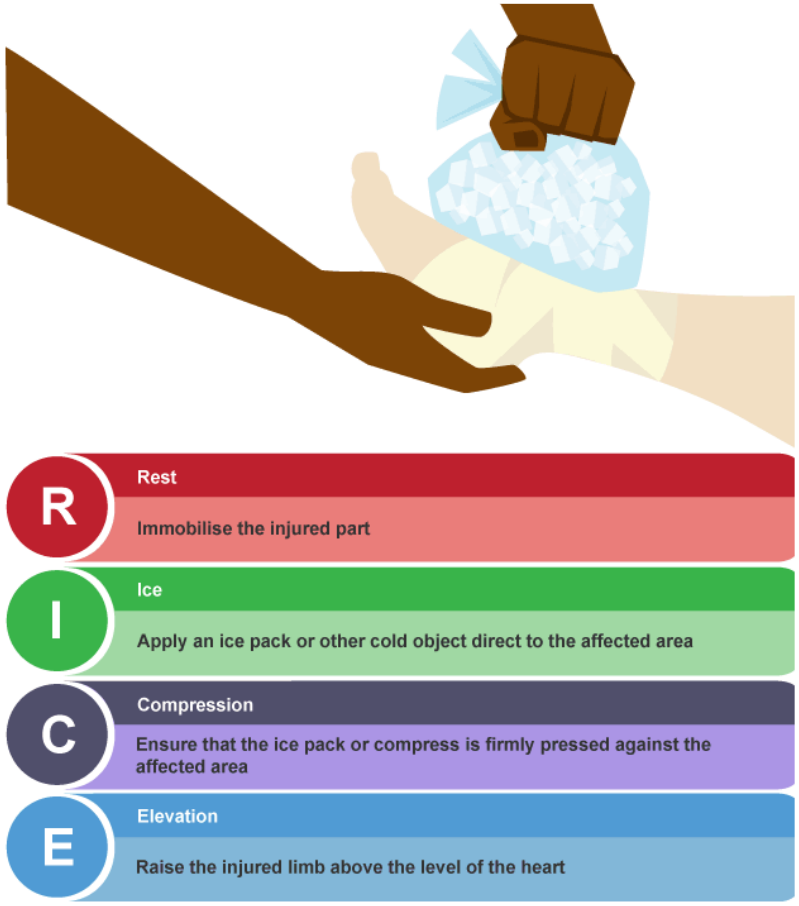
Injuries in Sport

How to Treat an Injury



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

Types of Injury

Sprain – damage to a ligament that crosses a joint.

Fractures – broken bones caused by impact, twisting or repetitive stress on the bone.

Dislocation – joint injuries that occur when the bones meeting at a joint are dislodged through impact, twisting or pre-existing weakness to that area.

Concussion – caused by violent impacts to the head.

Abrasion – damage to the skin caused by impacts and collisions.

Torn Cartilage – cartilage lines the end of bones and can be damaged through twisting actions.

Overuse injuries – caused by repetitive actions or poor technique.

Prevention of Injury

1. Follow all rules and apply them fairly
2. Always use protective equipment and clothing and ensure all protection is in good working condition.

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

Lifestyle Choices

Key Lifeystle Choices - DRAW

Diet

3. A balanced diet helps support a healthy lifestyle. Your body needs the right nutrients to work well – which provide energy to exercise.
4. A diet that is too high in fats, sugar or salt can have a negative effect on your health such as high risk of obesity, high blood pressure and stroke and heart disease.
5. Not eating enough can lead to malnutrition – this where the body does not get enough nutrients to maintain good health.

Recreational Drugs

Alcohol

1. Affects coordination, speech and judgement.
2. Reaction time gets slower
3. Drinking large amounts causes increase in blood pressure, so increases risk of stroke and heart disease
4. Heavy drinking leads to damage of liver, heart, muscles brain as well as the digestive and immune systems.

Smoking - Nicotine

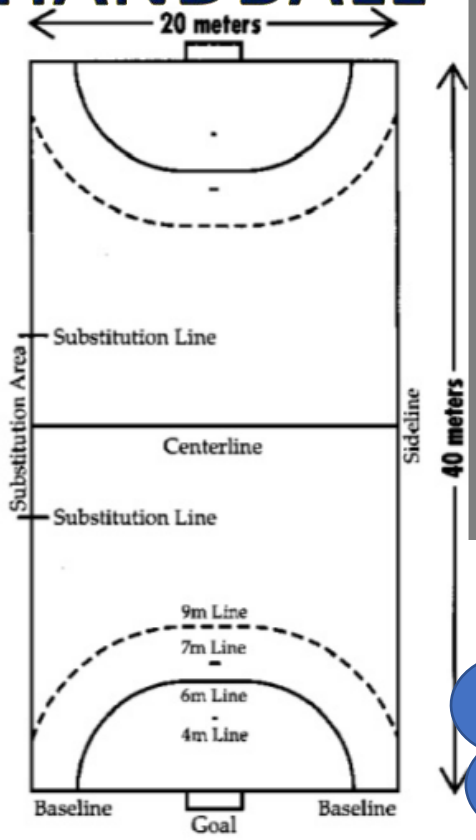
5. Chemicals in cigarettes damage cells in the lungs
6. This increases the risk of infections which can lead to bronchitis and pneumonia.
7. Damage to alveoli causes them to lose their shape and become less efficient (emphysema)
8. Damage can also cause lung cancer.
9. Tobacco has nicotine in it which

Activity Levels

To be healthy, you need to be active. The positive impacts of exercise are:

1. Increases energy levels and makes you stronger and fitter.
2. Helps maintain weight and prevents obesity.
3. Helps prevent diseases such as high blood pressure, heart disease, type 2 diabetes.
4. Weight bearing exercises can help prevent osteoporosis (brittle bones).

HANDBALL



Handball Rules

1. A match consists of two periods of 30 minutes each.
2. Each team consists of 7 players; a goalkeeper and 6 outfield players.
3. Outfield players can touch the ball with any part of their body that is above the knee.
4. Once a player receives possession, they can pass, hold possession or shoot.
5. If a player holds possession, they can dribble or take three steps for up to three seconds without dribbling.

