Year 7
Knowledge Organisers

NAME:_____

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What is a knowledge organiser?

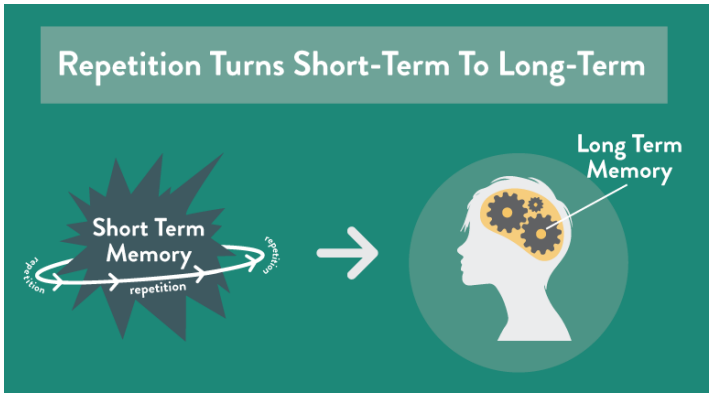
A knowledge organiser sets out the most important facts that your teachers believe you need to know about their subject. We want you to use it to memorise information that will support you with what you are learning in class.

Why do you need knowledge organisers?

- To make your homework more meaningful and to link directly to what you learn in lessons. They are to be used in conjunction with the curriculum maps which can be found on Firefly and the school website.
- To help make sense of what you learn in lessons, allowing you to complete tasks that are more challenging.
- To help develop the techniques you need to memorise information, ready for future years.
- To give you the opportunity to feel more expert of specialist in a subject, and learn more for yourself.

How does your memory work?

You store information in both your long term and short-term memory. Our short term memory is our 'working memory' – we use it for day to day thinking and problem solving and only store memories in here for a short amount of time. Our long-term memory contain information that we know really well, and our short-term memory 'calls it up' when new feel we need to use it. If we do not memorise information, our short-term memory soon forgets it. In addition, if we try to remember too much information in too short a period we overload our short-term memory – this can affect our ability to think clearly and leads us to make mistakes.



To store information in your long-term memory you need to practice:

- **Repetition** – keep coming back to the same information repeatedly.
- **Spacing** – Mixing up the topic you study to test your memory.
- **Testing** – Find ways to check what you remember, and to work out your weak areas.

Instructions for using your knowledge organisers

You can use your Knowledge Organisers in a number of different ways but you should not just copy from them. Below are some possible tasks or strategies you could complete as independent learning.

- Make flash cards (https://quizlet.com/en-gb)
- Cover up one section of the KO and try to write out as much as you can form memory. Correct this work.
- Draw a mind map.
- Write your own challenging questions and then leave it overnight to answer them the next day.
- Put the key words into new sentences.
- Give yourself spelling and keyword definition tests
- Draw diagrams or processes / flow charts / images and label them with extra information.
- Do further research on the topic / create fact files.
- Make up mnemonics

ART

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YEAR 7 ART

Term 1: Printmaking Project

The Big Picture
Project Brief: To produce a set of prints inspired by the theme of Natural Forms.

Artist Connection
You will investigate the work of an artist who is a printmaker.

Term 2: Clay Project

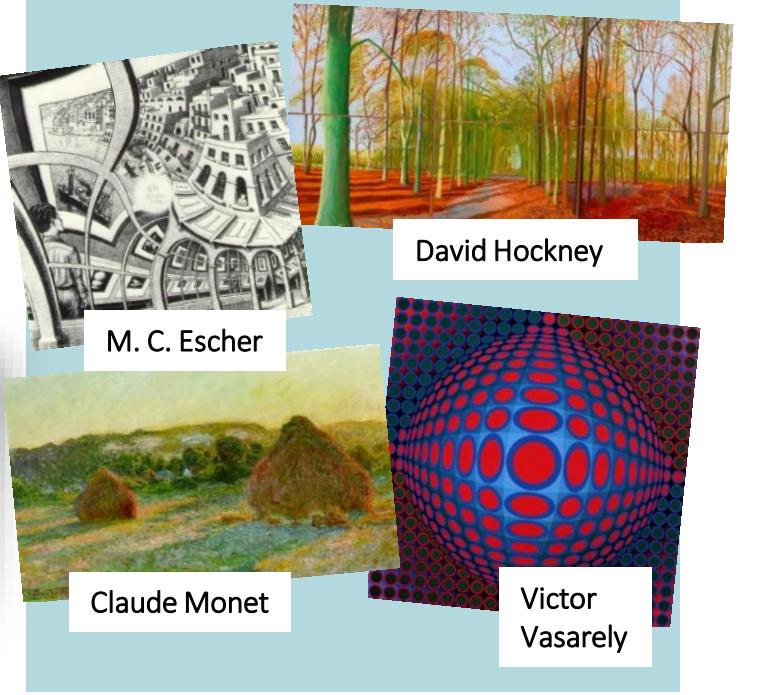
The Big Picture
Project Brief: To design and make a clay piece based on the theme of Natural Forms.

Artist Connection
You will investigate the work of a key artist, designer or craftsperson and your final piece should show similar characteristics to their work.

Term 3: Perspective Project

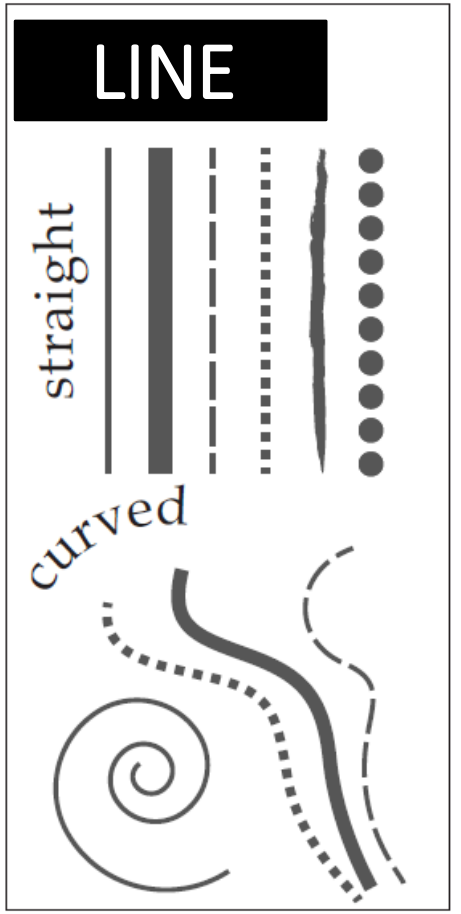
The Big Picture
Project Brief: To produce a painting that explores Perspective, the illusion of depth and space.

Artist Connection
You will investigate the work of a key artist whose work explores Perspective.



THE 7 BASIC ELEMENTS OF ART

LINE

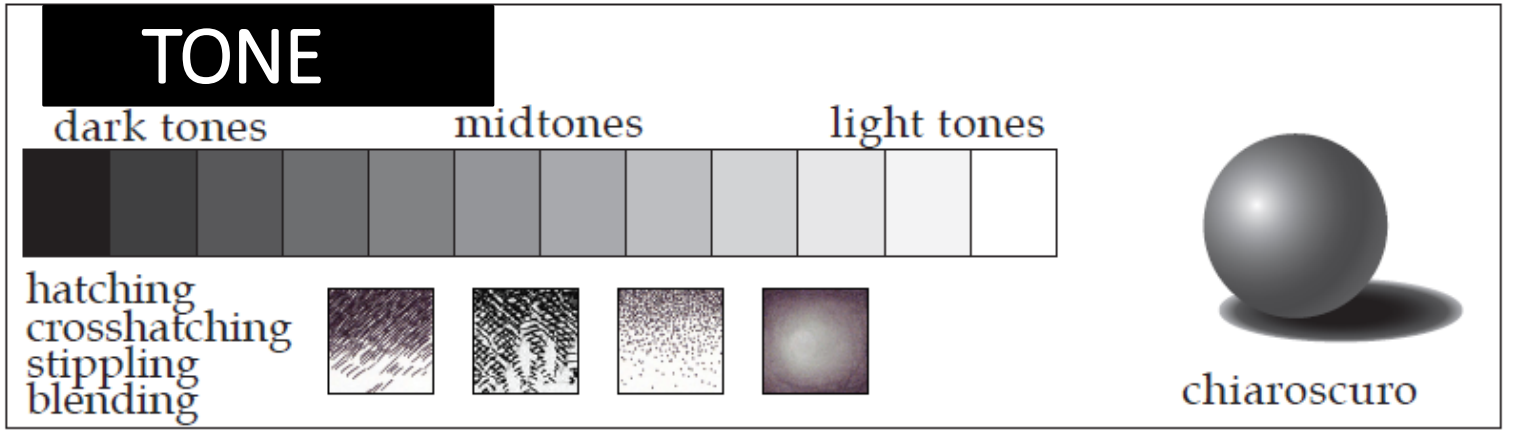


Line: A path created by a moving point, mark or object. It is a dot that takes a walk. Lines can be straight, wavy, jagged, dotted, dashed, broken, thick, thin, zig zag, diagonal, vertical, horizontal, curved, bold, parallel or perpendicular.

Line can be used to show many different qualities such as:

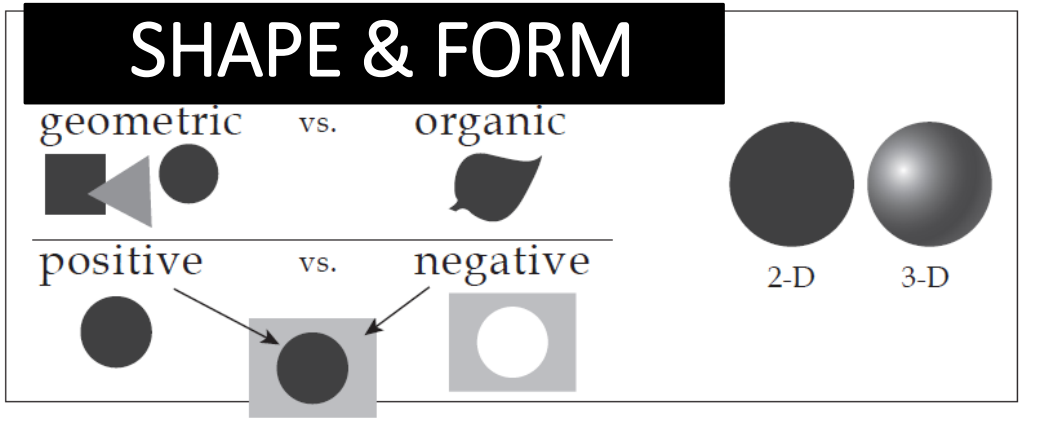
- Contours – showing shape and the form of something.
- Feelings or expressions – a short hard line gives a different feeling to a more flowing one.
- Movement

TONE



Tone: The lightness or darkness of an object. The degree of lightness or darkness. The effect of light and shade in a picture. Tint, shade, shadow, highlight and light source are also key words that are connected with this basic element.

SHAPE & FORM

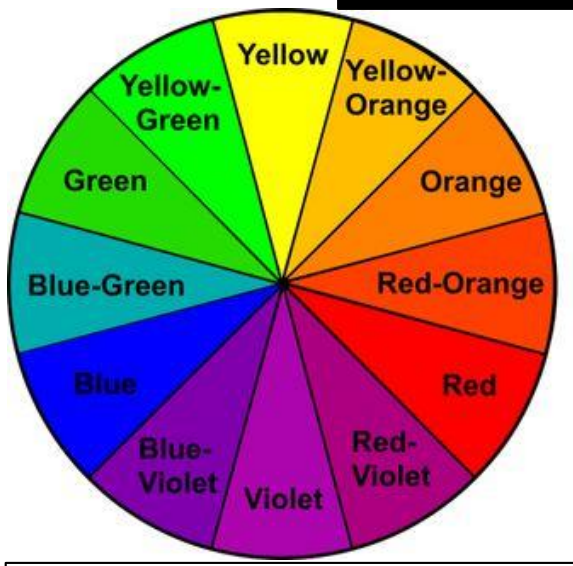


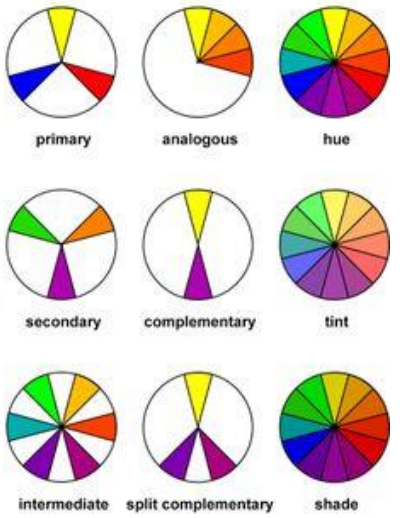
Shape: A two-dimensional (2D), flat enclosed area. When a line crosses over itself it creates a shape. Examples of shapes could be geometric, organic/natural, irregular, circle, square, rectangle, diamond, oval, crescent, heart, triangle and octagon.

Form: Objects having three dimensions (3D), or height width, and depth. You can walk around a form. Examples of form can include cubes, cylinders and spheres.

THE 7 BASIC ELEMENTS OF ART

COLOUR





Colour: Colour adds interest and mood to a work of art. The primary colours are red, yellow and blue. The secondary colours are created by mixing the primary colours. They are purple, orange and green.

PATTERN

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. Patterns can be man-made, like a design on fabric, or natural, such as the markings on animal fur.

PATTERNS OF LINE:

PATTERNS OF SHAPE:

PATTERNS OF COLOUR:

TEXTURE

Texture: How something feels or looks like it would feel if you could touch it. There are two kinds of texture: Real (how something actually feels, such as a sculpture) and implied (when an artist paints or draws a texture but it is artificial.

The 7 Basic Elements of **LINE, TONE, COLOUR, FORM, PATTERN, TEXTURE and SHAPE** are the building blocks of Art. In Year 7 Art, projects revolve around introducing students to The 7 Basic Elements by working with a wide range of materials and techniques.

COMPUTING

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Year 7 Computing

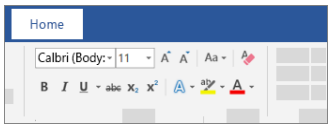
Digital Literacy

Be able to discuss & demonstrate ability to use school digital services, including Firefly, Office 365 and KHS Portal.

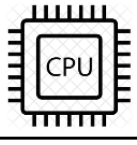
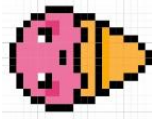
Organisation of files, using folders in the OneDrive and school network

Know your keyboard shortcuts

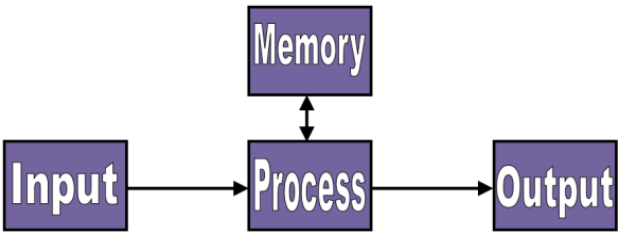
Text formatting



Data & Data Representation

Term	*Definition*	*Example*
Computer	A computer is a device that is able to take in data – called input. It then acts upon that data – called processing, the result of which is the output of the machine	Desktop PC, laptop, tablet, mobile phone, Raspberry Pi, cars etc…
Input device	Any piece of hardware which is used to enter data or content into a computer system.	Mouse, keyboard, graphics tablet, scanner
Output device	A piece of hardware that obeys a computer command to do something in the real world.	Printer, monitor, speakers
Peripheral	Any device which sends or receives data from the CPU	Can be input, output or storage devices
Binary	Digital coding system which uses 2 values to represent data (0 and 1)	Bit a 0 or a 1 Nibble 4 bits Byte 8 bits
CPU	The central processing unit is a microchip that is installed on a motherboard and acts as the computers brain,	
Pixel	Short for picture element. A pixel is a dot that can be displayed on a monitor	

Data Flow in a computer



Binary Conversion

2^4	2^3	2^2	2^1	2^0
16	8	4	2	1
1	0	1	1	1

(1x16)+(1x4)+(1x2)+(1x1) =
16+4+2+1 = 23

Year 7 Computing

Algorithms & Programming

Term	Definition
Algorithm	A step by step set of instructions for solving a problem
Decomposition	Breaking a problem down into manageable chunks (each chunk can then be solved by creating an algorithm
Generalisation	Spotting patterns and similarities in algorithms and code

How are algorithms used in Computing?
We create algorithms to solve problems and then turn the algorithm into a computer program. Algorithms can be written in plain English, flow charts and pseudo code

Selection

```
if choice == "1":
    add()

if choice == "2":
    subtract()
```

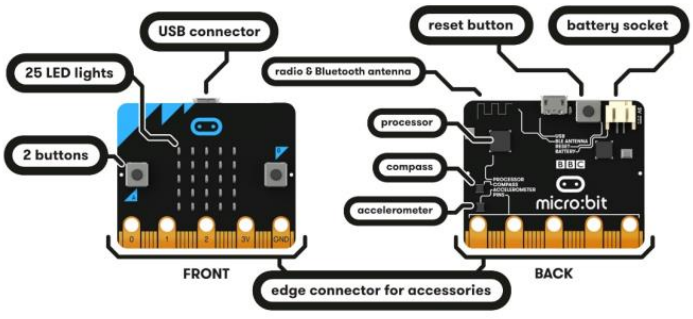
```
#draw a shape
forward(100)
right(90)
forward(100)
right(90)
forward(100)
right(90)
forward(100)
right(90)
```

Sequencing

```
for i in range (4):
    forward(100)
    right(90)
```

iteration

Hardware



The **Micro:Bit** is a circuit board that contains 2 buttons, 25 LEDs, an accelerometer and compass. It can be programmed via a web-based interface in a variety of programming languages, for example blockee and java.

An embedded system is **a small computer that forms part of a larger system, device or machine**. It includes both hardware and software and its purpose is to control the device and to allow a user to interact with it. They tend to have one, or a limited number of tasks that they can perform. Below are some examples of embedded systems.

DANCE

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MISSION IMPOSSIBLE

OBJECTIVE 1: MOTIF ACCURACY

To accurately replicate and apply the two Mission Impossible taught motifs into your work.

OBJECTIVE 2: STORY TELLING

To understand and apply a clear narrative structure to your work to complement the Mission Impossible theme.

WHAT SKILLS WILL I BE DEVELOPING IN DANCE?

PHYSICAL

- **Posture**

The way the body is held.

- **Co-ordination**

The efficient combination of body parts.

TECHNICAL

- **S A D R**

Space, action, dynamics, relationships. Where, what, how, who?

- **Timing**

The use of timing or counts when matching movements to sound or other dancers.

EXPRESSIVE

- **Sensitivity to others**

Awareness of and connection to other dancers.

- **Focus**

Use of the eyes to enhance performance or the interpretative qualities.

MENTAL SKILLS

- **Systematic repetition**

Performing the action again and again.

- **Movement memory**

The learning and remembering of dance vocabulary.

UNDERSTANDING CHOREOGRAPHY

- **Narrative structure**

A sequential structure/form which allows the story to unfold.

- **Choreographic devices**

E.G unison, canon, contact, accumulation, mirroring, matching.

- **Climax**

The point at which the dance builds up or concludes.

- **Variation**

A good piece of choreography should have variety to entertain the audience.