Key Points

Pass with one hand, catch with two.
Pass the ball and move into space.
Shoot from a high to low angle to increase success.

Work/Rest/Sleep Balance

You need to make time to rest and relax after work to help relieve stress and anxiety.
Sleep is vital for your body, as it allows you to rest and recover after work.
Lack of sleep affects your concentration levels and makes your tired quicker. In the long term, lack of sleep can cause anxiety and depression.

Unit 1: Introduction to Catholicism

Key Words		
1	Bible	Sacred book of Christians containing both the Old and New Testaments
2	Church	The Holy People of God, also called the Body of Christ, among whom Christ is present and active. Members of a particular Christian denomination/tradition
3	Gospel	From the Anglo-Saxon *godespel*. Meaning 'good news'
4	Inspiration	The guidance from God to write what is in the Bible
5	Liberal View	The view that the Bible's authors were guided by God, but being human, could have made mistakes. This approach focuses on the spiritual truth within the parables and miracle accounts
6	Literal View	A belief that every word of the Bible is literally true, even when this defies common sense and logic
7	Reveal	Make known, show, make visible

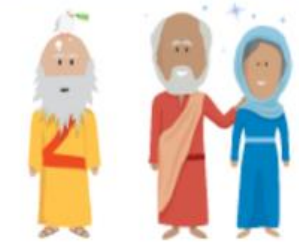
Key Quotes	
1	'We saw his glory, the glory which he received as the Father's only Son'. (John 1:14).
2	'I am the Lord's servant. May it be to me as you have said.' Luke 1:38

Key Facts	
1	To help the CtK community carry out its Mission Statement, it uses #CTKCARES • **Community** –This means that we will accept everyone in our school for who they are • **Achieve** – We should want to do well and encourage others to do well too • **Respect** – We will accept and celebrate our differences making sure we treat people the way we would like to be treated • **Encounter** –We should be respectful of all beliefs and encourage each other to question and search for 'truth'
2	Jesus was a human, he grew from a baby into an adult, he made friends, got tired and hungry, he cried when his friend died and was frightened about the future. He was also the Son of God, according to Christians, and performed miracles, spread the message of God and taught us to care for the most vulnerable in our community.
3	Christians have used the Bible as a guide and resource book for both their beliefs and their actions. The Roman Catholic Church still uses the Bible as a basis for its teachings and God still speaks through the Bible and guides the Church through the Holy Spirit.
4	The Church is the group of believers that accepts Jesus as the **Son of God**, God-made-man. **The Church as the Body of Christ** performs the work of Christ on earth and helps other people to respond to the teachings of Christ.
5	In the 16th century some Christians protested about the way the Pope in Rome was leading the Church. These **Protestants** broke away from Rome and formed separate Churches. This is known as the Reformation
6	In any particular country the Church is usually organised like this: • There may be one or more **Diocese**, each looked after by a bishop • Each Diocese is split into smaller areas called ***deaneries***. • The smallest Church community is the ***parish***, with the local community and a parish priest
7	Roman Catholics believe that **Mary** had remained a virgin throughout her life, being totally dedicated to the work of God. She is a role model for Christians of what will happen to all those who are faithful to God. Roman Catholics believe that Mary is a perfect human being.
8	Pope Francis' took the name Francis after his election when he was reminded of St Francis' call to look after the vulnerable and the environment. **St Francis** was an Italian friar who is remembered for his solidarity with the poor, his love of animals and his attempts at interfaith dialogue with Muslims.

Unit 3: Biblical Literacy
Old Testament - Genesis

Key Words		
1	Covenant	An agreement or promise between God and people
2	Descendant	A future relation, for example, a child or child's child
3	The Fall	Adam and Eve's disobedience towards God by eating the forbidden fruit, bringing sin and evil into the world
4	Garden of Eden	The garden created by God for Adam and Eve to live in
5	Genesis	The first book in the Bible; it literally means 'origin'
6	Israelites	A name given to Abraham's descendants, chosen by God to be a great nation and have their own land
7	Old Testament	The first part of the bible, written between 800 BCE and 165 BCE
8	Original Sin	The Christian belief that everybody is born with a desire to do wrong

Key Quotes	
1	Thus the heavens and the earth were completed in all their vast array... This is the account of the heavens and the earth when they were created, when the LORD God made the earth and the heavens. (Genesis 2:2-4)
2	You are to bring into the ark two of all living creatures, male and female, to keep them alive with you. 20 Two of every kind of bird, of every kind of animal and of every kind of creature that moves along the ground will come to you to be kept alive. (Genesis 6:19-20)



Key Facts	
1	The bible is a collection of 66 or more separate books written by about 40 different authors over several centuries. These books are organised into two sections: the Old Testament and the New Testament
2	Christians believe that the Bible is inspired by God. Some interpret the Bible literally and others think that some of its stories are myths.
3	In Genesis, God creates the first humans, Adam and Eve, and tells them they can eat the fruit from any tree in the Garden of Eden except the tree that 'gives them knowledge of good and evil.' They disobey him, and Christians believe this brought original sin into the world.
4	Adam and Eve had two sons called Cain and Abel. Christians believe the effects of original sin can be seen in Cain's murder of his brother Abel.
5	According to Genesis, as the earth's population increased, so too did the violence and evil. God decided to send a great flood to wipe out the human race, but he told a good man named Noah to build an ark to save himself and his family.
6	God wanted to establish a a special nation of people who would follow his laws and be an example to others., He chose a man named Abraham to be the father of this nation. He tested Abraham's suitability by asking him to sacrifice his son, Isaac.
7	Isaac had two sons, Jacob and Esau. Jacob had 12 of his own sons, including Joseph. Joseph's brothers disliked him because he was his father's favourite and dreamed of his brothers bowing down to him.
8	Joseph's brother sold him into slavery in Egypt, where he work for Potiphar before being imprisoned when Potiphar's wife accused him of trying to get into bed with her. He was released from prison after interpreting Pharoah's dreams. The pharaoh made him the second most powerful man in Egypt.