THINGS TO DO AT HOME:

- **Watch a live dance performance/DVD or stream a professional dance work to appreciate the physical, technical, expressive and mental skills of the performers. What do you notice about the choreography?**

- **Record yourself performing the taught motifs. Try to improve your physical and technical skills, particularly of the skills named above.**

DRAMA

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YR7 DRAMA KNOWLEDGE ORGANISER

KEYWORDS

1. **Still image/freeze frame** (See definition in Acronym)
2. **Split scene** (see image 2)
3. **Mime** (communicating an emotion, meaning or idea without speaking, using only expressions, gesture and movement)
4. **Flashback** (a scene which shows events of the past)
5. **Improvisation** (to make up Drama as you go. Performing without rehearsal)
6. **Devising** (the process of making original Drama from a stimulus or starting point)
7. **Narration** (See definition in Acronym)
8. **Audience** (The people who are watching your Drama)
9. **Staging** (How the performance is put before an audience, this could be end on as per image 1, or a number of other options which are studied more in yr. 8)
10. **Focus** (to stay in role. To be committed to the part you are playing and to not laugh, or talk out of role)
11. **Role** (See definition in Acronym)
12. **Evaluation** (See definition in Acronym)
13. **Reacting** (See definition in Acronym)
14. **Physical Theatre** (See definition in Acronym)
15. **Neutral** (to stand with no characterisation, ready to take on a role)
16. **Gesture** (See definition in Acronym)
17. **Dialogue** (the words spoken by the actors on stage)
18. **Intonation** (See definition in Acronym)
19. **Vocal control** (The ability to use your voice in an appropriate way for your role, this could include, pitch, pace, pause, tone, volume and emphasis)

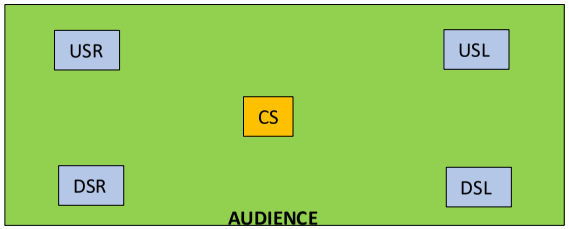
P.E.R.F.O.R.M.I.N.G

PHYSICAL THEATRE – the use of the body to form objects or emotions that depict place, scene, time or people. E.g creating a rocket using blocks and people as the body, boosters, wings, etc. Movement is also applied to scenes to make them more stylised and contemporary.
EVALUATION – to use knowledge and understanding of the drama to critique and set targets for improvement. This can be **peer, teacher or self**-generated across all lessons.
ROLE – the particular part you, as an actor, has in the drama piece. This can range from speaking to non-speaking and narration roles;
FREEZE FRAME – a still image that is held for at least 5 seconds depicting a scene or a scenario that is important to the drama as a whole.
ON STAGE – all actors must remain 'on stage' at all times. Learning to stand in a neutral position to avoid distracting from the scene if you are not in it. Learning to transition from one scene to the next without needing to go off or behind curtains.
REACTING – demonstration of awareness of others and how to not just act, but react to what is being said or acted by others on stage. To be aware that to act is to act at all times when on stage and not just when you speak.
MARK THE MOMENT – the use of a freeze frame **within** a scene at a most crucial moment. This freeze alerts the audience to this moment and 'marks' it as important for them to remember in the drama. It must be held for 5 seconds to fully impact in the scene.
INTONATION – the use of the voice to demonstrate importance or emphasis on certain lines or words – changing the '**tone**' of what is said in order to depict feeling or emotion or sometimes '**subtext**'.
NARRATION – to tell the story using one or more voices. The story can be either acted out as the narration takes place, or the narration can be spoken whist the drama in frozen to give emphasis to what is to be shown. The narrators can **self-narrate** or narrate in **third person**.
GESTURE – Body or facial movements of a character to depict emphasise their emotions and as an addition to the spoken word to aid meaning.

Schemes of work

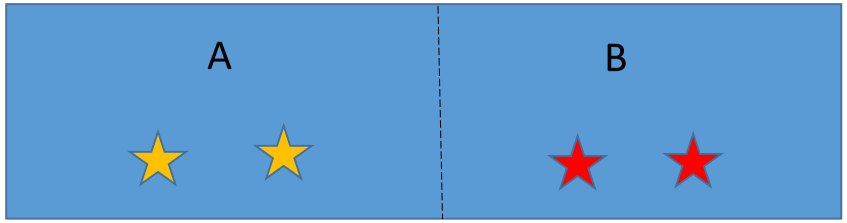
Autumn: Basic Drama Skills – Introduce the P.E.R.F.O.R.M.I.N.G acronym/See and Evaluate Live Theatre
Spring: Continuing with the basic skills from Autumn term, End of Unit Test, start the Year 7 BIG SHOW Scripted Performance.
Summer: BIG SHOW. Where the whole class works together to make a play which is shown to a proper audience in the Theatre! All students will be involved in a variety of different roles. And all family and friends are invited to watch in June/July.

'PROSCENUIM ARCH' STAGE or 'end on'



USL – Upstage Left **USR – Upstage Right**
CS – Centre Stage
DSL – Downstage Left **DSR – Downstage Right**

Split scene



The split scene works to demonstrate there are two simultaneous conversations happening in two different locations, but the actors show it on the same stage. When the actors on space A are talking, the actors on space B are frozen in a still image as if about to talk. Once A are finished, they will freeze and B will speak.

The RULE: This must happen twice per side to establish a TRUE split scene.

ENGLISH

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STRATEGIC READING

PREDICT: What might happen next?

QUESTION: Do you have any questions you would like to ask about the text you read? Does it bring up any questions you might have about the issue/character/event?

CLARIFY Is there anything you might need to clarify about the text? Are there any areas of uncertainty that you have about what you just read? Perhaps there is a word you would like to know the meaning of?

SUMMARISE: Can you summarise what has happened in the text, or perhaps the greater meaning/message of the text? Could you summarise the effect that the text is trying to achieve/its tone?

ACTIVATE PRIOR KNOWLEDGE: What does the text remind you of? Have you learnt any of its content before?

IMMERSIVE READER KNOWLEDGE ORGANISER			
DEFINE	RETRIEVE	SUMMARISE	INFER
Give/explain the meaning of words in context.	Retrieve and record information/identify key details from fiction and non-fiction.	Summarise main ideas from more than one paragraph.	Make inferences from the text/explain and justify inferences with evidence from the text.
• Find and copy one word meaning… • In the paragraph, which word most closely matches the meaning of the word… • What does the word…suggest about…? • What does the word…tell you about…? • What does the word…mean in this sentence?	• Write down one/two/three things that you are told about the… • What was revealed at the end of the poem/story? • Give one/two reasons why… • In what year did…? • What does the … do to frighten the…? • What does the poet ask? • How do you know that? • How does the character show…?	• What is the main message of the poem/story? • Which statement is the best summary for page…..? • Number the following sentences in the order in which they happened in the poem/story. • Look at the first 2 paragraphs. Which sentence below best describes the…? • Summarise the first paragraph using ….words.	• What evidence is there of….? • Explain what the description suggests about…? • Why did….feel….? • In which ways might this character appeal to many readers? • Use evidence from the text to support your answers. • What kind of person do you think… was? Why? • Explain how …felt about… • What was unusual for….on page….?
PREDICT	RELATE	EXPLORE	COMPARE
Predict what might happen from details stated and implied.	Identify/explain how information/narrative content is related and contributes to meaning.	Identify/explain how meaning is enhanced through choice of words and phrases.	Make comparisons within the text.
• Do you think that…will change his/her/their behaviour in the future…. • Explain why, using evidence from the text. • Based on what you have read, what does the last paragraph suggest might happen next/to the….? • What do you think….would say to …about? • Who do you think will…? • How do you think this character will…?	• Match parts of the story to the correct quotation (considering setting, past events, action, lesson, suspense, character, etc.). • Find and copy a group of words where….mood changes. • What impact does…change in mood/feeling have on the text as a whole? • Find a group of words which explain….opinion of…	• Why did the author use this word? • Why does the writer compare…to…? • What language features did the author use to describe…? • How does…help you to understand…? • How do the words…create a feeling of…? • What do phrases like… tell us? • What does this description tell us about…?	• How does…feel about…compared to at the beginning of the text? • According to the text, give one way that….are similar/different to… • How does the mood/relationships/opinions of the characters change throughout the text?

TOPIC: Alter Egos (Year 7)

Brief Synopsis- what is the unit about?

Within this four week unit we will explore what an Alter Ego is and examine different creative writing skills. This will range from present participles and present tense to metamorphosis and descriptive writing.

Key Vocabulary & Spellings

- duality
- transformation
- metamorphosis
- narrative
- viewpoint
- perspective
- shift
- identity
- imperatives
- noun phrases
- pre modifier
- post modifier
- adverbial phrase
- prepositional phrase
- intensifier
- present participle
-

Big Questions

(does not need to be one per lesson)

- What is an Alter Ego?
- What is meant by duality?
- What is a present participle?
- What is immediacy?
- What is metamorphosis?
- Can we write an effective transformation?
- How can sentence types be used for effect?
- What is tension and pace?
- How do writers use vocabulary to create imagery?

Cross-Curricular Links/Key Contextual Details

Precursor to Jekyll and Hyde at GCSE.

Analytical Verbs/Sentence Stems

(these are used to help students with analysis and discussing texts and ideas)

- "……" links to the theme / idea of …..
- "……" has connotations of …….
- "……" is emotive because …….
- "……" is engaging because ……
- "……" challenges the reader to ……
- Use of the word "……" conveys ……
- This implies …..
-

TOPIC:

Brief Synopsis- what is the unit about?
This unit looks at a selection of Romantic era poetry. Across the unit students will begin to develop analysis skills and begin to identify and evaluate the use of common literary techniques. The Romantic poetry movement was a reaction to a time of social change when poets turned towards nature and the individual's interior world of feelings and emotions. The Romantics embraced the arts and celebrated creativity over logic.

Key Vocabulary & Spellings

Stanza – a group of lines forming a unit (or verse) in a poem
Connotation- associated meaning of word
Imagery- visually descriptive language
Metaphor- saying one thing is another
Onomatopoeia- a figure of speech where words are used to imitate sounds
Personification- make object human
Simile- comparing using 'like' or 'as'
Theme- the central idea of a literary work
Speaker - the voice behind the poem – the person we imagine to be speaking. The speaker is <u>not</u> the poet. Even if the poem is autobiographical, you should treat the speaker as a fictional creation.
Oppression - the exercise of authority or power in a burdensome, cruel, or unjust manner.
Individualism - a social theory favouring freedom of action for individuals over collective or state control.

Big Questions

(does not need to be one per lesson)

001 – WHO ARE THE ROMANTICS?
002 – WHAT IS AN ODE?
003 – WHAT IS A STANZA?
004 – CAN I COMPARE TWO POEMS?
005 – WHAT IS IMAGERY?
006 – WHAT IS PERSONIFICATION?

POEMS:
001 – My heart leaps up – Wordsworth
002 – An Ode to Autumn – Keats
003 – London – Blake
004 – Upon Westminster Bridge – Wordsworth
005 – When we two were parted – Lord Byron
006 – Extract from The Prelude – Wordsworth

EXTRA LESSONS:
000 – Assessment lesson for end of unit
000 – TES Worksheets for emergency cover

Cross-Curricular Links/Key Contextual Details

HISTORY – industrial revolution; French revolution; Victorian era
PSHE – articulation of thoughts and feelings and emotions

Analytical Verbs/Sentence Stems

(these are used to help students with analysis and discussing texts and ideas)

- "……" links to the theme / idea of …..
- "……" has connotations of …….
- "……" is emotive because …….
- "……" is engaging because ……
- "……" challenges the reader to ……
- Use of the word "……." conveys ……
- This implies …..
- The speaker is presented as ……
- The image / technique / language makes the reader feel ……
- Throughout the poem the writer creates a sense of ……. using …….
- The impact of this on the reader is ….
- The writer's intention was to ……
- The effective use of ….. shows that …….
- The poet uses …… to create the idea that …….
- Alternatively, this could suggest …. The reader's response to this could be …..

TOPIC: Romeo & Juliet
Y7 (x12)

This unit focuses on Shakespeare's Romeo and Juliet, using the play as a springboard to investigate Shakespearian characters and themes as well as giving a grounding in prologue, soliloquy, dramatic irony and other dramatic concepts.

Key Vocabulary & Spellings

Prologue	Grudge
Courtly	Mutiny
Poetic	Civil
Feud	Piteous
Patriarchy	Strife
Soliloquy	Nought
Oxymoron	Sabotage
Sonnet	Destructive
Tragedy	Permanently
Elizabethan	Estranging
Jacobean	Inhibiting
Dignity	Banished

Big Questions
(does not need to be one per lesson)

What is a Prologue?
What is a Feud?
Who is Romeo?
Who is Juliet?
Who is Mercutio?
Who is Tybalt?
What is a Soliloquy?
Who is Friar Lawrence?
What is Tragedy?
What is Fate?
What is Patriarchy?

Cross-Curricular Links/Key Contextual Details

GCSE ENGLISH LITERATURE: Knowledge links to Y10 Shakespeare study across Shakespearian language, analysis, themes and context.

GCSE ENGLISH LANGUAGE: Skills links to Y10 Language study across analysis and characterisation.

HISTORY: Links to knowledge of Elizabethan and Jacobean England across themes and context.

ETHICS & PHILOSOPHY: Links to key questions and concepts around fate, loyalty, love and the role of religion.

Analytical Verbs/Sentence Stems
(these are used to help students with analysis and discussing texts and ideas)

Shakespeare portrays [character] as...

The word/phrase… suggests to me that...

The word/phrase… infers that [character] feels...

The use of poetry in this speech implies...

Shakespeare's use of soliloquy/dramatic irony/oxymoron shows us that...

The first part of [character's] speech shows us that they feel... This can be seen in the phrase...

The theme of… can be seen in the phrase... which could mean that...

At this point in the play...

<u>Key Analytical verbs:</u>
Portrays
Shows
Implies
Connotes
Infers
Illustrates
Reflects
Depicts
Presents

EP

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Unit 1 Who Am I?

Within this unit year 7 students will be looking at all different aspects which explore what it means to be human. This includes aspects of sociology, psychology and religious studies.

Key terms	
Psychology	The scientific study of the human mind and its functions, especially those affecting behaviour in a given context.
Nuclear family	A couple and their dependent children, regarded as a basic social unit.
Society	A large group of people who live together in an organised way, all the people in a country, or in several similar countries, can be referred to as a society.
Nature	The characteristics and genetics we are born with.
Nurture	The characteristics we show which are effected by our environment.
Gender Socialisation	When you are taught how to act based on your gender from a young age usually through the toys they are given.
Linear	Events in your life which happen only once.
Cyclical	Events in your life which are repeated.
Conscience	A person's moral sense of right and wrong, viewed as acting as a guide to one's behaviour.
Religious	Someone who believes in a religion.
Upbringing	Who and how you are brought up.
Visible	The things you can see such as your physical self.
Invisible	The things you cannot see about yourself such as your memories.
Reconstituted	A family unit where one or both parents have children from a previous relationship, but they have combined to form a new family.
Academy	State-funded schools in England which are directly funded by the Department for Education and independent of local authority control.
Public schools	A private fee-paying secondary school, especially one for boarders. These have been around for 100's of years.
Private schools	An independent school supported wholly by the payment of fees.
Stereotypes	A widely held but fixed and oversimplified image or idea of a particular type of person or thing

Assessment

Pupils will be assessed through a written piece of work at the end of the unit.

Pupils will be developing the ability to explain a point of view and be able to back this up with evidence.

The 4 objectives are;

- Can use key religious and philosophical vocabulary with confidence.
- Can evaluate and make judgements about the importance of different aspects of what makes us humans.
- Can show knowledge of religious, sociological and psychological issues which can be used to construct an argument
- Can show knowledge of religious, sociological and psychological issues which can be used to construct an argument

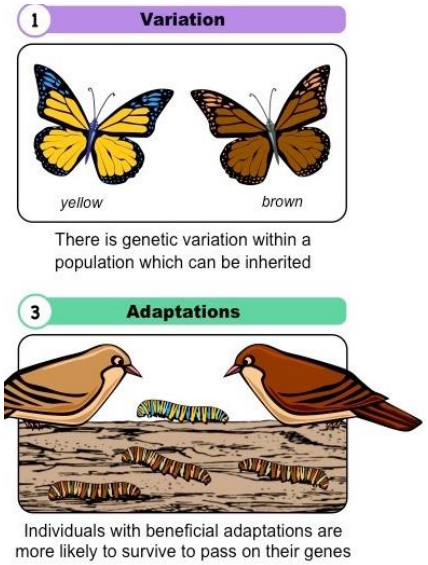
Unit 2 – Creation

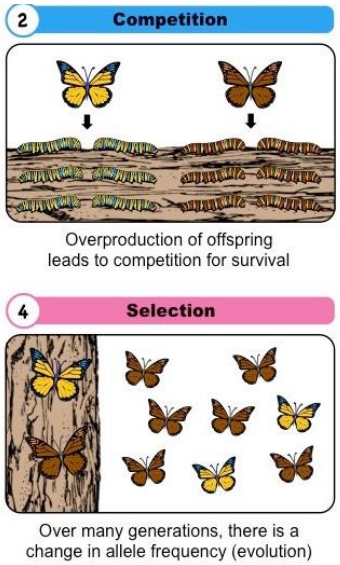
Within this unit pupils will look at the creation of the universe. This includes looking at religious views such as Christianity, scientific viewpoints and also from wider cultures.

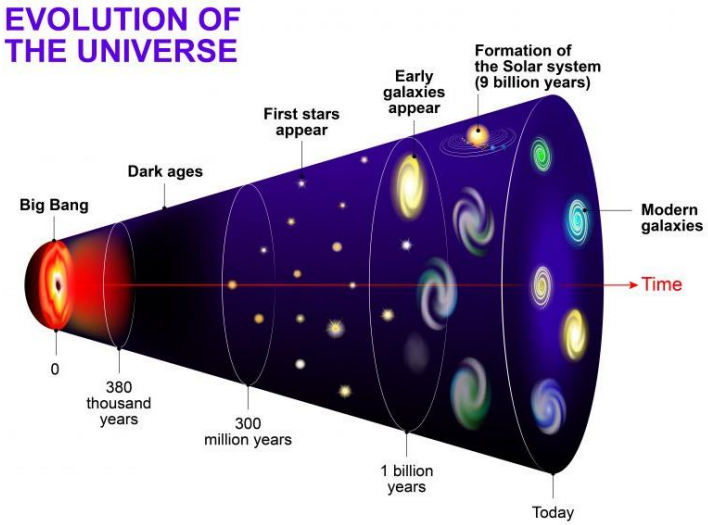
Key terms	
Creation	The creating of the universe by God.
Big Bang	The scientific theory for how the universe came into existence.
Evolution	The scientific theory developed by Darwin of how life has changed over time.
Intelligent design	The theory that life, or the universe, cannot have arisen by chance and was designed and created by some intelligent entity.
Genesis	The first book found in the Bible which explains the 7 days of creation.
Bible	The Holy book for Christians.
Darwin	Charles Darwin who developed the theory of evolution in 1859.
Natural selection	Is a process by which species of animals and plants that are best adapted to their environment survive and reproduce, while those that are less well adapted die out?
Atheist	Someone who does not believe that God exists.
Theist	Someone who believes in a God and follows a religion.
Unintelligent design	The belief that God does not exist because of creatures that do not seem to have been designed well.

Assessment

Pupils within this unit will have an opportunity to be involved in group work tasks and will be assessed formally on how well they work with others and present their group work.





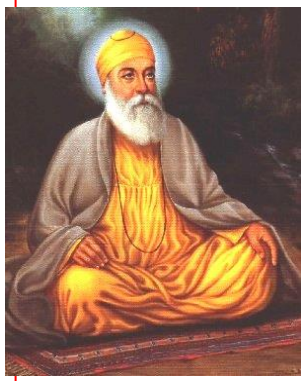


Unit 3 - Religious Leaders

Within this unit pupils will look at three religious leaders and learn what happened in their lives which led to them becoming a religious leader. They will look at Guru Nanak, Buddha and Muhammad.

Key terms	
Muhammad	The last prophet of Allah who received the messages from God and started the religion Islam.
Guru Nanak	The founder of the Sikh religion
Prince Siddhartha	The name of the person who then becomes the Buddha.
Buddha	The name given to Prince Siddhartha after becoming enlightened and who founded Buddhism.
Islam	The name of the religion for those who follow the Prophet Muhammad and the teachings in the Quran.
Buddhism	The name of the religion for those who follow the teachings of the Buddha.
Sikhism	The name of the religion for those who follow the teachings of Guru Nanak.
Equality	The idea that all humans should be treated equally.
Pilgrimage	A visit to a place that is considered special, where you go to show your respect
Prophet	A person who is believed to have a special power that allows them to say what a god wishes to tell people, a messenger of God.
Caste	A division of society based on differences of wealth, inherited rank or privilege, profession, occupation, or race
Allah	The name for God in Arabic
Waheguru	The name for God in Sikhism
Mosque	The place of worship for Muslims
Gurdwara	The place of worship for Sikhs
Sacrifices	To give up something that is valuable to you in order to help another person
Holy	Very religious or pure
Quran	The Holy book of Islam
Guru Granth Sahib	The Holy book of Sikhism

Guru Nanak (1469 - 1539) - Nanak was born about 40 miles from Lahore (now in Pakistan) in 1469. Sikh traditions teach that his birth and early years were marked with many events that demonstrated that God had marked him out for something special and was keeping an eye on him. His family were Hindus, but Nanak soon showed an advanced interest in religion and studied Islam and Hinduism extensively. One famous story about Guru Nanak tells of his rebellion at the age of eleven. At this age Hindu boys of his caste would start to wear the sacred thread to distinguish them. Nanak refused, saying that people should be distinguished by the things that they did, and their individual qualities, rather than by a thread. The most famous teachings attributed to Guru Nanak are that there is only one God, and that all human beings can have direct access to God with no need of rituals or priests. His most radical social teachings denounced the caste system and taught that everyone is equal, regardless of caste or gender.



Muhammad (570-632) - Muhammad was born in Mecca in Saudi Arabia in 570. He was a deeply spiritual man, and often spent time in meditation on Mount Hira. One night in 610 Muhammad was meditating in a cave on the mountain when he was visited by the angel Jibreel who ordered him to recite. Once Jibreel mentioned the name of Allah, Muhammad began to recite words which he came to believe were the words of God (Quran). The simple and clear-cut message of Islam, that there is no God but Allah, and that life should be lived in complete submission to the will of Allah, was attractive to many people, and they flocked to hear it. Muhammad's popularity was seen as threatening by the people in power in Mecca, and Muhammad took his followers on a journey from Mecca to Medina in 622. Within ten years Muhammad had gained so many followers that he was able to return and conquer Mecca. From this time on he was generally accepted by the faithful as the true final Prophet of God.

Buddha (490 BCE until circa 410 BCE) - He was born into a royal family in the village of Lumbini in present-day Nepal, and his privileged life insulated him from the sufferings of life; sufferings such as sickness, age and death. One day, after growing up, marrying and having a child, Siddhartha went outside the royal enclosure where he lived. When he went outside he saw, each for the first time, an old man, a sick man, and a corpse. This greatly disturbed him, and he learned that sickness, age, and death were the inevitable fate of human beings. Siddhartha had also seen a monk, and he decided this was a sign that he should leave his protected royal life and live as a homeless holy man. Siddhartha followed this life of extreme asceticism for six years, but this did not satisfy him either; he still had not escaped from the world of suffering. One day, seated beneath the Bodhi tree (the tree of awakening) Siddhartha became deeply absorbed in meditation, and reflected on his experience of life, determined to penetrate its truth. He finally achieved Enlightenment and became the Buddha.

Assessment

Pupils will be assessed through a written piece of work at the end of the unit.

They will be explaining about one of the religious leaders and why they became a leader.

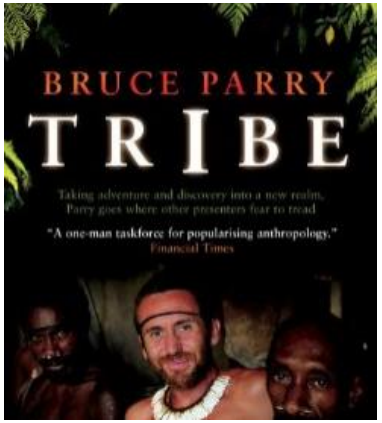
The 4 objectives are;

- Can connect ideas to show why the leaders are important
- Can clearly communicate the knowledge of the key beliefs of one religion
- Can use key philosophical and religious language with confidence
- Can consider why others may hold an alternative views to their own.

Unit 4 Culture

Within this unit year 7 students will be looking at British culture and the beliefs and values of our culture and then comparing this to other cultures around the world.

Key terms	
Culture	The ideas, customs, and social behaviour of a particular people or society.
Society	A large group of people who live together in an organized way, all the people in a country, or in several similar countries.
Diversity	Many different types of things or people being included in something; this includes different religions, beliefs and practices.
Patriarchal	Where in society the main people in control are men.
Matriarchal	Where in society the main people in control are women.
Democracy	When the people have the power over who is in government and the right to vote.
Oligarchy	A government in which power is held by a small group of people or family.
Dictatorship	When one person has the power and does not allow anyone else to have a say in how the country is run.
Government	The group of people who officially control a country.
Voting	The activity of choosing someone or something in an election.



Unit 5 Polytheism

Within this unit year 7 students will be looking at what polytheism is and exploring different examples of polytheistic religion such as Hinduism, ancient Greek and ancient Egyptian religions.

Key Terms	
Polytheistic	The belief in many gods.
Monotheistic	The belief in one God
Hinduism	The religion of Hindus
Brahman	The Supreme Spirit in Hinduism who is found in everything.
Brahma	Is the creator
Vishnu	Is the preserver
Shiva	Is the destroyer and transformer
Ra	The Sun God
Zeus	The king of all the Greek gods
Hera	The wife of Zeus

French

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Year 7 French

Overview and key verbs: ***https://kesgrave.fireflycloud.net/mfl/french/key-stage-3/year-7***

Vocabulary for all topics: ***https://www.linguascope.com*** ***Username***: ***kesgrave*** ***Password***: ***mflkhs2021***

Autumn Term

A - https://kesgrave.fireflycloud.net/mfl/french/key-stage-3---years-78-and-9/year-7/year-7---autumn-a---vocabulaire

B - https://kesgrave.fireflycloud.net/mfl/french/key-stage-3---years-78-and-9/year-7/year-7---autumn-b---vocabulaire

Content in chronological order	Vocabulary / Grammar
-Alphabet and phonics -Greetings, numbers, days, months, colours -Dictionary skills -Nouns: articles and genders -Adjectives and agreements -Personal pronouns -Er verb endings (e, es, e, ons, ez, ent) -Baseline test -Christmas in France	-All nouns in French are either masculine or feminine. → *the* (m) = **le** / *the* (f) = **la** / *the* (pl) = **les** →*a-an* (m) = **un** / *a-an* (f) = **une** / *some* = **des** -All adjectives must agree in gender and number with the noun they're referring to. -Personal pronouns: **je** (*I*), **tu** (*you singular*), **il/elle** (*he/she*), **nous** (*we*), **vous** (*you plural*), **ils/elles** (*they m&f*).

Spring Term

Content in chronological order	Vocabulary / Grammar	
-Family and animals -Physical and personality description -Verbs "*avoir*" (to have) and "*être*" (to be) -House and room description + prepositions -Telling the time -Listening, reading and writing assessment -Easter in France	**AVOIR** (*to have*) J'**ai** – *I have* Tu **as** - *You (sg) have* Il / Elle **a** - *He/she has* Nous **avons** – *We have* Vous **avez** – *You have* Ils/Elles **ont** - *They have*	**ÊTRE** (*to be*) Je **suis** – *I am* Tu **es** – *You (sg) are* Il / Elle **est** - *He/she is* Nous **sommes** – *We are* Vous **êtes** – *You are* Ils/Elles **sont** - *They are*

Summer term

Content in chronological order	Vocabulary / Grammar
-Places in town and directions -Opinions and justifications -Morning routine and reflexive verbs -School subjects and timetable -Hobbies: sports, music instruments -Le Petit Prince (film study) -Speaking and End of year assessments	-Negation: **ne**+verb+**pas** Ex: Je ne joue pas -Key opinion phrases: j'aime (I like), j'adore (I love), je n'aime pas (I don't like), je déteste (I hate). -Je me réveille = I wake up / Je fais = I do -jouer **à** = to play a sport or a game but jouer **de** = to play an instrument.

Grammar Vocabulary Cultural

GEOGRAPHY

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Kesgrave Geography Knowledge Organiser: Year 7 Europe

Weather and Climate

Facts

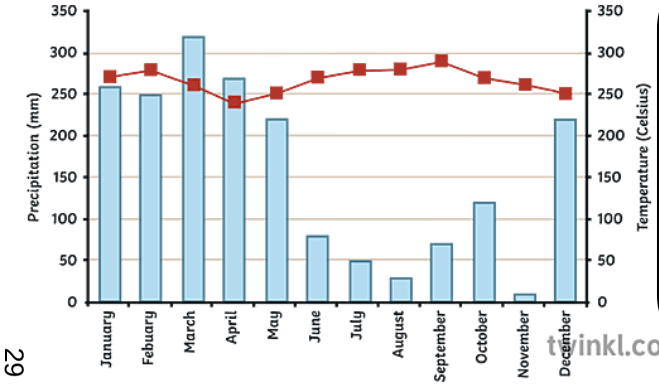
- There are 3 different types of rainfall— frontal, relief and convectional.
- The highest snowfall ever recorded in a one year period was 31.1m in Washington.
- 9 out of 10 lightning bolts strike land rather

Weather— the day to day variations in factors such as temperature, wind speed and pressure.
Climate— the average conditions prevailing in an area in general or over a 30 year period.
Temperature— the degree or intensity of heat present in a substance or object.

Climate Change

Climate change— refers to change in the world's atmosphere including average global temperature and changes in rainfall.
Greenhouse Effect— caused by increased gases such as CO2 in the air trapping heat from the sun, and causing a rise in the temperature of the Earth.
Global Warming— gradual increase in the overall temperature of the earth's atmosphere.

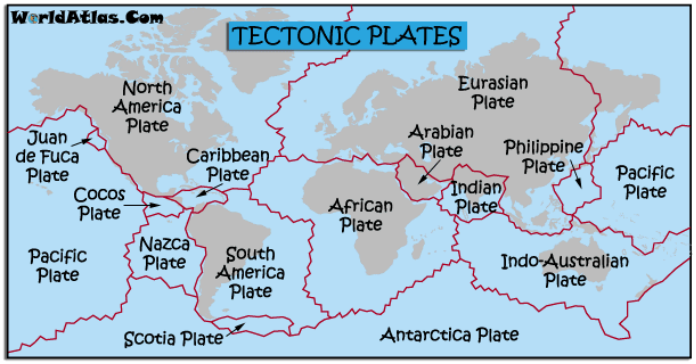
Climate Graphs



1. Look at the overall shape of the graph. ...
2. Look for extremes - quote the highest and lowest temperature and rainfall and the month in which it occurs. ...
3. Can you identify the seasons when most rain or least rain falls? ...

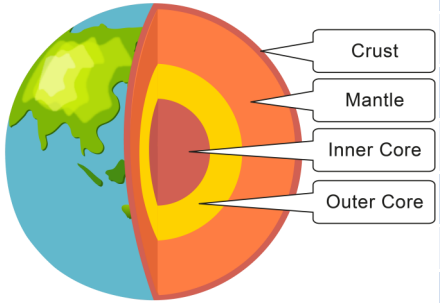
Work out the temperature range by subtracting the lowest figure from the highest figure

Tectonics



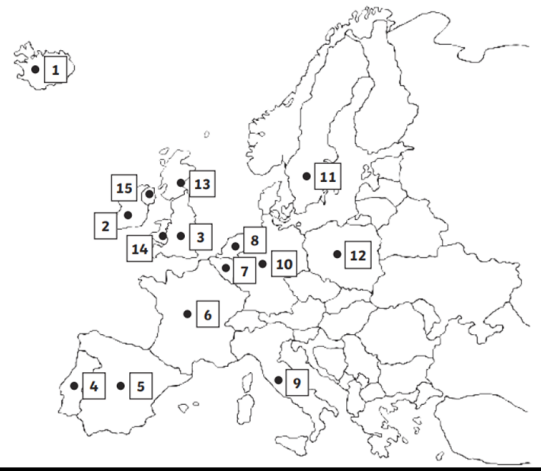
Facts

- The Earth's crust is 8—65km thick.
- Volcanoes and Earthquakes occur along the plate boundaries.
- An earthquake is caused by plates suddenly moving.
- Volcanoes form when liquid rock reaches the Earth's surface.



Number	Country	Capital City
1	Iceland	Reykjavík
2	Ireland	Dublin
3	England	London
4	Portugal	Lisbon
5	Spain	Madrid
6	France	Paris
7	Belgium	Brussels
8	Netherlands	Amsterdam
9	Italy	Rome
10	Germany	Belin
11	Sweden	Stockholm
12	Poland	Warsaw
13	Scotland	Edinburgh
14	Wales	Cardiff
15	Northern Ireland	Belfast

Countries of Europe **Answers**



Key
1 Iceland
2 Ireland
3 England
4 Portugal
5 Spain
6 France
7 Belgium
8 Netherlands
9 Italy
10 Germany
11 Sweden
12 Poland
13 Scotland
14 Wales
15 Northern Ireland

Kesgrave Geography Knowledge Organiser: Year 7 Oceania

Ice and Antarctica

Facts

- Antarctica is the southernmost continent on Earth.
- The South Pole is found in Antarctica.
- Antarctica is surrounded by the Southern Ocean.
- Antarctica is bigger than Europe and almost double the size of Australia.

Glacier- A small glacier, that forms in shady, sheltered hollows high up on the sides of mountains

Arête— A sharp mountain ridge.

Corrie/Cirque— a steep-sided hollow at the head of a valley or on a mountainside.

Plucking— rocks become frozen into the bottom and sides of the glacier. As the glacier moves downhill it 'plucks' the rocks frozen into the glacier from the ground.

Wildfires

Fact

- Bushfires have cost Australia A$2.5 billion over 40 years. It has also destroyed at least 4,554 houses and kills 250 people.

Natural Causes of Wildfires	Human Cause of Wildfires
LIGHTNING	MANAGED FIRES
VOLCANIC ERUPTIONS	CIGARETTES
	SPARKS FROM MACHINERY
	ARSON

Climate change and Islands

Problem?

Climate change in Tuvalu is particularly threatening for the long-term habitability of the island state of Tuvalu. This is because the average height of the islands is less than 2 metres (6.6 ft) above sea level, with the highest point of Niulakita being about 4.6 metres (15 ft) above sea level.

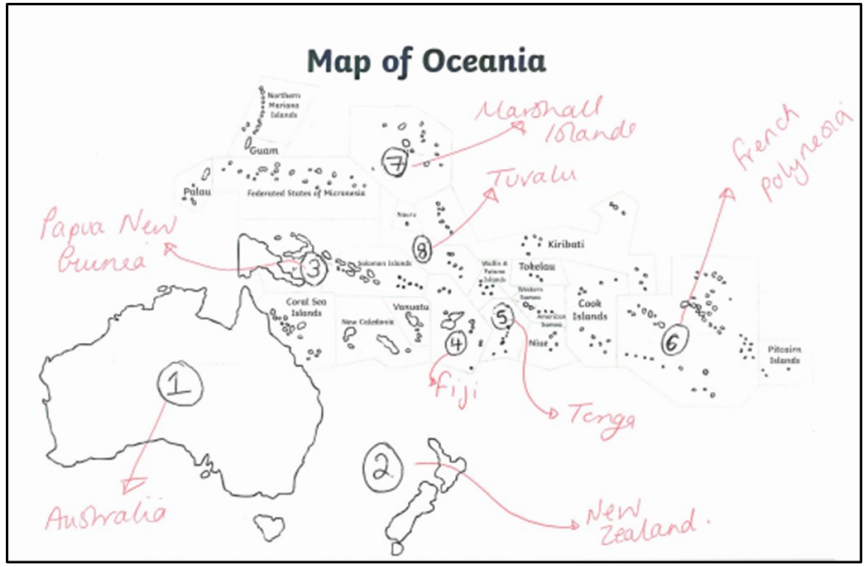
Economic/Social impacts	Environmental impacts
Food shortages through crop failure.	Melting ice caps = sea level rise.
Climate change refugees.	Acidic Oceans.
Heat stroke.	Mass Extinction.
More tropic storms.	Loss of coral reefs.

Aboriginal Australia

Indigenous — means that their ancestors have always lived in the place that they call home.

Colonisation— Colonisation is when another country (such as

Number	Country	Capital City
1	Australia	Canberra
2	New Zealand	Wellington
3	Papua New Guinea	Port Moresby
4	Fiji	Suva
5	Tonga	Nuku'alofa
6	French Polynesia	Pape'ete
7	Marshall Islands	Majuro
8	Tuvalu	Funafuti



HISTORY

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Year 7 History Knowledge Organiser – Middle Ages 1066 – 1485

1. Key dates	
1066	Death of Edward the Confessor
1066	Battle of Stamford Bridge
1066	Battle of Hastings; King Harold defeated and William the Conqueror became King of England
1069-70	The Harrying of the North
1086	Domesday Book compiled
1170	Thomas Becket murdered
1199	King John became King of England
1215	Magna Carta
1216	King John died
1347-51	Black Death spreads across Europe
1381	Peasants' Revolt

William the Conqueror

2. Key people/groups	
Edward the Confessor	King of England who died childless thus sparking various claimants to the throne
Harold Godwinson	Most powerful noble; became King on the death of Edward, angering Duke William of Normandy
Harald Hardrada	Viking leader who wanted to reclaim the English throne for the Vikings
William Duke of Normandy	Invaded England in 1066 and defeated King Harold at the Battle of Hastings. Turned Saxon England into Norman England
Thomas Becket	Archbishop of Canterbury who was murdered on the orders of King Henry II
King John	Became King in 1199, often considered to be the worst King of England
Robin Hood	Semi fictional character who showed King John in a bad light
Wat Tyler	Leader of the Peasants' Revolt

3. Key terms/concepts	
Heir	The person in line to inherit the throne
Cavalry	Soldiers on horseback
Infantry	Foot soldiers
Feudal System	A social construction whereby groups in society were organised to owe loyalty to the group/person above.
Medieval	The "Middle Ages" roughly between 1066 and 1485
Rebellion	Violent protest against a ruler or government
Baron	A Norman noble/lord
Villein	A Medieval peasant who was tied to the land or their Lord
Roman Catholic Church	The only Christian Church in the Middle Ages, headed by the Pope
Monastery	The buildings and land of a Christian community of monks
Archbishop of Canterbury	Head of the Roman Catholic Church in England
Bishop	Below an Archbishop in the Catholic Church; leader of a "see"
Magna Carta	A document written in 1215 outlining the rights of freemen in England
Black Death	A term for "bubonic plague", a disease which first reached Europe in 1347
Poll Tax	A tax on individuals regardless of wealth

Year 7 History Knowledge Organiser – The Roman Empire

The Colosseum

1. Key dates	
753BC	Founding of Rome
509BC	Start of the Roman Republic
27BC	Start of the Imperial Period
410AD	Fall of the Roman Empire
44BC	Murder of Julius Caesar
43AD	Emperor Claudius conquers southern Britain
80AD	Colosseum opened with 100 days of games
113AD	Building of Trajan's Column in Rome
123AD	Building of Hadrian's Wall

2. Key people/groups	
Romulus & Remus	Legendary founders of Rome
Tarquin the Proud	Last king of Rome
Julius Caesar	Famous general & politician who became dictator for life before his murder by a group of senators
Augustus	Great nephew of Julius Caesar – became first emperor after civil war with Mark Anthony & Cleopatra
Julio-Claudian emperors	Descendants of Augustus – Tiberius, Caligula, Claudius and Nero
Senators	Aristocratic men of the ruling class – governed the Republic
Plebs	The ordinary citizens of Rome who enjoyed privileges of free food and entertainment
Slaves	At times up to 40% of the population of Rome
Gladiators and charioteers	The most popular entertainers of the crowds in Rome

3. Key terms/concepts	
Evidence	Historical clues from the past
Source	Different types of clues from the past e.g. books, buildings, artefacts, letters, art
Chronology	The sequence of events over time
BC-AD or BCE/CE	Method of dating (Before Christ/Anno Domini or Before Common Era/Common Era)
Cause and consequence	Reasons why events happen and the effects of them
Significance	Understanding the relative importance of causes and consequences
Government	System by which a community is ruled e.g. dictatorship, democracy. etc
Monarchy	Government by kings or queens
Republic	Government by elected representatives
SPQR	'The senate and the people of Rome' – official name and symbol of the Roman Republic
Empire	Groups of states/peoples governed by a supreme state/leader (emperor)
Conquest	Military expansion of territory (to create an empire)
Tyrant	An oppressive or cruel leader
Dictator	Government by one person – an absolute ruler

MATHS

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Key terminology

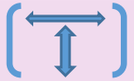
Number | Algebra | Geometry | Statistics

Prime	A number with exactly 2 factors
Negative	Any number below zero
Positive	Any number above zero
Rounding	Altering a number to a given, more convenient number
Inequality	Greater or less than
Integer	A whole number
Numerator	The top of a fraction
Denominator	The bottom of a fraction
Highest Common Factor (HCF)	The largest factor of 2 or more numbers
Lowest Common Multiple (LCM)	The lowest multiple of 2 or more numbers
Of	Multiply
Sum	Addition
Product	Multiply
Difference	Subtract
Inverse	The opposite of a operation.