Key Words		
1	Covenant Box	A special box containing the stone tablets on which the Ten Commandments were inscribed
2	Exile	Being forced ti kuve outside the country of your birth
3	Exodus	The Israelites' journey out of Egypt
4	Messiah	A saviour, or rescuer, sent by God
5	Passover	A Jewish festival remembering the Israelites' freedom slavery in Egypt
6	Promised Land	The land of Canaan, which God promised to give the Israelites
7	Ten Commandments	The 10 rules given by God to Moses for the Israelites to follow
8	The Ten Plagues	The 10 disasters that God inflicted on the people of Egypt to convince the pharaoh to free the Israelites

Unit 3: Biblical Literacy
Old Testament – Exodus to exile

Michelangelo's David

Key Facts	
1	The second book of the bible, Exodus, begins with the king of Egypt trying to drown all the Israelite babies, but Moses was saved by the Pharoah's daughter.
2	Moses left Egypt to work as a shepherd in Midian because the pharaoh want to kill him for murdering an Egyptian. Whilst shepherding, God spoke to him from a burning bush, telling him to return to Egypt and free the Israelites from slavery.
3	At first the pharaoh was unwilling to free the Israelites from slavery, but he changed his mind after God sent 10 plagues to Egypt.
4	Moses led the Israelites our of Egypt through the Red Sea and into the desert. God gave the Ten commandments to Moses on Mount Sinai.
5	Joshua led the Israelites into the land that God had promised, but the Israelites started to worship the gods of other tribes. God sent them strong leaders known as the Judges. Samson was one of the Judges, whose strength came from his long hair, which was shaved off while he slept.
6	David defeated the giant Philistine Goliath with a stone and became Israel's second king after the death of Saul.
7	While David was king he committed adultery with Bathsheba and then arranged the killing of her husband, Uriah.
8	God sent prophets like Elijah, who took part in a contest with the prophets of Baal on Mount Carmel to prove his God was real.

Key Quotes	
1	God said to Moses, 'I AM WHO I AM. This is what you are to say to the Israelites: "I AM has sent me to you.'"... 'Say to the Israelites, "The LORD, the God of your fathers – the God of Abraham, the God of Isaac and the God of Jacob – has sent me to you..." (Exodus 3:14-15)
2	Then the fire of the Lord fell and burned up the sacrifice, the wood, the stones and the soil, and also licked up the water in the trench. When all the people saw this, they fell prostrate and cried, 'The Lord – he is God! The Lord – he is God!' (1 Kings 18:38-39)

Key Words		
1	Bethlehem	The city where Jesus was born
2	Fast	To eat very little or no food; at the time of Jesus, Jews often fasted as a way of helping them focus on God
3	Gospels	The first four books of the New Testament; the word 'Gospel' means 'Good News'
4	Incarnation	God coming to earth as a human
5	Ministry	The name given to the last three years of Jesus' life, spent preaching and performing miracles
6	Parable	A short story intended to make a particular point or tell a moral lesson
7	Sermon on the Mount	A sermon given by Jesus giving guidance on how people should live their lives
8	Trinity	The belief that God is three as well as one; Father, Son and Spirit

Key Quotes	
1	When all the people were being baptised, Jesus was baptised too. And as he was praying, heaven was opened and the Holy Spirit descended on him in bodily form like a dove. And a voice came from heaven: 'You are my Son, whom I love; with you I am well pleased.' (Luke 3:21-22)
2	But I tell you, do not resist an evil person. If anyone slaps you on the right cheek, turn to them the other cheek also. (Matthew 5:39)

Unit 3: Biblical Literacy New Testament – Life & Teaching of Jesus

Key Facts	
1	The first four books in the New Testament are named after the people who may have written them; Matthew, Mark, Luke and John. Together they are known as the Gospels. Each of these books is about a man called Jesus who loved about 2,000 years ago
2	Bible scholars think that most of the books in the New Testament were written within 70 years of Jesus' death, and some within 20 years.
3	Matthew and Luke record the events of Jesus' birth, saying he was born to Mary in Bethlehem, but there are also differences between their accounts.
4	Luke says that at the age of about 30, Jesus was baptised by his cousin John and went into the wilderness, where he fasted for 40 days and nights and where the devil tried to tempt him in three ways.
5	The Gospel writers record Jesus performing many miracles, including turning water into wine, feeding the 5,000, walking on water and healing lepers and a paralysed man.
6	The Gospels record Jesus coming into conflict with the Pharisees because he is criticised their ways of living, preferred to spend time with outcasts and claimed he could forgive sins, which they view as blasphemy.
7	Jesus' teachings – for example, the Sermon on the Mount, the Golden Rule and parables, including the prodigal son and the good Samaritan – are recorded in the Gospels. Jesus taught that people should love God and love other people.
8	Christians believe that Jesus was human but they also believe he was God living on earth. They call God coming to earth as a human the incarnation. Christians believe in the Trinity.

Golden Rule: Do to others what you would have them do to you

Key Words		
1	Ascension	Jesus' return to heaven after his resurrection
2	Crucify	To kill a person by nailing them to a large wooden cross
3	Garden of Gethsemane	The garden where Jesus was arrested
4	Las Supper	Jesus' final meal with the disciples, where he predicts Peter's denial and Judas' betrayal
5	Palm Sunday	The day Jesus entered Jerusalem on a donkey
6	Pentecost	The day that the Disciples were filled with the Holy Spirit
7	Prophecy	A prediction that something will happen
8	Reconciliation	Repairing our relationship with God by accepting we have done wrong and asking for forgiveness

Key Quotes	
1	… he scattered the coins of the money-changers and overturned their tables. To those who sold doves he said, 'Get these out of here! Stop turning my Father's house into a market!' (John 2:15-16)
2	Saul…began to preach in the synagogues that Jesus is the Son of God. All those who heard him were astonished and asked, 'Isn't he the man who caused havoc in Jerusalem among those who call on this name? And hasn't he come here to take them as prisoners to the chief priests?' (Acts 9:19-21)