Coordinate	The position of a point. (x,y)
Quadrant	The name of the different parts of the axis
Substituting	Replacing a letter with a value
Expression	Writing a situation in algebra
Equation	An expression that can be solved
Formula	An expression that can be substituted into in order to find information.
Identity	When both sides of an equations are equal
Inverse	The opposite of a process
Sequence	A pattern that follows a rule
nth term	A rule that describes a sequence. The nth term can be used to find any number in a sequence

Square number	The result of a number being multiplied by itself
Square root	The inverse process of squaring a number

Imperial and metric	Different units of measurements
Perimeter	Distance around a 2D shape
Area	Space inside a 2D shape
Scalene triangle	A triangle with all different sides
Equilateral triangle	A triangle with all equal sides and angles
Isosceles triangle	A triangle with 2 equal sides and angles
Right-angled triangle	A triangle with 1 90° angle
Quadrilateral	A 4 sided shape
Congruent	The same or equal
Parallel	Lines that will never meet
Perpendicular	Lines that meet at a 90° angle
Compound shape	Two or more shapes added together
Rotation	When an object turns around a point.
Reflection	To reflect an object over line of symmetry
Symmetry	When two objects are the same

Translation	When a object is moved
Enlargement	When an object has changed size and position based on a scale factor
Tessellation	When shapes are rotated or translated to form a pattern with no gaps
Translation Vector	
Vertex or vertices	A point (or points)
SAS	Side angle side
ASA	Angle side angle
SSS	Side side side
Volume	The space inside a 3D shape

Mean	Add up all the numbers and dived by how many there are
Median	The middle number of an ordered set of data
Mode	The most common number
Range	Difference between the largest and smallest value

Place value

Use the below table to remind you of place value to be able to answer the example questions. If unsure, copy out the table and fill in your number to discover it's place value.

Remember:

Multiplying by 10, 100, 1000 will shift your number to the left by one, two or three place values.

Dividing by 10, 100, 1000 will shift your number to the right by one, two or three place values.

Hundreds of thousands	Tens of thousands	Thousands	Hundreds	Tens	Units	Tenths	Hundredths	Thousandths	Ten-thousandths	Hundred-thousandths
			1	2	5 •	2	4	0	8	
						$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$	$\frac{1}{10000}$	$\frac{1}{100000}$
100 000	10 000	1000	100	10	1	0.1	0.01	0.001	0.0001	0.00001

Negatives

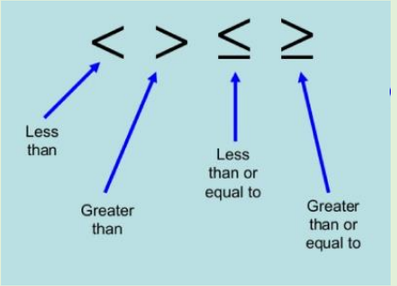
Use these examples to apply to your own questions.

6 x 4	= 24
6 x - 4	= -24
-6 x 4	= -24
-6 x - 4	= 24

6 + 4	= 10
6 - - 4	= 10
6 - + 4	= 2
6 + - 4	=2

20 ÷ 4	= 5
20 ÷ - 4	= -5
-20 ÷ 4	= -5
-20 ÷ - 4	= 5

Inequalities



Examples:

6 < 10 -19 > -19.7

6 + 14 ≤ 20

Improper and mixed fractions

Improper fraction	Mixed fraction
$\frac{12}{7}$ $\frac{5}{3}$	$2\frac{4}{9}$ $5\frac{2}{5}$
$\frac{2}{1}$	$19\frac{5}{7}$
$\frac{29}{5}$ $\frac{7}{2}$	$7\frac{10}{13}$ $8\frac{3}{17}$

Written methods of addition and subtraction

Column addition and subtraction:

789 + 642 becomes

$$\begin{array}{r} 7\ 8\ 9 \\ +\ 6\ 4\ 2 \\ \hline 1\ 4\ 3\ 1 \\ 1\ \ 1\ \ \ \end{array}$$

Answer: 1431

874 – 523 becomes

$$\begin{array}{r} 8\ 7\ 4 \\ -\ 5\ 2\ 3 \\ \hline 3\ 5\ 1 \end{array}$$

Answer: 351

932 – 457 becomes

$$\begin{array}{r} 8\ \ 12\ \ 1 \\ \cancel{9}\ \ \cancel{3}\ \ 2 \\ -\ 4\ 5\ 7 \\ \hline 4\ 7\ 5 \end{array}$$

Answer: 475

932 – 457 becomes

$$\begin{array}{r} 1\ \ 1\ \ \ \\ 9\ 3\ 2 \\ -\ \cancel{4}\ \cancel{5}\ 7 \\ 5\ \ 6\ \ \ \\ \hline 4\ 7\ 5 \end{array}$$

Answer: 475

Using decimals:

$$\begin{array}{r} 2.4 \\ +\ 8.5 \\ \hline 10.9 \end{array}$$

$$\begin{array}{r} 2\ {}^{1}3\ .\ 8\ 4\ {}^{1}0 \\ -\ {}_{1}1\ 6\ .\ 5\ {}_{1}3\ 2 \\ \hline 7\ .\ 3\ 0\ 8 \end{array}$$

Remember to line up the place value of each digit very carefully for both addition and subtraction.

Test your skills:

1) What is the value of the number 3 in 43.7?

2) The temperature overnight in Iceland is -4 °C and goes up by 7 °C by the morning. What is the new temperature?

4) Write any two mixed fractions.

3) What is the value of the number 7 in 145.37?

4) 568 x 100 = ?

5) 42.9 ÷ 1000 = ?

6) 5 x -41 = ?

7) Which of these are an improper fraction?

$\frac{11}{9}$ $\frac{3}{7}$ $2\frac{1}{5}$ $\frac{6}{5}$ $5\frac{1}{2}$

8) Put the correct inequality into each question:

a) 2 1.9 b) 2 $2\frac{1}{8}$

c) -2 -1 d) 9 9

Simplifying a fraction (equivalent fractions)

To simplify a fraction, find the highest common factor of the numerator and denominator. Divide the numerator and denominator by this factor. Check you haven't missed a higher common factor and you can't simplify any further.

$$\frac{3}{21} \xrightarrow{\div 3} \frac{1}{7}$$

If you are unsure and the numerator and denominator are both even, divide both by 2 to give yourself some easier numbers to deal with. If they are both multiples of 10, divide both by 10 before finding a common factor.

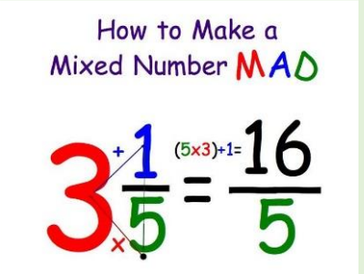
Expressing one quantity as a fraction of another

Any quantity can be written as a fraction of another. To express one quantity as a fraction of another, write the quantity 'out of' the total, then simplify the fraction if possible. For example:
Write 16 as a fraction of 20.

$$\frac{16}{20} \xrightarrow{\div 4} \frac{4}{5}$$

Converting between mixed fractions and improper fractions

To convert from a mixed fraction (also known as a mixed number) to an improper fraction, use the word MAD to help you. Multiply the denominator with the integer, add to the numerator and express as a division.
To convert from an improper fraction to a mixed number, do the opposite of this. Divide the numerator by the denominator. The integer value from your answer will be the whole number. Your remainder is the numerator to express as a division above the original denominator.



Fraction of an amount

To find a fraction of any given amount, divide the amount by the denominator and multiply by the numerator.

For example:

One quarter of 20 is the same as saying:

$\frac{1}{4}$ of 20

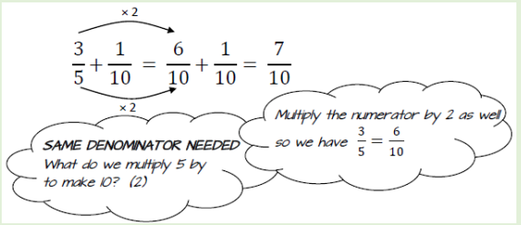
20 ÷ 4 = 5
5 x 1 = **5**
One quarter of 20 is **5**.

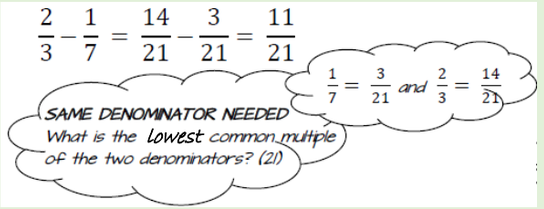
$\frac{3}{7}$ of 42

42 ÷ 7 = 6
6 x 3 = 18
Three sevenths of 42 is **18.**

Adding and subtracting fractions

To add or subtract a fraction you must have the same denominator. If it is a mixed fraction, you will need to convert to an improper fraction first.





Test your skills:

1) Complete these equivalent fractions:

a) $\frac{2}{5} = \frac{16}{\quad}$ b) $\frac{3}{7} = \frac{36}{\quad}$ c) $\frac{2}{3} = \frac{12}{\quad}$

2) Convert these improper fractions to mixed fractions:

a) $\frac{13}{7}$ c) $\frac{26}{3}$ $\frac{7}{2}$

3) a) $\frac{5}{14} + \frac{2}{7}$ b) $\frac{3}{4} + 2\frac{5}{6}$

c) $\frac{4}{5} - \frac{5}{8}$ d) $2\frac{5}{9} - \frac{17}{18}$

4) What is one third of 63?

5) a) $\frac{4}{5}$ of 75 b) $\frac{3}{8}$ of 24 c) $\frac{2}{9}$ of 27

Percentage definition

Percent means 'out of one hundred' or 'number of parts per one hundred'.

100 % as a fraction is $\frac{100}{100}$ or simply **1.**

Percentage of an amount

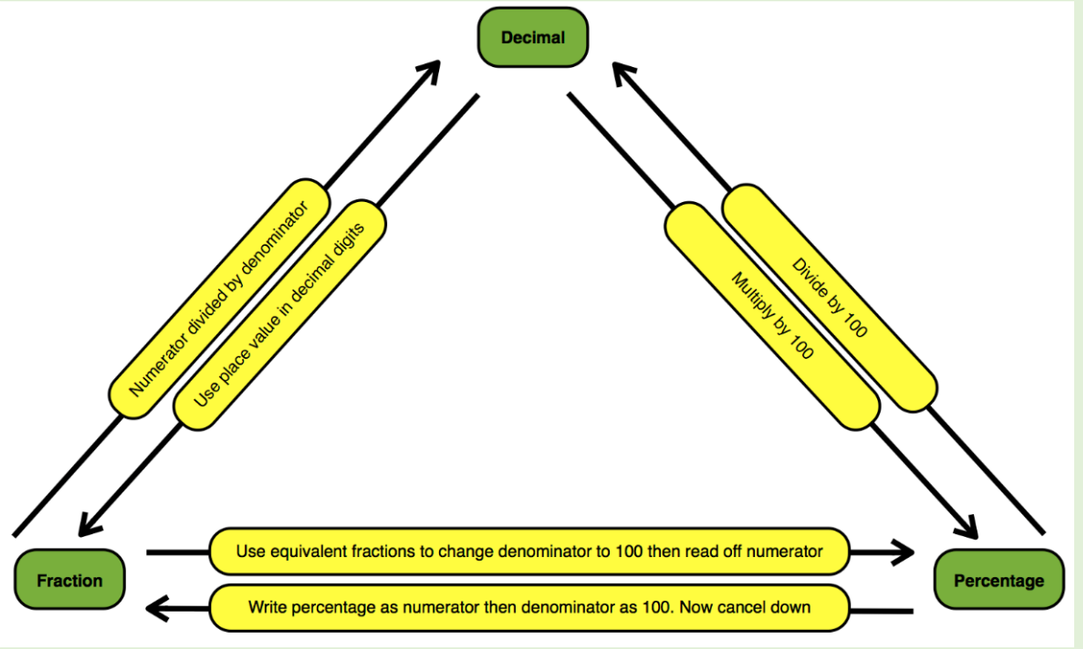
These are the percentages of amounts you will need to know for year 7. There are lots of ways to calculate them but here are some easy methods to help you remember:

Percentage	Fraction	How to find it…
50%	$\frac{50}{100} = \frac{1}{2}$	Divide by 2
25%	$\frac{25}{100} = \frac{1}{4}$	Divide by 4
75%	$\frac{75}{100} = \frac{3}{4}$	Find 25%, then multiply by 3
10%	$\frac{10}{100} = \frac{1}{10}$	Divide by 10
20%	$\frac{20}{100} = \frac{1}{5}$	Divide by 5, or double 10%
5%	$\frac{5}{100} = \frac{1}{20}$	Divide by 20, or half 10%
1%	$\frac{1}{100}$	Divide by 100

Some basic conversions that are good to know from memory:

Decimal	Percentage	Fraction
0.5	50%	$\frac{1}{2}$
0.25	25%	$\frac{1}{4}$
0.75	75%	$\frac{3}{4}$
0.2	20%	$\frac{1}{5}$
0.1	10%	$\frac{1}{10}$
$0.\dot{3}$	$33.\dot{3}\%$	$\frac{1}{3}$

Converting between percentages, decimals and fractions



A few examples of various styles of questions:

0.83 = 83% 46% = 0.46

0.03 = 3% 9% = 0.09

$\frac{7}{20} = \frac{35}{100} = 35\%$ (×5, ×5)

20 × 5 = 100

You need multiply or divide to make the denominator 100

$\frac{13}{25} = \frac{52}{100} = 52\%$ (×4, ×4)

25 × 4 = 100

$55\% = \frac{55}{100} = \frac{11}{20}$ (÷5, ÷5)

$8\% = \frac{8}{100} = \frac{2}{25}$ (÷4, ÷4)

Test your skills:

1)

1. Find 25% of £940
2. Find 75% of £100
3. Find 75% of £660
4. Find 25% of £80
5. Find 10% of £460
6. Find 20% of £60
7. Find 5% of £940
8. Find 20% of £140

2. Complete this table

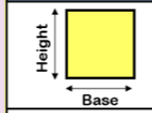
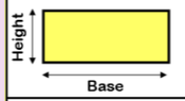
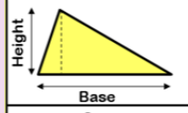
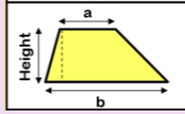
Fraction	Decimal	Percentage
$\frac{1}{5}$		
$\frac{3}{5}$		
	0.25	
$\frac{1}{10}$		
$\frac{5}{8}$		
$\frac{3}{10}$		75%
	0.06	

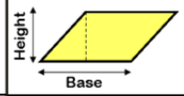
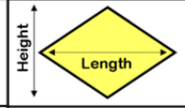
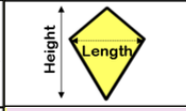
Imperial and metric units

Imperial	Metric
Inch	Millimetre
Foot	Centimetre
Yard	Metre
Mile	Kilometre
Ounce	Gram
Pound	Kilogram
Fluid ounce	Millilitre
Pint	Litre

Area of a shape

The area of a 2D shape is the space inside the shape. For different shapes, there are important formulas to remember:

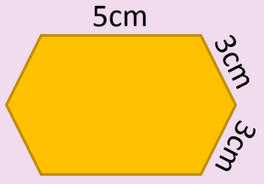
Shape	Name	Formula for Area
	Square	Base x Height
	Rectangle	Base x Height
	Triangle	Base x Perpendicular Height ÷ 2
	Trapezium	$\frac{(a + b) \times \text{height}}{2}$

Shape	Name	Formula for Area
	Parallelogram	Base x Perpendicular Height
	Rhombus	Length x Height ÷ 2
	Kite	Length x Height ÷ 2

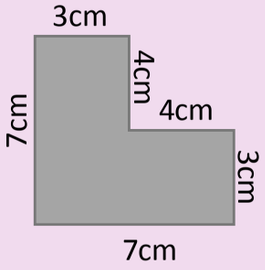
Perimeter of a shape

Perimeter is the distance around the outside edge of a 2D shape. Look at these examples to see how the perimeter has been calculated:

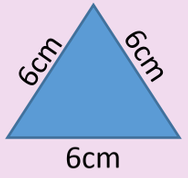
4 + 4 + 9 + 9 = <u>26cm</u>



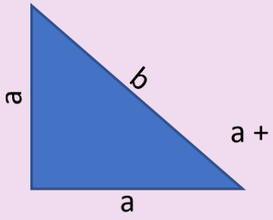
5 + 5 + 3 + 3 + 3 + 3 = <u>22cm</u>



3 + 4 + 4 + 3 + 7 + 7 = <u>28cm</u>



6 + 6 + 6 = 3 x 6 = <u>18cm</u>



a + a + b = <u>2a + b</u>

Area units

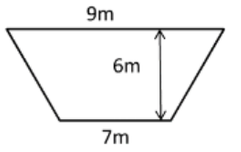
The unit of measure for area is the unit itself squared. For example:

Length	Area
mm	mm^2
cm	cm^2
m	m^2
km	km^2

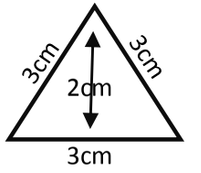
Test your skills:

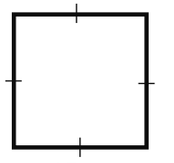
1) List 5 imperial measurements

2) Calculate the area of this shape:

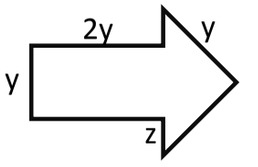


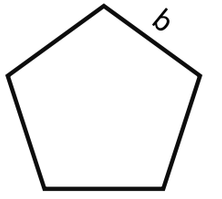
3) Calculate the perimeter and area of these shapes:





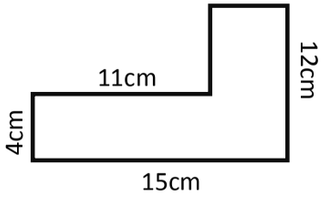
4) Find the perimeter of these shapes:



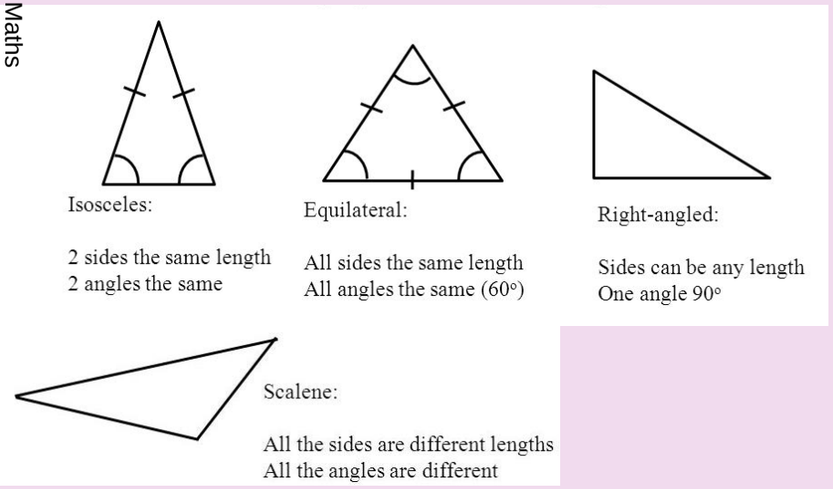


5) Give 3 metric measurements for length

6) What is the area of this compound shape?



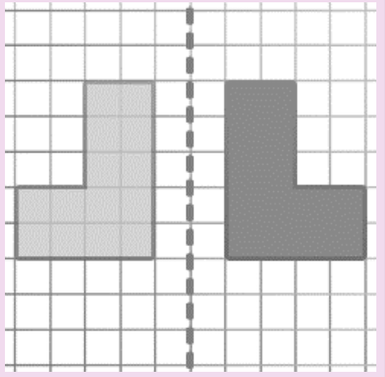
Properties of shapes



Shape	Characteristics	Name
	Exactly one pair of parallel sides	Trapezoid
	Two pairs of parallel sides	Parallelogram
	Parallelogram with congruent sides	Rhombus
	Parallelogram with right angles	Rectangle
	Rectangle with congruent sides	Square

Reflection

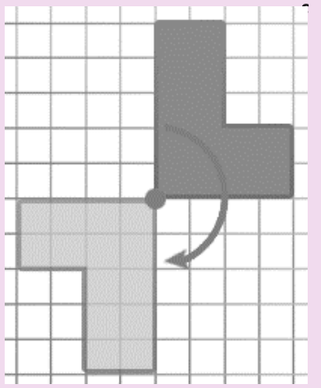
You should be able to reflect a shape in a given mirror line and also draw in a line of where a shape has been reflected. The best way to practice doing this is to use a little mirror.



Rotation

Shapes can be rotated from any point on a grid. Use tracing paper to determine the centre of rotation or to rotate a shape. You will need to remember how to read and write a co-ordinate (*x, y*). Rotations are given a direction (clockwise or anti-clockwise), degree rotation and a centre.

Top tip! If it has been rotated from the centre of a grid we can also say it has been rotated about the origin



Translation

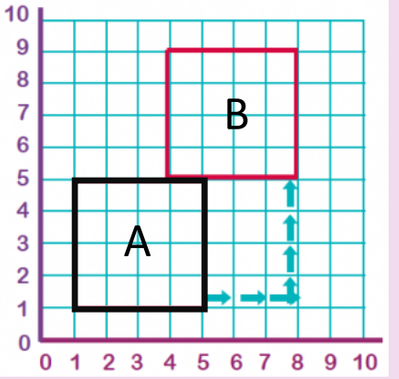
Translation describes a shape which doesn't change in size but simply moves across a grid. We describe this movement using words but you will start to learn how to also use a vector.

In this example we can describe the translation of shape A to shape B by using one vertex (bottom right for this example) and counting how many squares right then how many squares up it has moved.

in this case, it has moved three squares right and four squares up.

OR

As a vector: $\begin{pmatrix}3\\4\end{pmatrix}$ where the top number gives us the right or left direction and the bottom number gives us the up or down direction.



Test your skills:

1) State the key differences between an equilateral, isosceles and scalene triangle.

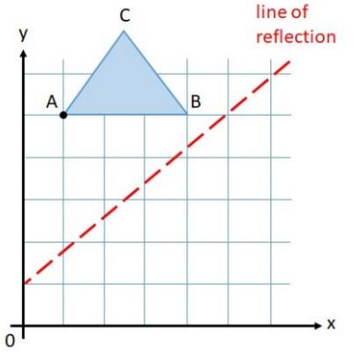
2) What is the difference between a rhombus and a parallelogram?

3) On squared paper, draw a 4cm x 7cm rectangle. Translate this rectangle 3 squares to the left and 4 squares up.

4) How would you write the above translation from question 3 as a vector?

5) Which triangles can also be a right angled triangle?

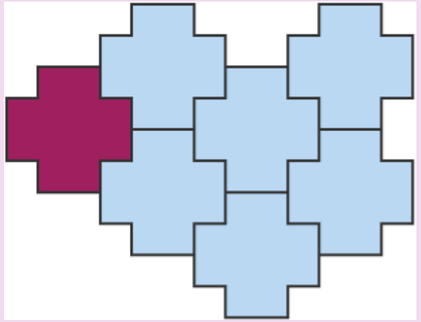
6) Reflect this shape in the given line:



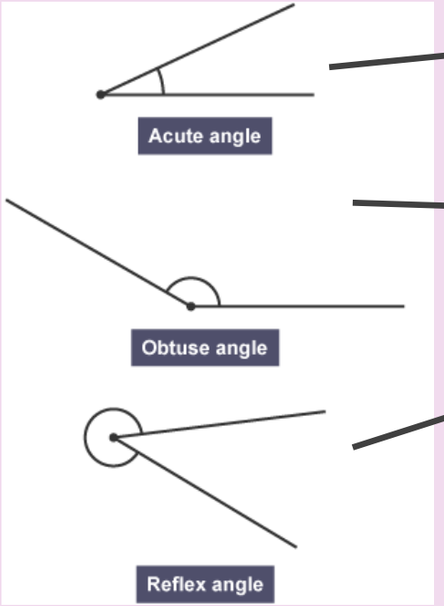
7) Draw a compound shape such as the one in the example for rotation on a square grid. Now rotate this shape using three different points to test your skills of using tracing paper and accurately representing the result of the rotation.

Tessellation

Tessellation is when we take a geometric shape and tile it with no gaps or overlaps. To do this we can use reflection, rotation and translation to describe our tessellation.



Types of angles



Less than 90°

Greater than 90° but less than 180°

Greater than 180°

Using this information we can estimate the size of angles.

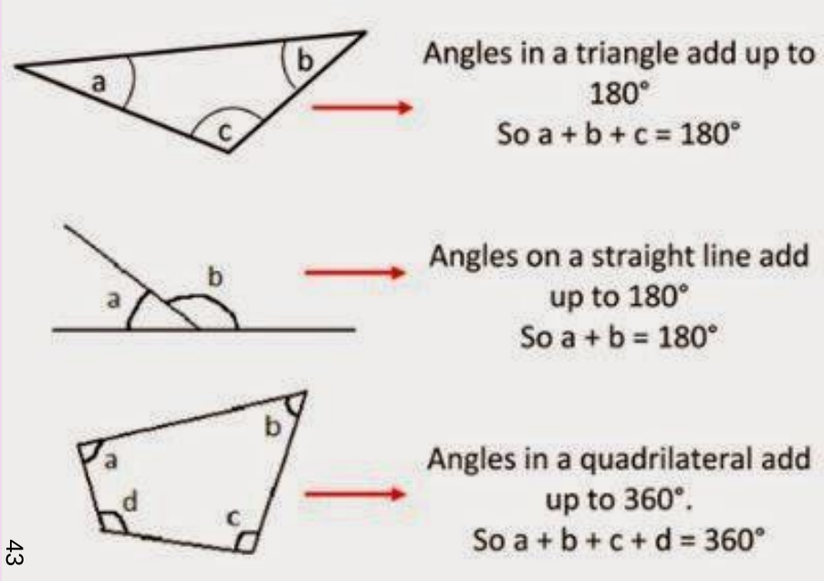
This first one could be approximately 35°

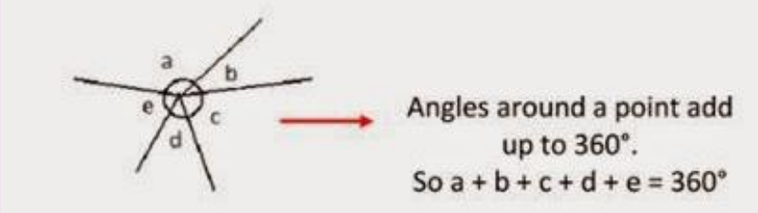
The second, approximately 120°

The third could be 310°

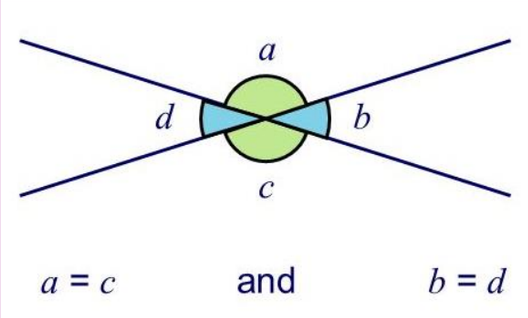
Angle facts

Some important angle facts to remember:





When two lines intersect, two pairs of vertically opposite angles are formed:

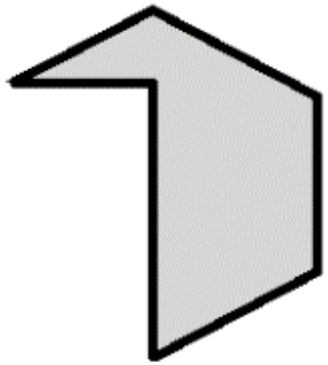


Test your skills:

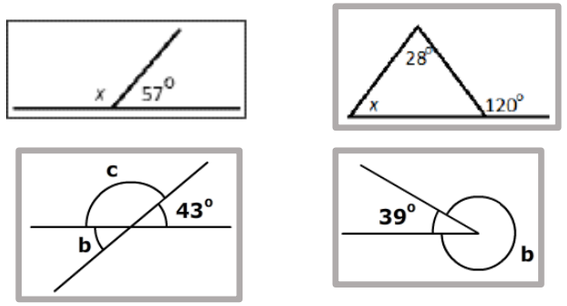
1) Create your own tessellation as a front cover of your knowledge organiser booklets. Make sure you are not overlapping the shapes or leaving any gaps.

2) Using your knowledge of angles, can you estimate the size of these angles without measuring?

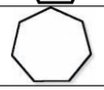
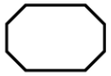
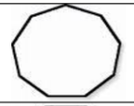
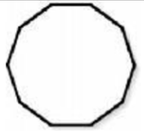
3) Can you measure the internal angles of this irregular hexagon?



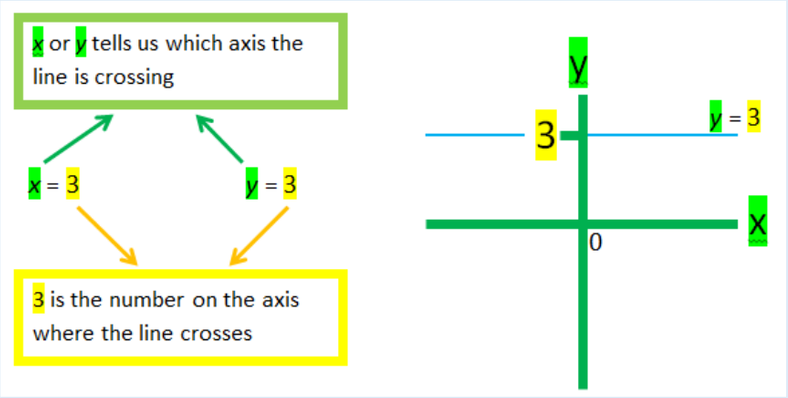
4) Find the missing angle in these questions:



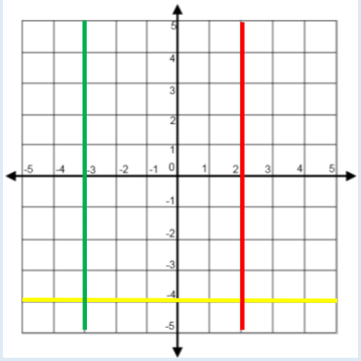
Names of important shapes:

Name of polygon	Figure	Number of sides
A Triangle		3
A Quadrilateral		4
A Pentagon		5
A Hexagon		6
A Heptagon		7
A Octagon		8
A Nonagon		9
A Decagon		10

How to plot a straight lines in the form x=n and y=n



x = -3 | x = 2 | y = -4



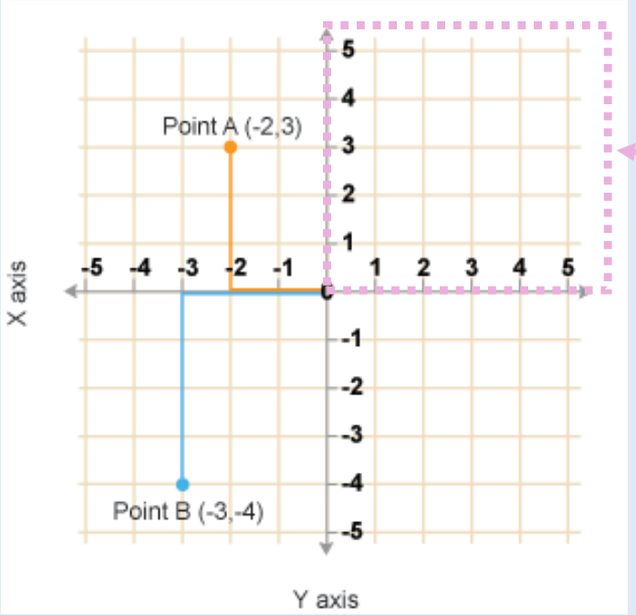
Substituting values

a = 2, b = 3: 2a + b = 4 + 3 = 7

a = -2, b = 3: 2a + b = -4 + 3 = -1

a = -2, b = -3: 2a + b = -4 + -3

Plotting coordinates in all four quadrants

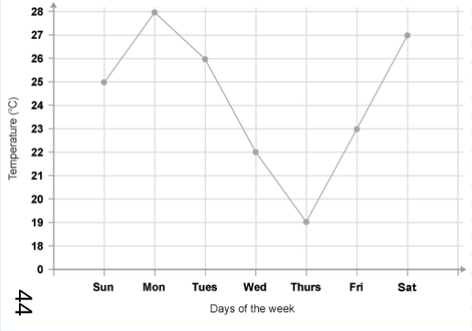


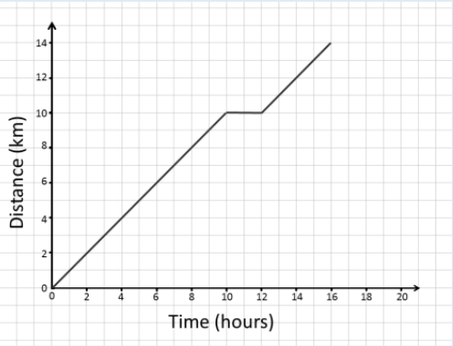
(x, y)

Along the corridor and up the stairs!

Real-life graphs and reading information from them:

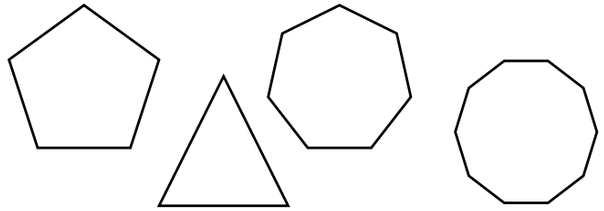
You will need to be familiar with various types of real-life graphs. Some examples are below:





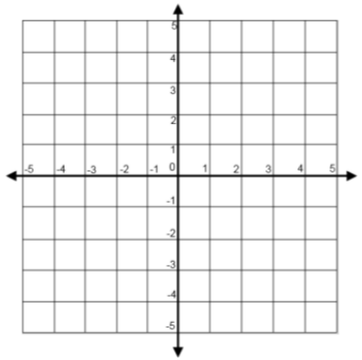
Test your skills:

1) Name these shapes and state how you know:



2) On this grid, plot the following points and label them:

a) (0, 4) b) (-3, 4) c) (2, 0) d) (5, -4) e) (-1, -4)



3) On the same grid plot the following lines and label them:

a) y = -3 b) y = 5 c) y = 0 d) x = 2 e) x = -1

4) Using the example real life graphs, answer these questions:

a) On what day was the temperature the highest?

b) What is the difference between the highest and lowest temperatures?

c) How many hours was the car stationary for?

How to express a statement using algebra

A statement involving numbers can be written using Algebra, especially when we don't know the value of the numbers. The best way to understand how to do this is to follow some examples:

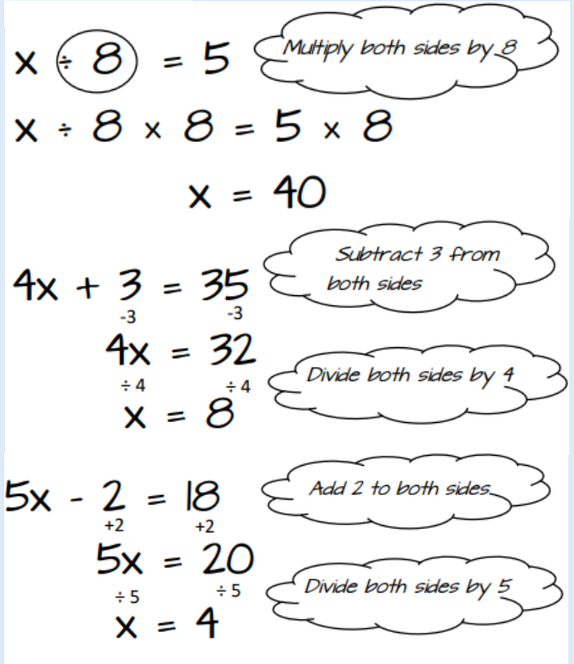
Piere has some sweets and some popcorn. We can use *s* for sweets and *p* for popcorn. The total of Piere's party food is *s + p.*

Simone has twice as much food as Piere. Using the example above, we just need to multiply each item by two. Therefore we can express this as *2s + 2p.*

Mavis bought 3 bags of chocolate mice. She has 27 chocolate mice in total, by forming an equation calculate how many chocolate mice are in each bag? By forming an equation for the statement using *b* for bags of mice, we would write *3b = 27.* We can then re-arrange this equation to find out how many mice are in each bag. Simple questions like this we can also use our logic but it is important to be able to write these out as well so we can tackle the trickier problems later on.

Solving equations

One of the most important things to remember is to be able to solve an equation, you need to balance both sides. This can be done by calculating the inverse operation.



Collecting like terms

Algebra can be simplified by collecting letters and numbers together. This is known as *collecting like terms* or *simplifying an expression.*

Have a look at these examples, then try some from the section on the right.