Unit 3: Biblical Literacy New Testament – Jesus in Jerusalem

Key Facts	
1	In the week before this death, Jesus rode into Jerusalem on a donkey and was greeted by crowds who put down palm leaves. Christians remember this on Palm Sunday.
2	The first three Gospel writers say that Jesus caused a disruption in the temple in the week leading up to his death, known as the 'cleansing of the Temple'. John places this story at an earlier point in Jesus' life.
3	According to the first three Gospels, Jesus ate a meal with his disciples the night before he died. He told them to eat bread and drink wine in remembrance of him. He also predicted that he would be betrayed Judas Iscariot and deserted by the other disciples.
4	Jesus was arrested in the Garden of Gethsemane by the Jewish authorities. The Jewish leaders could not kill Jesus themselves because they were living under Roman rule, so they accused Jesus of treason to Pontius Pilate, who sentenced him to death.
5	Jesus was mocked, tortured and killed by a method of called crucifixion. He dies with a sign above him saying 'King of the Jews'. According to Luke, Jesus promised a criminal on a cross next to him that he would be ion paradise with him that day.
6	The Gospel writers have differing claims that after Jesus' death he was resurrected. Christians believe that Jesus' death and resurrection made it possible for sins to be forgiven and be reconciled with God.
7	The growth of the Christian Church after Jesus' death is recorded in the book of Acts. After being filled with the Holy Spirit on the day of Pentecost, the disciples spread the message about Jesus.
8	A Pharisee named Saul/Paul originally persecuted Christians, but he converted to Christianity following a dramatic experience on the road to Damascus. He is credited with writing 13 of the books of the New Testament, although biblical scholars disagree about whether all 13 of them were actually written by him.

Unit 4 - Islam History and Belief

Key Words		
1	Allah	The Arabic word for God.
2	Ka'aba	A holy site in Mecca which Muhammad dedicated to God after destroying its 360 idols.
3	Mecca	A city in present-day Saudi Arabia; Muhammad was born here in 570CE.
4	Medina	One of the main cities in Arabia in the time of Muhammad (originally called Yathrib).
5	Mosquw	the place of worship for Muslims; it literally means 'place of prostration'.
6	Qu'ran	The holy book of Islam, which Muslims believe contains the word of God; it literally means 'recitation'.
7	Shirk	The Arabic word for the sin of worshipping anything other than God.
8	Tawhid	Belief in the oneness of God.

Key Quotes	
1	He is God: there is no other God than Him. It is he who knows what is unseen and what is seen, He is the Lord of Mercy, the Giver of Mercy... (Qu'ran 59:22-23)
2	Those who believe and do good deeds will have an unfailing reward. (Qu'ran 95:6-7)

Key Facts	
1	Islam is a monotheistic religion so they believe in one God who created everything, has complete control over their lives and what happens to them after they die.
2	Tawhid is the believe that God is one – the most important belief.
3	Anything that goes against tawhid is shirk.
4	It has around 1.6 billion followers in the world, who are known as Muslims.
5	Muhammad, their last prophet, was born in 570CE and he founded Islam. Muslims believe in the other prophets in the Bible, including Abraham, Moses and Jesus, but they believe their messages were corrupted so God sent one final prophet, Muhammad.
6	God revealed the Qu'ran to Muhammad and it teaches Muslims how to live their lives – it is in Arabic. It was revealed to Muhammad on the Night of Power.
7	It's is split into 114 surahs and is believed to be the word of God so is treated with great respect
8	By the end of Muhammad's life he was the most influential man in Arabia. He had united warring tribes under Islamic rule and all of the polytheistic tribes had become Muslims, as well as some of the Jews.

The crescent moon and star are the symbol of Islam and often feature on flags and mosques

P1 Chapter 1: Forces

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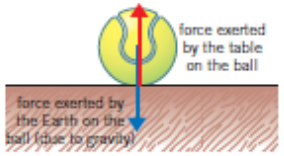
What is a force?

- 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

Speed

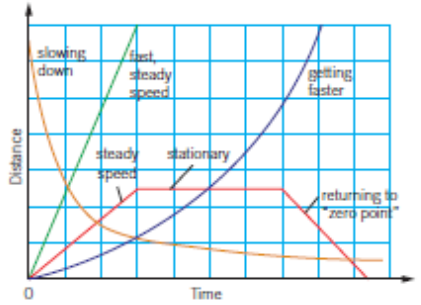
- **Speed** is a measure of how quickly or slowly that something is moving
- We measure speed in meters per second (m/s), this means that distance must be in meters and time must be in seconds
- We calculate speed with the following formula:

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

- **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

Keyterms 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

P1 Chapter 3: Energy

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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 if 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 it's 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

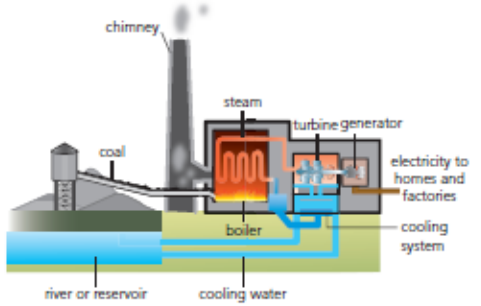
- **Non-renewable** energy cannot be replaced within your lifetime
- Non-renewable **energy resources** include coal, oil, natural gas and nuclear resources
- Coal, oil and natural gas are also known as **fossil fuels**, they release carbon dioxide when burned which contributes to global warming

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



Fuel is burned underneath water → Water is heated and turns into steam → The steam turns a turbine which turns a generator → Electricity is generated

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

P1 Chapter 7: Earth

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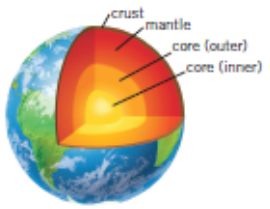
The Earth

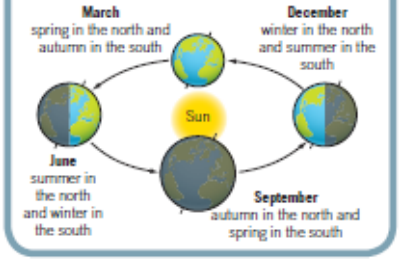


The Earth has three main layers:

- 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

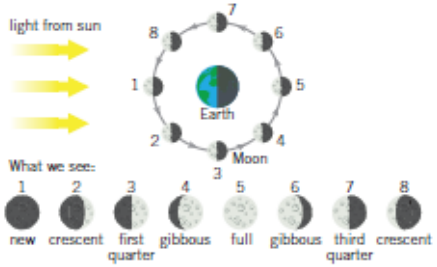
The spinning Earth

- The Earth takes 365 days to **orbit** the Sun, this is one Earth **year**
- The Earth takes 24 hours to spin on it's 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

The Universe → contains billions of → Galaxies → contain billions of → Stars → are orbited by → Planets, asteroids, and comets → planets may have → Moons

Types of rock

Type of rock	How it is formed	Properties	Uses
sedimentary rock	• 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	• **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	• 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	• **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	• other rocks under that Earth are heated and put under pressure • over time, these rocks become metamorphic	• not porous: there is no space between crystals	marble used for kitchens slate used for roofing tiles

The Solar system

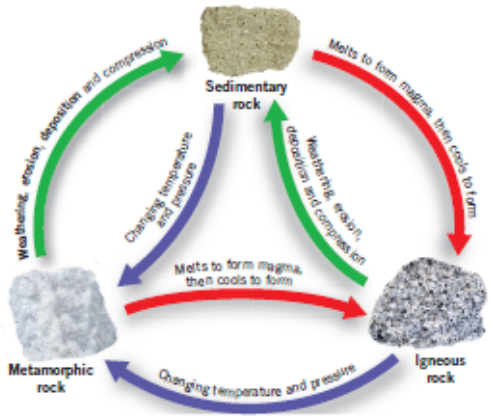
Our **solar system** consists of eight planets which orbit the Sun, four inner and four outer planets

Inner planets	Outer planets
Small and rocky planets ***(dwarf planets)***	*Gas giants*
Mercury, Venus, Earth, Mars	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 Earths star
26	Universe	All of space and time and their contents, including planets, stars, galaxies,
27	Year	The orbital period of a planetary body

B1 Chapter 8: Organisms

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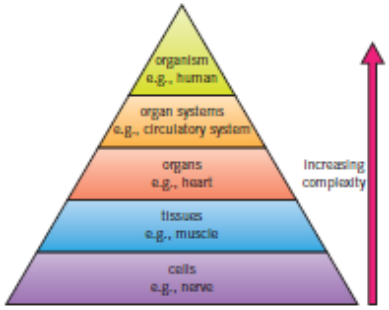
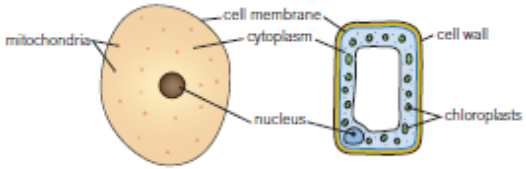
Levels of organisation



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

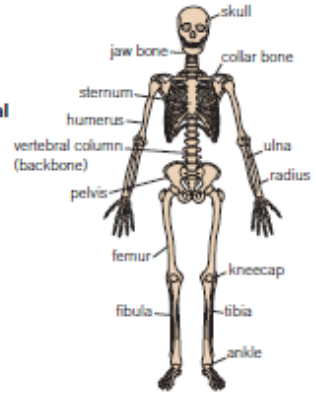


Specialised cells

- **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

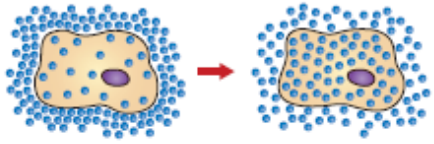
- **Muscles** are a type of tissue which allows movement
- They pull on tendons which in turn pull on bones to allow movement
- Muscles like the triceps and biceps are known as **antagonistic muscle pairs**, they work together –as one contracts, the other will relax

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

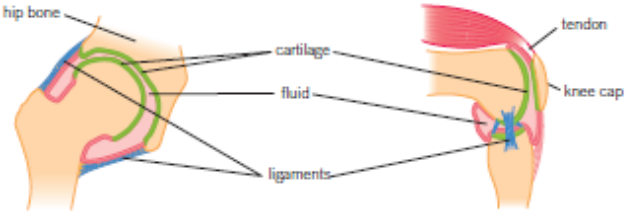
Movement

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

Hinge	Ball and socket	Fixed
For back and forward movement, e.g. knees	*For movement in all directionse.g. hips*	*Do not allow movement, e.g. skull*

Joints have three main types of tissue:

Ligaments	Cartilage	Tendons
Connect bone to bone	*Coats the end of bones as a protection*	*Connects bone to muscle*



Keyterms 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

B1 Chapter 9: Ecosystems

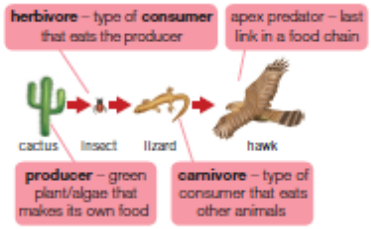
Knowledge organiser

Activate
Question • Progress • Succeed

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

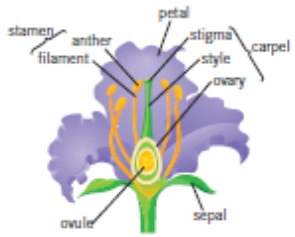
- **Interdependence** is the way in which living organisms rely on each other to survive
- A food chain will be disrupted if one of the organisms die out
- If the producer dies out the rest of the food chain will also die out unless they have a different food source
- If the **consumer** population die 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

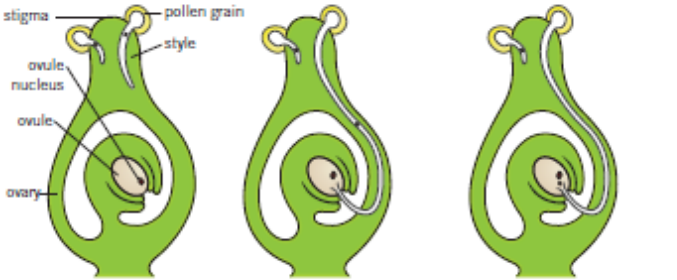
Female part of the flower

- 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:

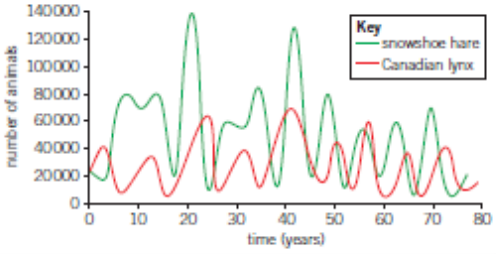
- Water to allow the seed to swell and grow and for the embryo tostart growing
- Oxygen for that the cell can start respiring to release energy forgermination
- Warmth to allow the chemical reactions to start to occur within the seed

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**



Keyterms 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

DT Year 7 Fabrics and Fibres

Iterative design: The iterative approach to designing is a flexible way of designing by working through ideas with sketches and notes and developing models when they are needed. It is a journey that could have a number of different starting points and outcomes.

The iterative approach gives the designer the freedom to follow an idea in the direction that feels best for that idea. The designer's tools of sketching, modelling, testing and evaluating may be used in any order as long as they support rather than hinder the flow of ideas.

Needle		Used to hand sew fabric and creating embroidery designs. The 'eye' of the needle is where the thread is fed through.
Pins		Used to hold fabrics in place when sewing, with an 'in/out' motion.
Machining Thread		Used to sewing fabrics together, either by hand or with a sewing machine.
Fabric Shears		Used to cut fabrics and threads only, not paper.
Embroidery Scissors		Used to cut delicate work into fabrics and trim threads.
Embroidery Thread		Comes with 6 threads intertwined that can be 'split' to reduce the thickness. Used to create decorative stitches on products.
Sewing Machine		A electrical product that is used to sew fabrics together securely. The machine can produce a range of stitches including straight & zig-zag.
Tape Measure		Used to measure fabrics and the human body to help make patterns accurate to the desired size.

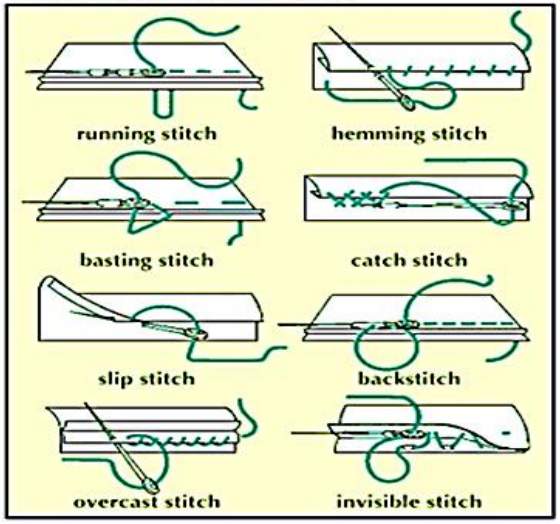
Over locker		A electrical machine that neatens the edge of fabric to prevent fabric from fraying.
Aida Fabric		Fabric used to create embroidery designs.
Pattern		Used as a template for cutting out pieces of a textile product.
Seam Allowance		Added to pattern to ensure that the products ends up in the correct size.
Fabric		Used to create a range of different products, including toys & clothing. Comes in a range of different lengths, widths, colours, finishes & patterns. Can be either Natural or Man-made.
Ironing/ Pressing		Method of removing creases from fabrics to give products a better finish.
Design		A process that is completed to communicate your ideas clearly.
Colour Wheel		Using knowledge of colour to make your product stand out and appeal to others.

Textiles are highly adaptable and can be constructed to maximise different properties including a very high strength and weight ratio, which means less materials can be used to make strong and robust products.
Textiles are available in many different forms including rolls, yarns, and fibres. Some textiles can be very cheaply produced and some are extremely expensive, especially when using rare fibres and labour intensive techniques.

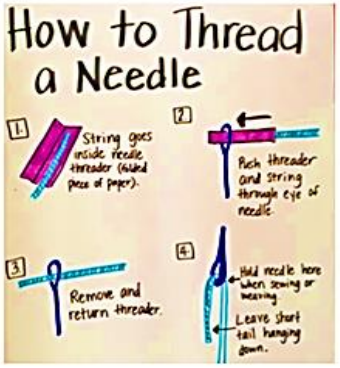
The categories of textile are:

- Natural Fibres
- Synthetic Fibres
- Blended or Mixed Fibres
- Woven Fibres
- Non-woven Fibres
- Knitted Textiles

SOME BASIC SEWING STITCHES



Natural Fabrics		
Plant-based natural fibres	**Characteristics**	**Uses**
 Cotton	Soft and strong, absorbent, cool to wear and easily washable. Cotton fabrics can be given a brushed finish to increase their properties.	Most clothing, especially shirts, underwear and denim can be made from cotton. Also used for towels and bedsheets.
Animal-based natural fibres	**Characteristics**	**Uses**
 Wool	From fine and soft to thick and coarse, it is warm and naturally crease resistant. Can shrink. Often blended to add functionality.	Jumpers, coats, suits and accessories worn for warmth. Specialist wools are very soft and expensive. Felt products and carpets.
 Silk	Very soft and fine finish, gentle on skin, can feel cool in summer yet warm in winter, drapes well, absorbent, strong when dry (weaker when wet), tricky to wash, can crease easily and is usually expensive.	Luxury clothing including nightwear and underwear, soft furnishings, bed sheets, silk paintings and wall hangings.
Synthetic Fibres		
	Characteristics	**Uses**
 Polyester	Tough, strong, hard wearing, very versatile, holds colour well, non-absorbent so quick drying, machine washes well. Often blended with other fibres. Easily coloured.	Clothing, fleece garments, bedsheets, carpets, wadding, rope, threads, backpacks, umbrellas and sportswear.
 Polyamide (Nylon)	Good strength, hard wearing, non-absorbent, machine washes well, easily and frequently blended.	Clothing, ropes and webbings, parachutes and sports material. Used as a tough thread on garments.
 Elastane (LYCRA)	Added to fabric to enhance working properties, particularly to add stretch. Allows freedom of movement, quick drying, holds colour well, machine washable.	Sportswear, exercise clothing, swimsuits, hosiery, general clothing, surgical and muscular supports.
Blended and Mixed Fibres		
 Poly-Cotton	More durable than pure cotton but not as breathable. Can be produced more cheaply than cotton alone. Many blends are available; 65% cotton 35% polyester to 50/50 are common.	General clothing, sheets and bedding. Can be used as an alternative to most cotton products.