1) a + a = 2a
2) 3a + a =4a
3) a + a + b =2a + b
4)a x 0 =0
5) a x 1 =a
6) a x 2 =2a
7) a x a =a^2
8) a x b =ab
9) 2b x 3 =6b
10) 4b x 3b =$12b^2$
11) 9a x a x 4 =$36a^2$
12) 3a x 6a =$18a^2$
13) b x 2a =2ab
14) 4p x 3y =12py
15) 5a x 2b =10ab
16) 5b x 2ab =$10ab^2$
17) a - a = 0
18) 3a - a =2a
19) 4a - a + b =3a + b
20) a ÷ 1 =a
21) a ÷ 2 = ½a
22) a ÷ a =1
23) a ÷ b =$\frac{a}{b}$
24) 6b ÷ 3 =2b
25) 12b ÷ 3b =4
26) 9a ÷ a =9

Substituting values into expressions

When substituting values into expressions the easiest way to think about doing it is to replace every letter that you are substituting with the number in a bracket. For example:

When a = 4, what is the value of 3 + a? We would write 3 + (4), which gives us 7.

It is important to recall that a number next to a letter or a bracket means 'multiply'. Therefore, look how this example is slightly different. *When b = 7, what is the value of 2b + 3?* We would write 2(7) + 3 which would mean 2 x 7 + 3. Our rules of BIDMAS help us with this question too. Therefore our answer would be 14 + 3 = 17.

Test your skills:

1) Simplify the following:

a $2a + 3a - a$ **c** $12r + 4r + 5r + 5 - 2$

b $6y + 2y - 1$ **d** $4b - 2a - b + 5a$

2) Solve the following:

1. x ÷ 8 = 9 **5.** 5x + 10 = 70
2. 8x = 72 **6.** 5x + 11 = 66
3. 5x = 15 **7.** 10x - 8 = 62
4. x ÷ 9 = 9 **8.** 12x - 9 = 51

3) Simplify these expressions:

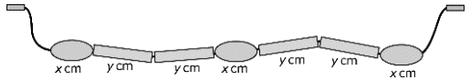
a) 2b x 4 b) 10b ÷ 2b c) 7y x 0

d) 3y x 6y e) b ÷ 0 f) 9b ÷ b

4) When x = 4 and y = -2, find the value of:

a) 2x b) 2y + x c) ½x – y

5) This necklace is made from two different types of beads.
They are either *x* cm long or *y* cm long.
Write the total length of the beads in the necklace as simply as possible using *x* and *y*.



How to find the highest common factor

Find the highest common factor of 30 and 45

The factors of 30 are

1, 2, 3, 5, 6, 10, 15 and 30

The factors of 45 are

1, 3, 5, 9, 15 and 45

The 'highest' number in both lists is 15

15 is the highest common factor of 30 and 45

How to find the lowest common multiple

Find the lowest common multiple of 18 and 30

The first few multiples of 30 are

20, 60, 90, 120, 150

The first few multiples of 18 are

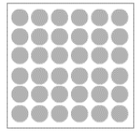
18, 36, 54, 72, 90

90 is the smallest number in both lists

90 is the lowest common multiple of 18 and 30

What is a square number?

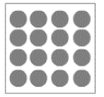
A square number can end only with digits 0, 1, 4, 6, 9, or 25.

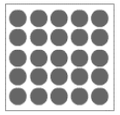
4		2^2 or 2 x 2 = 4
9		3^2 or 3 x 3 = 9
16		4^2 or 4 x 4 = 16
25		5^2 or 5 x 5 = 25
36		6^2 or 6 x 6 = 36

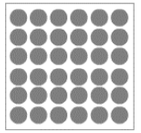
It is very useful to memorise as many square numbers as possible, ideally up to 12^2 for year 7.

$\sqrt{4} = 2$

$\sqrt{9} = 3$

$\sqrt{16} = 4$ 

$\sqrt{25} = 5$ 

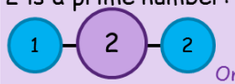
$\sqrt{36} = 6$ 

To square root a number, we are doing the inverse of 'squaring' a number. Use the above table and the square number table to see the relationship between the numbers.

What is a prime number?

A **prime number** has only two factors, 1 and the number itself.

2 is a prime number:



1 × 2 = 2

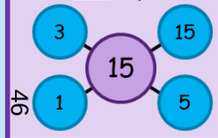
Only two factors

11 is a prime number:

1 × 11 = 11

Only two factors

15 is **not** a prime number:



1 × 15 = 15

3 × 5 = 15

Four factors!

Learn the prime numbers up to 50. These are: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47.

Top Tip

2 is the only even prime number. Many of the "weird" odd numbers (11, 13, 17) are prime.

Watch out!

1 is **not** a prime number! It only has **one** factor: the number 1 (1 × 1 = 1)

The three averages

The MEDIAN is the value in the middle when the data list listed **in order**

Example 1

2, 5, 4, 2, 1

Write the data in order

1, 2, 2, 4, 5

MEDIAN = 2

Example 2

4, 5, 5, 8, 8, 10

If there are 2 numbers in the middle

$$\text{MEDIAN} = \frac{5+8}{2} = \frac{13}{2} = 6.5$$

The MODE is the value that occurs most often

2, 4, 2, 6, 1, 4, 2

There are more 2's in the data list than any other number so the MODE = 2

To calculate the mean

3, 6, 3, 10, 8

Step 1 : Add all of the 'numbers' together

3 + 6 + 3 + 10 + 8 = 30

Step 2 : Divide your total by the number of values in your data list

MEAN = 30 ÷ 5

= 6

Test your skills:

1) a) Here are the first three multiples of 6. Write the next two multiples.

6 12 18 ____ ____

b) Write the next two multiples of 9.

9 18 27 ____ ____

c) Which number is the lowest common multiple of 6 and 9?

2) Between which two whole numbers does the square root of 20 lie?

3) Which prime number is a factor of both 12 and 15?

4) Which two prime numbers multiply to give 21?

5) Without using a calculator, find the sum of:

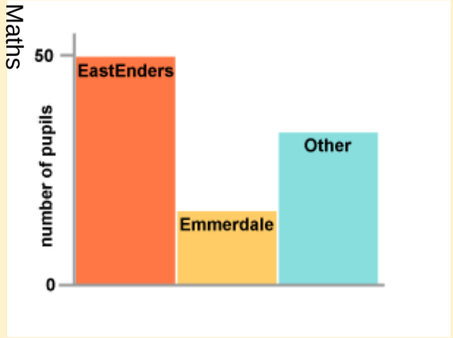
a) $\sqrt{81}$ and $\sqrt{4}$

b) The HCF of 12 and 28 and the 5th prime number

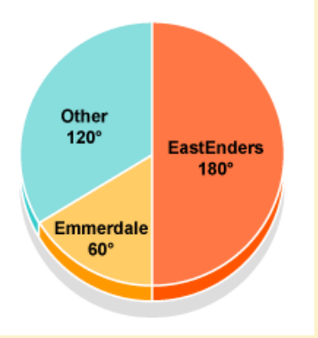
6) Averages practice:

1. Calculate the mean 10, 8, 12, 7, 23
2. Find the mode 11, 3, 22, 3, 11
3. Calculate the mean 6, 3, 3, 17, 5, 50
4. Calculate the mean 14, 13, 10, 5, 5, 1
5. Find the median 0.1, 0.4, 1.3, 1.3, 1.5, 0.9
6. Find the median 19, 19, 11, 7, 6

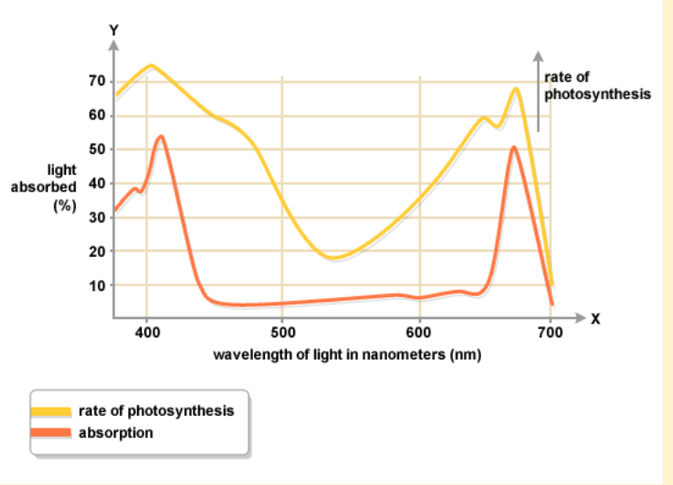
The different graphs and charts to remember:



Bar chart



Pie chart



Line graph

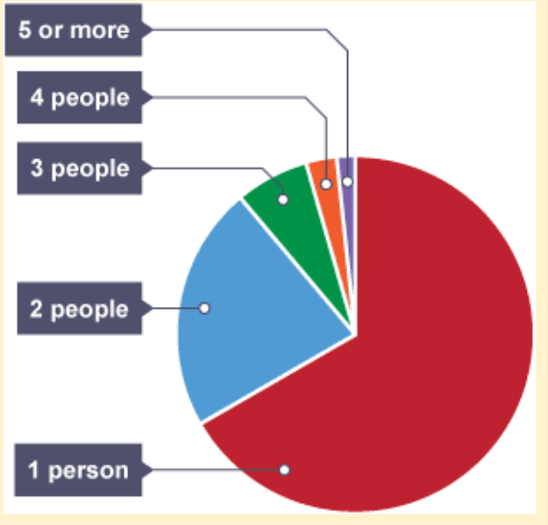
How to draw a pie chart:

A pie chart is a circular chart. It shows the proportion of each group at a glance. Remember that there are 360° in a circle so each group in the pie chart will be a proportion of 360°.
Have a look at this example to see the steps you need to take to draw one:

A survey of the number of people in 180 vehicles is taken.
The results are in the table below.

Number of people in a vehicle	Frequency
1	120
2	40
3	13
4	5
5 or more	2
Total	180

Number of people in vehicle	Frequency	Calculation	Angle
1 person	120	$\frac{120}{180}$ x 360°	240°
2 people	40	$\frac{40}{180}$ x 360°	80°
3 people	13	$\frac{13}{180}$ x 360°	26°
4 people	5	$\frac{5}{180}$ x 360°	10°
5 or more	2	$\frac{2}{180}$ x 360°	4°
Total	180		



To draw a pie chart for this data, find the proportion of 360.

Test your skills:

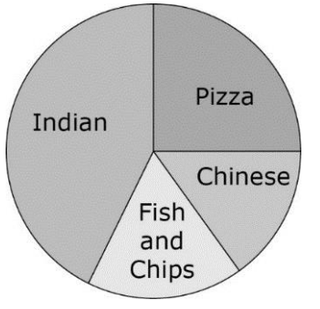
1) During a deep-sea dive, scientists recorded how many of each sea creature they spotted over a one hour period. Their results are shown in this table:

Sea creature	Gulper eel	Angler fish	Vampire squid	Lantern fish	Six-gill shark
Number	6	9	4	8	3

Draw a bar chart and a pie chart for this data.

2) A group of students were asked "What is your favourite takeaway?"

The pie chart shows the results.



a) Which is the most popular?
b) What fraction of the students chose pizza?
c) If 27 students chose pizza, how many students does the pie chart represent?

How to read a tally chart and convert into a frequency table:

When a lot of data needs to be sorted, one of the most efficient ways is to use a frequency table.
It is important to consider the sizes of groups when sorting data into a frequency table.
Have a look at this example to see how to sort data into a more efficient and readable manner:

Megan owns a bakery. She counts the number of customers she has at lunchtime each day on 30 consecutive days. These are the results:

13	8	16	12	12	16
7	18	11	16	15	7
11	12	13	21	17	19
11	14	10	19	13	12
7	16	6	14	12	18

It can be useful to put the data into groups to give an overview summary of the data. The smallest number is 6 and the biggest number is 21, so groups that have a width of 5 are reasonable. This will give four groups as shown below.

Number of customers,	Tally	Frequency
5-10	𝍸 I	6
11-15	𝍸 𝍸 IIII	14
16-20	𝍸 IIII	9
21-25	I	1

From this data we can say that the modal frequency was the group containing 11-15 customers as it has the highest frequency.

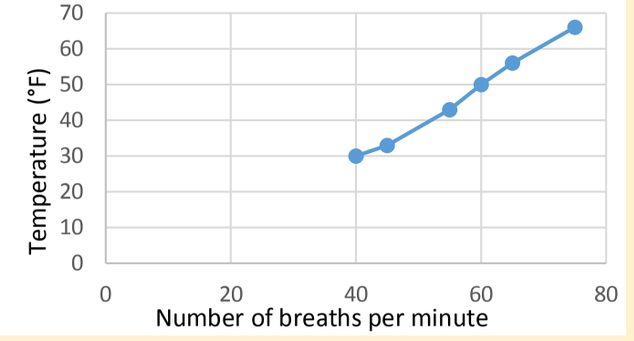
Drawing a line graph:

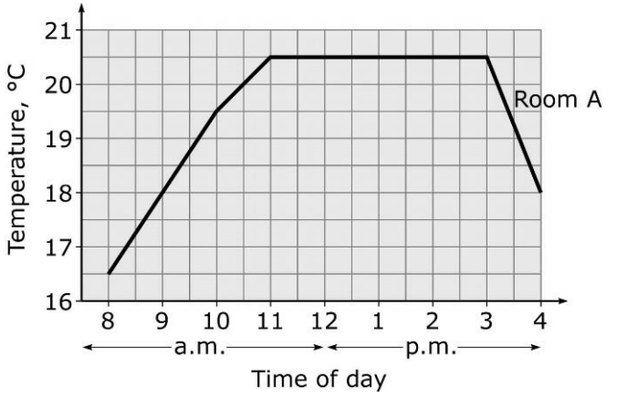
If we need to draw a line graph, we must ensure our graph includes titles for the x and y axis and a suitable and accurate scale (can not change part way along the axis).
Here is an example of some data regarding breaths of a fish:

Wayne recorded how many times his fish Waynetta breathed at different temperatures. Here is his data:

Temperature (˚F)	Number of breaths per min.
40	30
45	33
55	43
60	50
65	56
75	66

Construct a line graph to show this data:





Test your skills:

1) Kim samples the length of text messages that she receives.
The number of characters used in 30 messages are as follows.

12, 24, 32, 15, 26, 45, 15, 28, 22, 26, 19, 42, 24, 38, 33, 26, 38, 42, 14, 23, 18, 36, 22, 30, 15, 20, 42, 31, 27, 29

Complete the grouped frequency table:

Number of characters	10–19	20–29	30–39	40–49
Tally				
Frequency				

2) The temperature in two classrooms varies during the school day. The temperature in room A is shown on the graph on the left.
The temperature in room B is shown in the table.

a) Draw a line graph for room B on the same axes as room A.
b) In which room did the temperature first rise above 20 °C?
c) In which room was the heating switched off first?

	a.m.					p.m.			
Time	8	9	10	11	12	1	2	3	4
Temperature, °C, in room B	16.5	16.5	16.5	20.0	21.0	21.0	20.5	17.0	16.5

What is a sequence?

A number sequence is a list of numbers that are linked by a rule. If you work out the rule, you can work out the next numbers in the sequence.

Examples:

- 3, 5, 7, 9, 11
- 2, 6, 10, 14, 18
- 1, 4, 9, 16, 25

Some important sequences to be able to recognise:

Even numbers
2, 4, 6, 8, 10, 12…
Odd numbers
1, 3, 5, 7, 9, 11…
Square numbers
1, 4, 9, 16, 25, 36, 49, 64…
Cube numbers
1, 8, 27, 64, 125…
Powers of 2
2, 4, 8, 16, 32, 64…
Powers of 10
10, 100, 1,000, 10,000, 100,000, 1,000,000…
Triangle numbers
1, 3, 6, 10, 15, 21, 28…

How to describe a sequence:

A sequence can be described using it's position and term to term rule. From this information we can work out the nth term of the sequence.

Position: 1 2 3 4

↓ ↓ ↓ ↓

1st term → 2, 5, 8, 11…

+ 3

Term to term rule

This can be calculated using knowledge of the previous term. In the example, what would be the term before the 1st term? To work this out we need to subtract 3 from the first term, as we know this is the term to term rule. This would give us -1. Using this and the term to term rule, we write this information in the form:

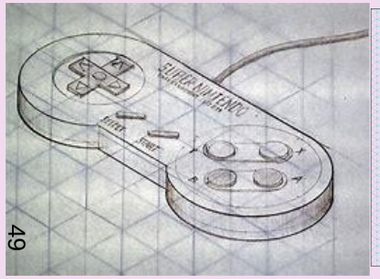
3n -1

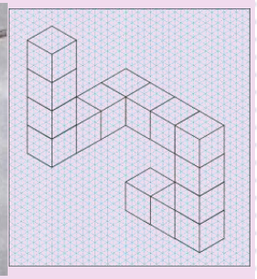
Where *n* can be any integer. We can then check our answer by substituting a value (which represents the position of the sequence) into the expression and we should achieve that position's term.

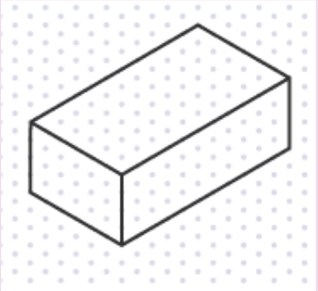
If n is 4, then 3 x 4 – 1 = 12 – 1 = 11 → Hooray!

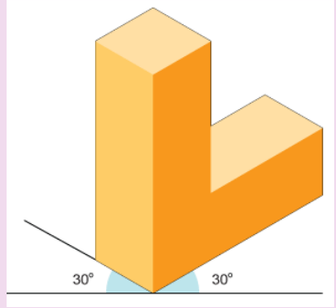
Isometric drawing

A representation of a 3D solid on a 2D surface is called a projection.
Isometric projection uses vertical lines and lines drawn at 30° to horizontal.









How to generate a sequence:

If the nth term of a sequence is 10n - 6 find the 9th term

For the 9th term n = 9

10 × 9 - 6 = 84

Substitute your value for n into the formula for the nth term

Test your skills:

1) A child makes a sequence using buttons.

a) Draw the 5th and 6th patterns.
b) Complete this table to show the number of buttons used:

Pattern	1st	2nd	3rd	4th	5th	6th
Number of buttons used	4	7	___	___	___	___

2) What is the nth term of this sequence?

-4, -1, 2, 5

3) Generate the first five terms of 2n -5

4) Here is a sequence of numbers.

240 120 60 _____ _____

a) Find the rule that gives you the next term in this sequence.

b) Write the next two terms in the sequence in the spaces provided.

c) Is the number 3 in this sequence?

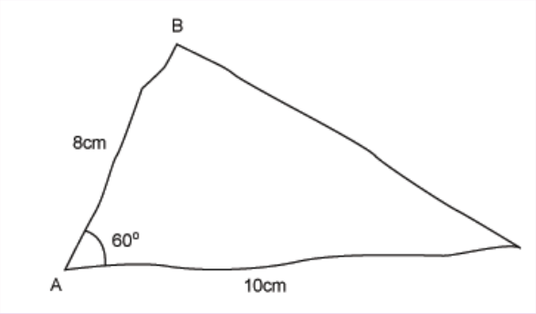
Drawing triangles

You may be required to construct a triangle with limited information. This could be either lengths of sides or degree of angles.

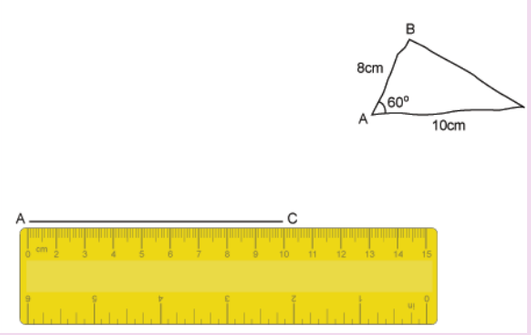
To construct these three different types of triangles you will need a ruler, pencil and either a compass or a protractor depending on the type of triangle.