Scales of Production

One off: when you make a unique item.
Batch: when you make a few/set amount.
Mass: when you make thousands.
Continuous: open ended production.

Graphics Knowledge Organiser—Yr 7

Paper Manufacture	
1	Trees chopped down and logs put into a rotating drum to remove the bark
2	Wood is then put through the chipper to make wood chips. Sometimes these are taken from unused offcuts from sawmills. This saves waste
3	Mixed with chemicals to dissolve the lignin in the wood. This create pulp
4	Pulp is washed to remove the colouring from the chemicals. Bleach is added to ensure the paper is white
5	Pulp is mixed with water and put through various rotating blades. Dyes may also be added at this stage to colour the paper
6	Pulp is added to the paper machine and water is removed along the way. The pulp is put through a range of rollers. Pressure is applied throughout to remove water. Some rollers are heated

Key Words—Graphics	
Product	Something that is designed and manufactured usually to sell
Lignin	Organic polymers that help form structures in plants. The make plants and trees more rigid
Pulp	Broken down wood chips. With the lignin dissolved it is now soft and fibrous
Paper machine	A continuously running series of manufacturing processes that turns pulp into paper
Product Analysis	Exploring existing products for inspiration and to consider what to avoid. It helps with the designing process
Dimensions	Measurement of something. Width, height, depth
Design Brief	A description of what is required from a new project or product. What it should do, who it is aimed at, how long it will take, etc.
Score	The process of making a crease in **paper** so it will fold easier. This can be done using a craft knife, ruler or a metal edge
GSM	**Paper** is measured in grams. **GSM** stands for grams per square meter.

ACCESS FM—Product Analysis		
1	A—Aesthetics	What does the product look like? Colours, shape, texture and appearance
2	C—Cost	How much does it cost to buy?
3	C—Customer	Who is the product aimed at? Who will use it? Who will buy it?
4	E—Environment	What impact on the environment is there from the start of the products life to the finish? Can it be recycled?
5	S—Size	What are the dimensions?
6	S—Safety	What safety considerations are there for the product?
7	F—Function	What does the product do and how does it work?
8	M—Materials/ Manufacture	What is t made from and how was it made?

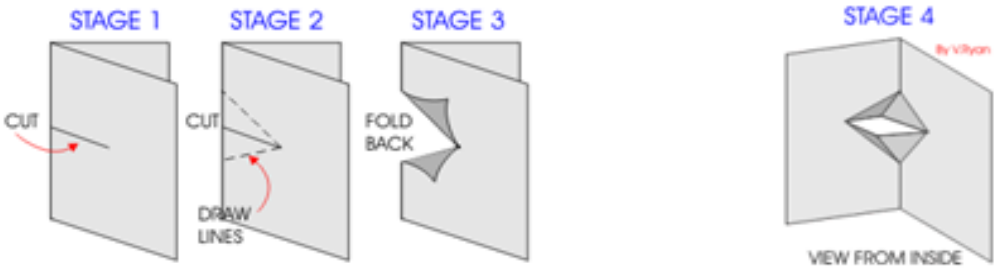
Grams per square meter (GSM)		
1	**35gsm to 55gsm**	This is very thin paper indeed. Most newspapers will commonly be printed on this paper thickness
2	**90gsm to 100gsm**	This is the weight of most household printer paper. The stuff you might use in school
3	**120gsm to 140gsm**	This GSM range covers the paper thickness of most posters you're likely to find. Paper with this GSM is sturdy enough to withstand a bit of wear and tear
4	**210gsm to 300gsm**	Moving onto premium flyers now. This GSM range will cover most of the **sturdy printed flyers** you get given in the high street. This paper stock range is approaching card but will still have a bit of a bend when held with two fingers
5	**350gsm to 400gsm**	This GSM is essentially card. It will stand up under its own weight and is most commonly associated with **premium flyers** and **business cards**. As well, it is likely to be the stock that **high-quality wedding invitations** are printed on
6	**450gsm to**	This range of GSM is moving towards very thick card and mountboard

Graphics Knowledge Organiser—Yr 7

Size	Length	Width
A0	1189mm	841mm
A1	841mm	594mm
A2	594mm	420mm
A3	420mm	297mm
A4	297mm	210mm
A5	210mm	148mm
A6	148mm	105mm
A7	105mm	74mm
A8	74mm	52mm

Paper/ card mechanisms		
1	Pop up	a pop up feature that fits on the crease of the paper/ card. Often used to create mouths for characters
2	Stand	A feature that creates a stand across a crease in the paper/ card. Design features are usually added to it so they stand out
3	Rotating	A disk that rotates, usually used in conjunction with a window cut into a piece of card that goes over the disk. A split pin secures the two pieces together
4	Sliding	a moving component that moves across the page with the use of a slide bar
5	V-Fold	A feature that stands up from the page. V folds have to be created on the crease of the paper
6	Spring	A feature that uses two strips of paper that are overlapped to create a spring. A design feature is usually placed on top of the spring

1



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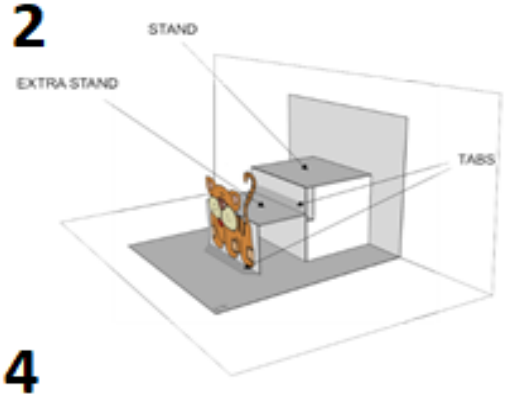

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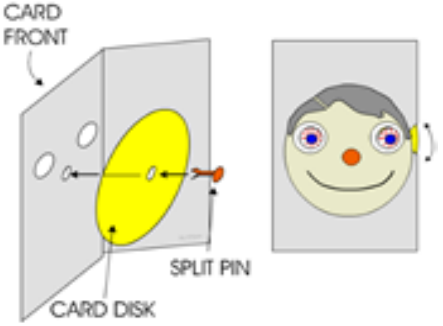

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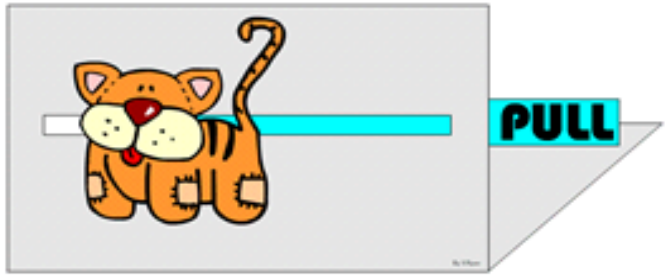
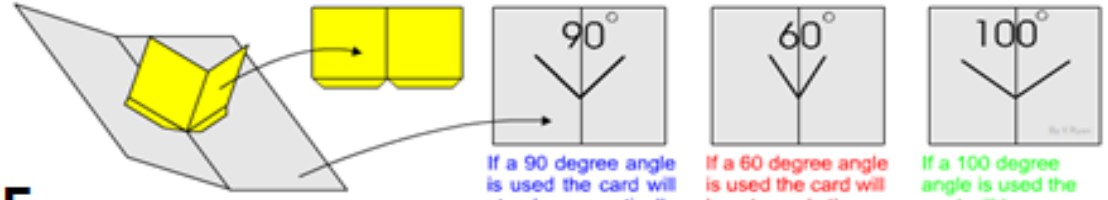


1	Pop up
2	Stand
3	Rotating
4	Sliding
5	V fold

5



If a 90 degree angle is used the card will stand up vertically when the backing card is opened.

If a 60 degree angle is used the card will lean towards the back when the backing card is opened.

If a 100 degree angle is used the card will lean forwards from the back when the backing card is

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 googles
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.

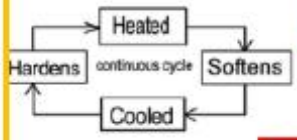
Plastics

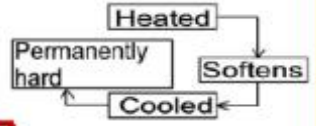
Most Plastics are made from **Oil**

They come ***self finished***

https://www.youtube.com/watch?v=IwdUwlfecsM

There are 2 main categories





Thermoplastics	Thermosetting Plastics
Can be re-cycled	Can not be re-cycled
Have plastic memory	Heat resistant
Can be re-shaped with heat	No plastic memory
Acrylic	Epoxy Resin Glue
High Impact Polystyrene (HIPs)	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 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 when 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 when 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

4

A Belt Sander
A vertical sander used 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 polymer softens, it will bend easily into shape around a former before being left to cool.

5

Products made of wood

Woods

TIMBER

A natural renewable resource

Facts	Hardwoods	Softwoods
	Deciduous	Coniferous
	Loose leaves	Evergreen
	Grows some of the year	Grows all year round
	Rings closer together	Rings further apart
	100 years to grow	30 – 40 years to grow
Examples & uses	Oak, Ash, Beech	Pine, Cedar, Douglas Fir
	Furniture	Building

Manufactured Board: Plywood, MDF, chipboard.

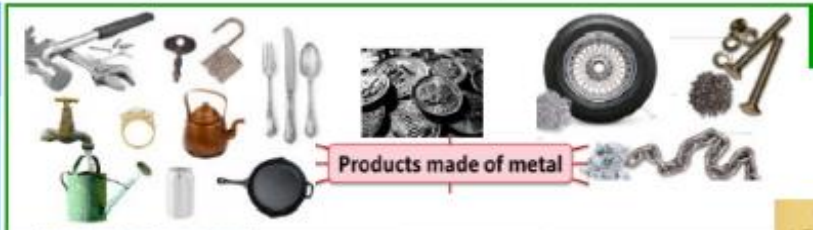
Usually cheaper than solid timber	Does not tend to warp	Strips or pieces of wood glued together	Has many uses including furniture making and building works

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

6

MATERIALS			
WOOD	TYPE	CHARACTERISTICS	TOOLS
Pine	SOFTWOOD	Easy to work with, reasonably strong and light weight. Straight grain with lots of knots.	Tenon saw Coping saw Glass paper
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.	
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

7



Products made of metal

Metals

Ores - solid materials called minerals

They are found in ores – usually occurring in rock, from which the pure metal is extracted.

There are 2 main categories

Facts	Ferrous	Metals are often mixed with more than one metal, these are called...	Non-Ferrous
	Contain iron and are magnetic. They are also prone to rust	Alloys	Do not contain iron, are not magnetic and do not rust
	All ferrous metals are alloys	Mixed with an element to improve its properties or appearance	Good electrical conductors
	When mixed with steel they are hard and strong	Alloys can be classified as ferrous or non-ferrous	Often light weight and malleable
Examples & uses	Cast iron, Low Carbon steel (mild steel), High-carbon steel (tool steel)	Brass, Stainless Steel, High-speed steel (HSS)	Aluminium, Copper, Zinc, Bronze, Tin,
	Construction, pans, gates, tools	Instruments, cutlery, tool bits such as drill bits and saw blades	Drink cans, utensils, plumbing, electrical cables , food cans & galvanising steel

Year 7 – Food Preparation and Nutrition:
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
Cooking kills bacteria. Food needs to be heated till steaming hot with the core temperature reaching 75*C for 30 seconds.	Cleaning kills bacteria. Wash hands before, during and after food preparation. Wash all work tops, utensils, chopping boards and equipment. Rinse fruit, salad and vegetables.	Chilling prevents microbial growth. Cool food to below 5*C as quickly as possible. Defrost food in the fridge.	Bacteria is transferred from one object to another. Keep raw and cooked food separate. Never wash raw meat. Keep raw meat and shellfish on the bottom shelf of the fridge.

3 Basic knife skills

Bridge

Claw

- 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

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

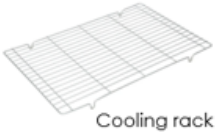

Colander


Sieve


Peeler


Frying Pan


Rolling pin


Cooling rack


Vegetable knife