SAS triangles

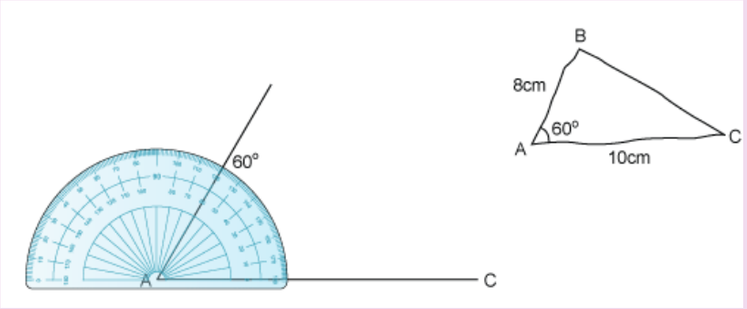
Construct this triangle accurately:



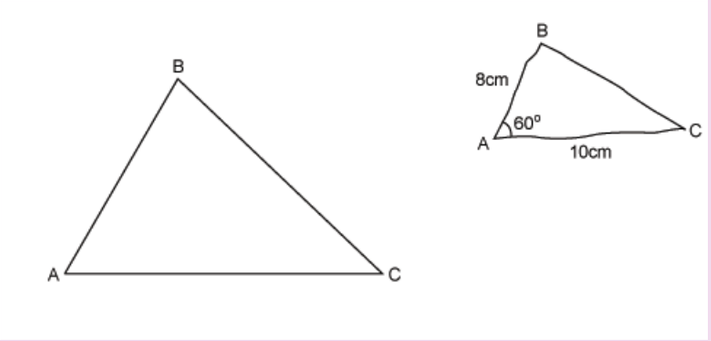
Step one: Draw the base line of 10cm



Step two: Measure the angle from A of 60°



Step three: Measure the length of AB and then connect B and C together

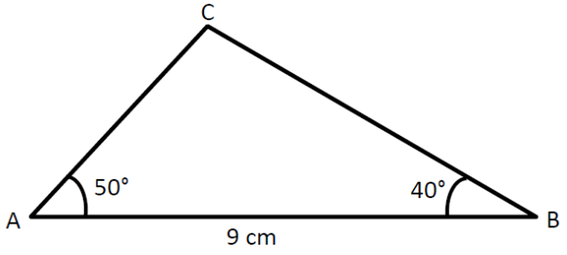


You may be asked questions such as “now measure the line BC” or “what is the angle BCA?”

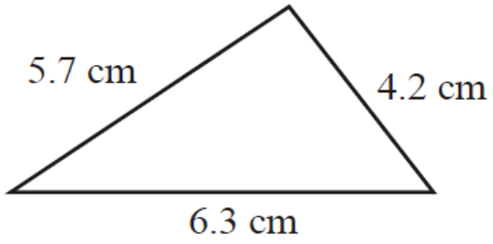
(Look at the examples on the following page before trying the skills section.)

Test your skills:

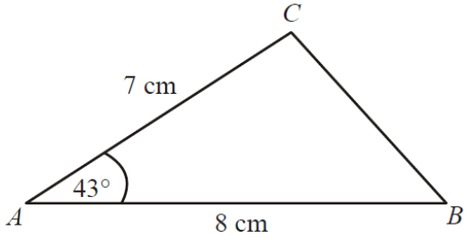
1) Construct triangle ABC. Measure the side BC



2) Construct this triangle accurately:



3) Construct this triangle accurately:



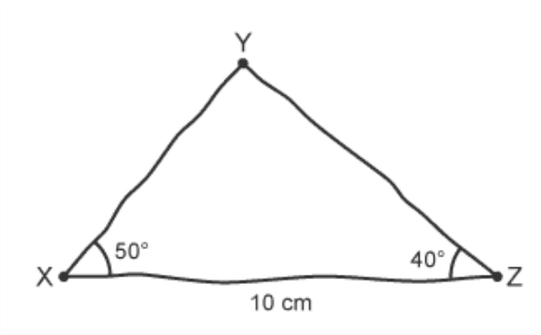
ABC is a triangle.
$AB = 8$ cm.
$AC = 1$ cm.
Angle $A = 43°$.

4) Using a ruler, pencil and compass construct an equilateral triangle.

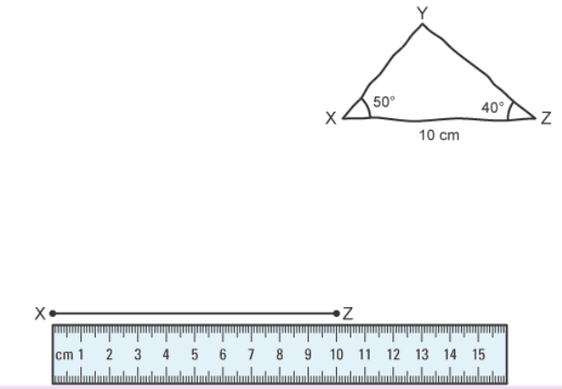
Drawing triangles

ASA triangles

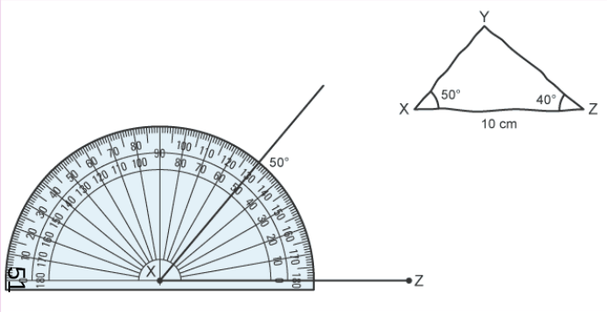
Construct this triangle accurately:



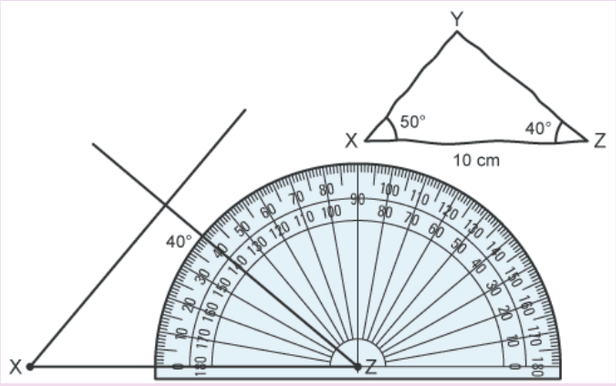
Step one: Draw the base line XZ of 10cm



Step two: Measure angle YXZ of 50°



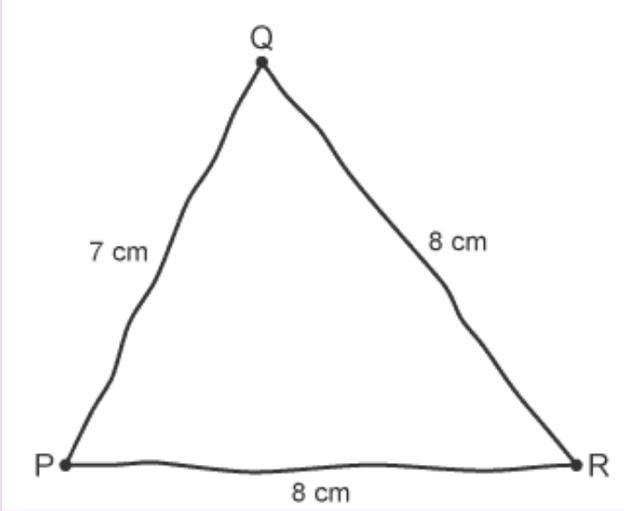
Step three: Measure angle YZX of 40°



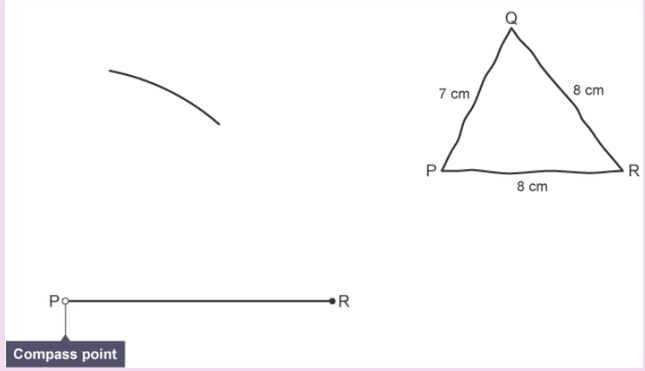
You could then be asked “what is the length of XY?” or “what is the length of YZ?”

SSS triangles

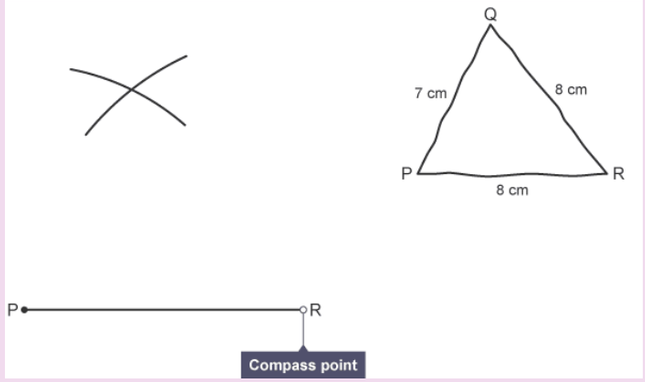
Construct this triangle accurately:



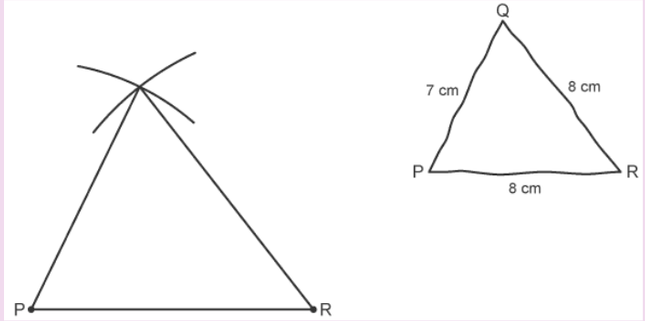
Step one: Draw the base line PR of 8cm and place compass point on P and draw an arc 7cm long



Step two: Place compass point at R and draw an arc 8cm long

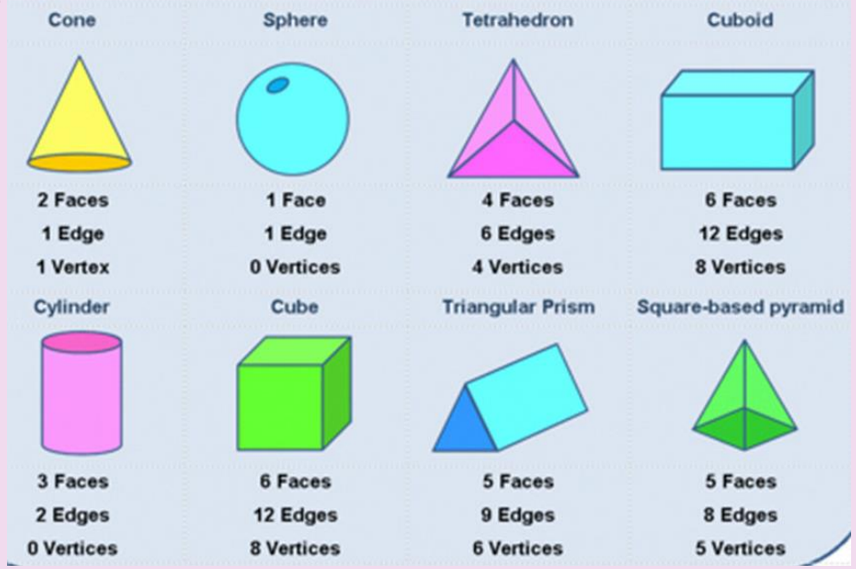


Step three: Join from P to the intersection of the arcs and back to R

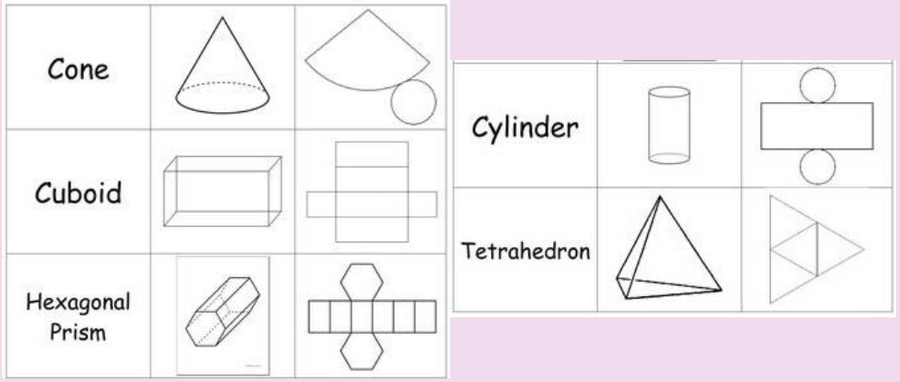


Properties and nets of 3D shapes

You will need to know the properties of basic 3D shapes. The below image shows the most common 8 shapes to learn about.

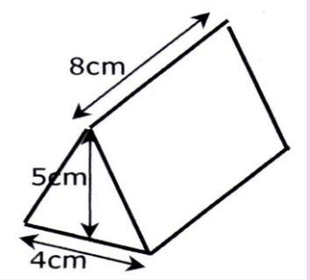


You will also need to remember what the net of each shape looks like. Here are some important ones to remember:



Volume of prisms

To find the volume of the prism, you will need to calculate the area of the cross section and multiply this by the depth/height/length of the prism. For example:



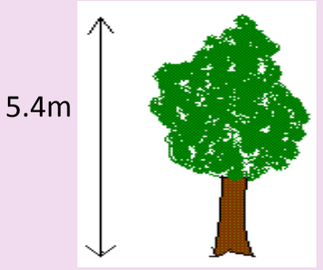
Area of cross section = area triangle
= ½ base x height
= ½ x 4 x 5
= 10 cm^2

Volume of prism = area of cross section x length
= 10 x 8
= 80 cm^3

Scale drawings

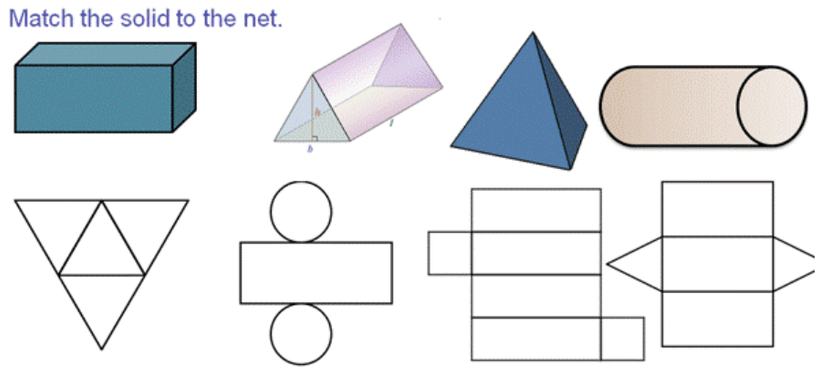
Scale drawings are used for drawing large objects at a smaller size where every element of the drawing is in proportion.

For example, in real life, this tree is 5.4m tall. Can you draw it accurately to scale using the scale 1cm : 2m. This means for every 2 metres in real life it would be 1 cm on the drawing. Therefore 5.4 ÷ 2 = 2.7. A scale drawing of the tree would be 2.7cm tall.



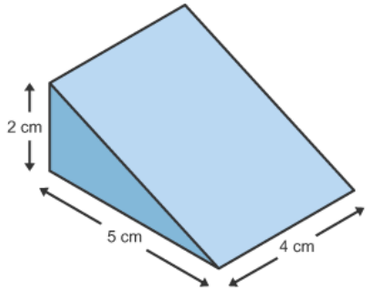
Test your skills:

1)

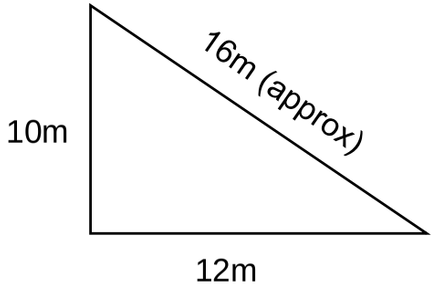


2) What are the key facts about a cylinder and a tetrahedron?

3) What is the name and the volume of this prism?



4) Using a scale of 1cm : 2m accurately draw this triangle:



MUSIC

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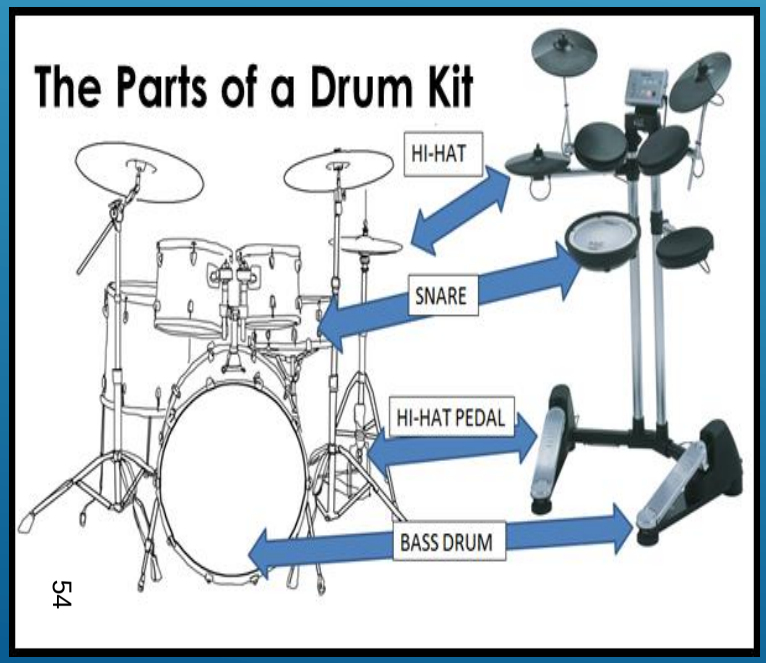
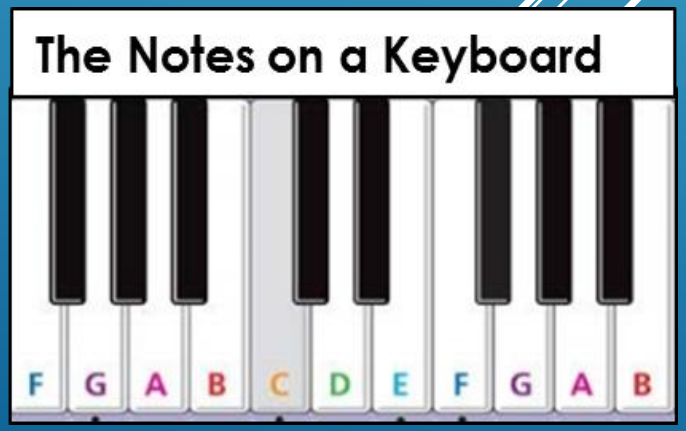
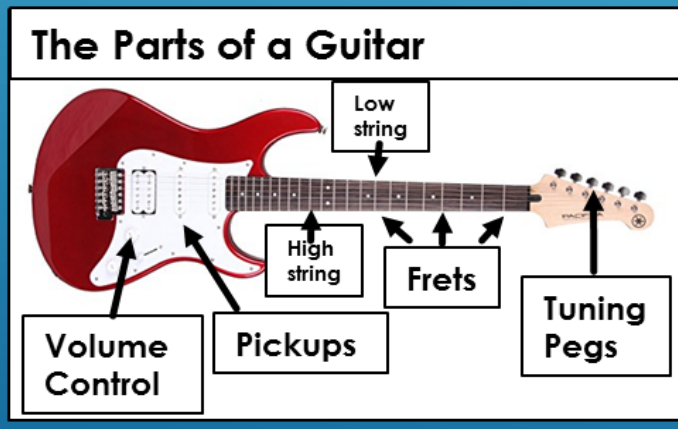
MORE THAN JUST A SCHOOL

The Elements of Music	
Pitch	The music could be high or low in pitch
Dynamics	Loud or quiet. Suddenly gets loud/quiet or gradually gets loud/quiet
Tempo	Fast or slow. Speeding up or slowing down
Structure	What section comes 1st/2nd etc (e.g. verse then chorus)
Texture	How many layers of music can you hear? Complex (lots of layers) or Simple (not many layers)

Important Terminology	
Pulse-A regular beat which is continuous in the music.	Djembe-An hour glass shaped African drum
Playing "In time"-Everyone plays "tight" to the pulse.	Polyrhythms-More than one rhythm played at the same time
Improvisation-Making music up as you play.	Syncopation-Playing off the beat/pulse
Pentatonic-A five note scale	Ostinato-A repeating pattern
Question and Answer-One person improvises a short melody, then another person improvises an answering phrase	Chord-More than one note played at the same time, often notes 1,3 and 5 (e.g. notes C, E and G is the chord of C)
Chorus-The section of a song where the words repeat.	Verse-The section of a song where the words change.







PE

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MORE THAN JUST A SCHOOL

YEAR 7 KNOWLEDGE ORGANISER

Theory	
Pulse Raiser Static Stretch **Dynamic Stretch** Skill Related Component	**Gentle activity that raises the heart rate** Stretching without movement **Movement based stretching eg. Heel flicks** A warmup activity related to the sport Eg. Rugby passing
Open Skill Closed Skill	**A skill that is affected by the environment eg. Football pass is dependent on teammates and opponents** A skill that is not affected by a changing environment eg. Dance routine
Aerobic Anaerobic **Lactic Acid**	**Using oxygen to produce energy. Aerobic exercise involves steady activity.** Energy production without the use of oxygen. Anaerobic exercise involves intense, short tasks. **The waste product of anaerobic exercise. Causes us to slow down**
Continuous **Circuit** Interval	Steady exercise without rest periods. Eg 20 min jog **A series of work and rest stations Eg. press ups, sit ups, star jumps** A set of fixed exercises periods followed by set rest sections. Eg. 5 x 50m sprints

Sports included in Year 7 PE

Football, Dance, Rugby, Netball, Volleyball, Athletics, Cricket

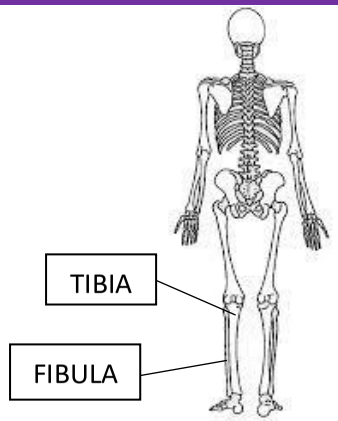
Key Terms and Rules

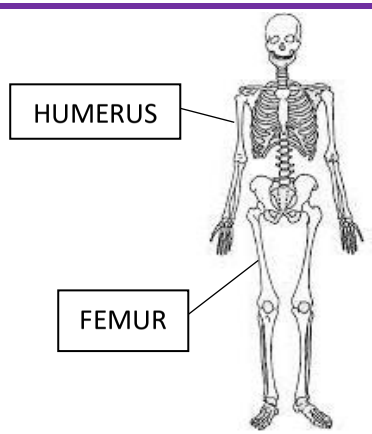
Can you explain the following:

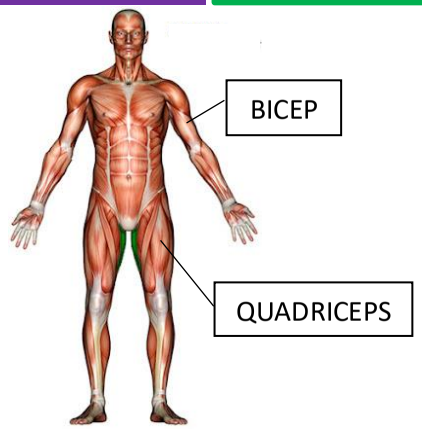
Chest, Bounce, Shoulder, Sidefoot Pass, Offside, Footwork, Dig, Volley, Tackle, Ruck, Maul, Obstruction, Penalty, Free Pass / kick, Short / Long barrier

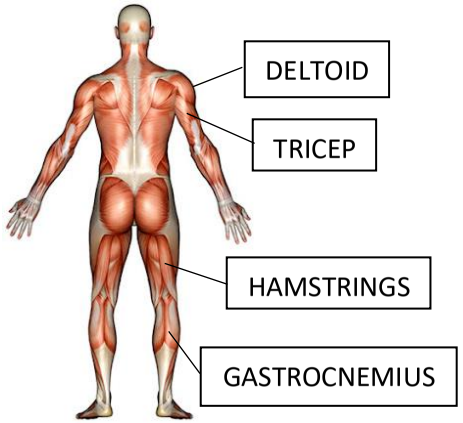
Extension – can you apply the theory to this year's sports?

What additional rules and key terms in those sports do you know?









PSHEE

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PSHEE Knowledge Organiser – Year 7

AUTUMN A	FRIENDSHIPS, ANTI-BULLYING, MENTAL HEALTH & EMOTIONAL WELLBEING	TOPICS COVERED: Making and maintaining friendships, recognising and responding to all types of bullying including online, managing change and transition e.g. to a new school, developing good mental health, resilience, how to get support and how to support a friend.	KEY TERMS: Toxic, banter, bullying, trolling, cyber, resilience, psychological, mental health.	SIGNPOSTING: Head of Year, Student Support Officer, Form Tutor www.youndminds.org.uk www.nspcc.org.uk www.childline.org.uk https://suffolksp.org.uk/parents-and-carers/bullying/ https://www.ceop.police.uk/safety-centre/
AUTUMN B	CAREERS, ASPIRATIONS & MONEY	TOPICS COVERED: Goal setting, money, savings and ethical choices about how we spend our money.	KEY TERMS: Self-esteem, needs, wants, budgeting, income, expenditure, finance, ethics.	SIGNPOSTING: Head of Year, Student Support Officer, Form Tutor www.youndminds.org.uk www.nspcc.org.uk www.childline.org.uk https://www.ethicalconsumer.org/how-to-shop-ethically
SPRING A	SEXUAL HEALTH, HEALTHY & UNHEALTHY RELATIONSHIPS	TOPICS COVERED: Recognising positive, healthy relationships, online relationships and gender	KEY TERMS: Family, marriage, civil partnership, belonging, friendship, relationship, stereotype, gender identity, gender expression, biological sex, sexual orientation, dopamine, infatuation.	SIGNPOSTING: Head of Year, Student Support Officer, Form Tutor https://youngminds.org.uk/find-help/looking-after-yourself/gender-and-mental-health/ https://www.actionforchildren.org.uk/media/12719/gender-identity-guide_hr-single-pages.pdf
SPRING B	PHYSICAL HEALTH, PERSONAL SAFETY & RISK MANAGEMENT	TOPICS COVERED: Puberty, healthy food choices and exercise, maintaining a balanced lifestyle & online safety.	KEY TERMS: Puberty, biological, hygiene, period, menstrual cycle, pre-menstrual syndrome (PMS), hygiene products, healthy lifestyle, balanced diet, nutrition, calories, saturated fats.	SIGNPOSTING: Head of Year, Student Support Officer, Form Tutor https://www.nhs.uk/live-well/sexual-health/stages-of-puberty-what-happens-to-boys-and-girls/ www.livewellsuffolk.org.uk
SUMMER A	DIVERSITY, PREJUDICE & MEDIA INFLUENCE	TOPICS COVERED: Racism, sexism, British values & stereotypes.	KEY TERMS: Citizen, ancestry, migration, ethnicity, prejudice, discrimination, racism, stereotyping, genetics, overt, covert, sexism.	SIGNPOSTING: Head of Year, Student Support Officer, Form Tutor https://www.bbc.co.uk/newsround/52965984 http://www.doingsmsc.org.uk/british-values/
SUMMER B	COMMUNITY, SOCIAL, MORAL, SPIRITUAL, CULTURAL, FUNDAMENTAL BRITISH VALUES	TOPICS COVERED: Understanding school community, understanding wider community & exploring the work of charitable organisations	KEY TERMS: Charitable organisation, charities, local, community, volunteers, rights, responsibilities.	SIGNPOSTING: Head of Year, Student Support Officer, Form Tutor http://volunteersuffolk.org.uk/ https://www.dofe.org/do/

SCIENCE

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Y7 Science

You need to KNOW	Key words
Organisms 1 • that all living things can move, breathe, take in food, reproduce, remove waste products, grow and be aware of changes inside and outside their bodies. • that the human skeleton has a variety of different functions. Recognise and describe the components of the skeleton that are responsible for protection of organs, support and movement and the creation of new red and white blood cells. • how to label a diagram of an antagonistic muscle joint. Describe the role of each component. • the different tissues that are found at a joint. • how to label a diagram of joint to show the antagonistic muscles, ligaments, tendons and cartilage. • how antagonistic muscles produce movement around a joint. • that vertebrate animals have an internal skeleton and that many invertebrates have an external skeleton. • that living things are made up of tiny structures called cells. • that cells can carry out the all the basic life processes. • that all living things can move, breathe, take in food, reproduce, remove waste products, grow and be aware of changes inside and outside their bodies. • how to distinguish between unicellular and multicellular organisms and give examples of different unicellular organisms. • that multicellular organisms have different levels of organisation and that their cells are organised into tissues, organs and systems. • how to use a light microscope to observe a slide of onion or cheek cells and to draw cheek and onion cells from microscope slides and label all visible features. • How to name the key organ systems of the body and describe their main components. • the function of the key organ systems of the body.	Tendons, bone marrow, joint, cartilage, ligament, antagonistic muscle, cell, cytoplasm, cell membrane, mitochondria, nucleus, microscope, chloroplast, cell wall, vacuole, mitochondria, movement, reproduction, sensitivity, nutrition, excretion, respiration, growth, structural adaptation, ciliated epithelium cell, Palisade cell, phloem cell, root hair cell, xylem cell, uni-cellular, organ, multi-cellular, tissue, circulatory system, respiratory system, reproductive system, immune system, digestive system, muscular system, objective lens, stage, eyepiece lens, focus, mirror, organism.
Genes 1 • that variation exists between individuals • the definition of the term species and that there is variation between individuals of the same species. • the difference between continuous and discontinuous variation and give examples of each • the definition of the term adaptation and how variation helps a particular species in a changing environment (with examples). • that reproduction is the creation of new individuals and that sexual reproduction requires a male and a female. • how to identify the role and location of the key features of the male and female reproductive systems on a diagram. • the importance of the menstrual cycle in human reproduction. • the terms foetus, amniotic fluid, placenta, umbilical cord. • how to draw diagrams to show the stages of the development of a foetus from sex cells to birth. • that contraception stops a woman getting pregnant and be able to list the different contraceptive devices available.	Variation, selective breeding, artificial selection, species, intraspecific variation, interspecific variation, genetic variation, environmental variation, continuous variation, discontinuous variation, biodiversity, evolution, normal distribution, repeatable, adolescence, reproductive system, testicle, penis, ovary, uterus, oviduct, fertilisation, vagina, menstruation, ovulation, gestation, amniotic fluid, foetus, umbilical cord, placenta.
Ecosystems 1 • that all living things depend upon each other for survival. • that only plants can make their own food. • that plants supply food for animals. • definitions of the terms ecosystem, environment, population, producer and consumer and give examples to illustrate each of the terms	Interdependence, classification, food chain, population, ecosystem, trophic level, photosynthesis, producer, consumer, food web, herbivore, carnivore, omnivore, decomposer,

• how to use information from a food web to explain the feeding relationships between organisms in an ecosystem. • How to explain the importance of insects to human food supplies. • definitions of the terms predator, prey and interdependence. • that plants and animals can create new copies of themselves. • How to explain the process of pollination • How to describe and give examples of different methods of seed dispersal and how plants are adapted to disperse seeds using wind, water or animals • that plant breeders can create new plant varieties by selective breeding and be able to describe the characteristics that would be desirable in flowering and crop plants.	biomass, pyramid, environment, bioaccumulation, native species, invasive species, pollen, ovule, fertilisation, pollination, carpel, seed, fruit, petals, stamen, stigma, style, ovary, clone, dispersal, tissue culture.
Matter 1 • that there are three common states of matter: solid, liquid and gas. Recognise and describe their properties. • the terms for changes of state: solid to liquid (melting), liquid to gas (boiling/evaporation), gas to liquid (condensing), liquid to solid (freezing) and solid to gas (sublimation/subliming). • that all matter is made of very small particles (atoms, ions or molecules) and that these particles are arranged in different ways in solids, liquids and gases. • that pure substances change state at a fixed temperature called: melting point, boiling point etc. • that particles have energy and that they can gain or lose energy when being heated or cooled. Heating substances causes them to expand whilst cooling causes them to contract. This affects the density of the substance. • that when some solids are heated they change directly into a gas, and that this process is called sublimation. • that gas pressure is caused by collisions of particles with the walls of a container. • that diffusion is the process by which particles in liquids or gases spread out through random movement from a region where there are many particles to one where there are fewer.	Melting, Boiling, Evaporation, Condensing, Particle, Model, Property, Melting point, Freezing, Boiling point, Sublimation, Air pressure, Gas pressure, Diffusion, Density, Correlation, Variable, Independent variable, Dependent variable, Control variable, Continuous, Discontinuous,
Matter 2 • that a pure substance consists of only one type of element or compound and has a fixed melting and boiling point. Mixtures may be separated due to differences in their physical properties. • that the method chosen to separate a mixture depends on which physical properties of the individual substances are different. • that chromatography is used to separate mixtures of different coloured substances. • that solubility is the maximum mass of solute that dissolves in a certain volume of solvent. Apply: Use the solubility curve of a solute to explain observations about solutions.	Solution, Solvent, Solute, Soluble, Dissolving, Molecule, Insoluble, Mixture, Electrolysis, Pure, Compound, Element, Impurity, Filtration, Filtrate, Residue, Distillation, Chromatography
Reactions 1 • that some metals react with acids to produce salts and hydrogen. • that metals can be arranged as a reactivity series in order of how readily they react with other substances. • that reactivity is the tendency of a substance to undergo a chemical reaction. • that oxidation is a reaction in which a substance combines with oxygen. • that metals and non-metals react with oxygen to form oxides which are either bases or acids. • that displacement is a reaction where a more reactive metal takes the place of a less reactive metal in a compound.	Metal, Alloy, Malleable, Ductile, Non-metal, Brittle, Salt, Reactivity, Reactivity series, Oxidation reaction, Displacement reaction
Reactions 2 • that pH is a scale of acidity and alkalinity from 0 to 14. • that acids have a pH below 7, neutral solutions have a pH of 7, alkalis have a pH above 7; that hydrochloric, sulfuric and nitric acid are strong acids; and that acetic and citric acid are weak acids. • that acids and alkalis can be corrosive or irritant and require safe handling.	Acid, Alkali, Base, pH scale, Neutral, Indicator, Reactivity series, Corrosive, Irritant,

• that concentration is a measure of the number of particles in a given volume. • that the pH of a solution depends on the strength of the acid: strong acids have lower pH values than weak acids. • that indicators are substances used to identify whether unknown solutions are acidic or alkaline. • that mixing an acid and alkali produces a chemical reaction, neutralisation, forming a chemical called a salt and water. • that a base is a substance that neutralises an acid – a base that dissolves in water is called an alkali. • that mixing an acid and a metal carbonate produces a salt, water and carbon dioxide.	
Earth 1 • that the three rock layers inside Earth are the crust, the mantle and the core. • that minerals are chemicals that rocks are made from. minerals have chemical formulae and rocks are mixtures of minerals, so cannot have a formula. • that sedimentary rock are formed from layers of sediment, and which can contain fossils. Examples are limestone, chalk and sandstone. • that igneous rocks are formed from cooled magma, with minerals arranged in crystals. Examples are granite, basalt and obsidian. • that metamorphic rocks are formed from existing rocks exposed to heat and pressure over a long time. Examples are marble, slate and schist. • that sedimentary, igneous and metamorphic rocks can be inter converted over millions of years through weathering and erosion, heat and pressure, and melting and cooling. This is the rock cycle. • that weathering is the wearing down of rock by physical, chemical or biological processes. • that erosion is the movement of rock by water, ice or wind (transportation). • that the solar system can be modelled as planets rotating on tilted axes while orbiting the Sun, moons orbiting planets and sunlight spreading out and being reflected. This explains day and year length, seasons and the visibility of objects from Earth. • that an orbit is a path taken by a satellite, planet or star moving around a larger body. Earth completes one orbit of the Sun every year. • that stars are bodies which give out light, and which may have a solar system of planets. • that our solar system is a tiny part of a galaxy, one of many billions in the Universe. Light takes minutes to reach Earth from the Sun, four years from our nearest star and billions of years from other galaxies. • that a galaxy is a collection of stars held together by gravity. Our galaxy is called the Milky Way. • that a light year is the distance light travels in a year (over 9 million, million kilometres). • that an exoplanet is a planet that orbits a star outside our solar system.	Sedimentary rock, Metamorphic rock, Igneous rock, Rocks, Minerals, Strata, Weathering, Erosion, Rock cycle, Star, Orbit, Elliptic, Light year, Galaxy, Exoplanet, Universe, Equator,
Electromagnetism 1 • that a circuit must be complete to work and refer to the example of switches as evidence for this. • that components are represented by symbols in a circuit diagram. • that in a series circuit, voltage is shared between each component and in a parallel circuit voltage is the same across all the components. • that voltage or potential difference can be described as the amount of energy shifted from the battery to the moving charge, or from the charge to circuit components, in volts. • that components with resistance reduce the current flowing and shift energy to the surroundings. • that the SI unit of current is the ampere or amp (A) and the SI unit of voltage or potential difference is the volt (V). • that in a series circuit current is the same in all of the components and in a parallel circuit current is split between the loops of the circuit. • that current can be described as the flow of electrical charge, with the unit amperes (A). • that the charge of an object is related to the gain or loss of electrons. • why charged objects experience an electrostatic force in an electrical field. • how to reduce the risk of getting electrostatic shocks.	Circuit, switch, lamp, cell, battery, component, series, parallel, voltage, potential difference, current, ampere, amp, volts, energy, electrical, resistor, resistance, charge, ion, electrostatic, electron, electrical conductor, electrical insulator, gradient, hypothesis, positive, negative

Energy 1 • the difference between renewable and non-renewable energy resources and give examples of each. • the term fossil fuels and explain the advantages and disadvantages of using them to generate electricity. • that power is how quickly energy is transferred by a device. • the processes that transfer energy from a renewable or non-renewable resource to an electrical device in the home. • that the term energy is used in a specific way in physics that may not match uses in other subjects or everyday life. • the different types of energy store and give examples of each. • that energy is transferred between energy stores and give examples of transfers. • that when energy is transferred, the total energy is conserved, but some energy is dissipated, reducing the useful energy available.	Fuel, renewable, non-renewable, energy resource, hydroelectric, geothermal, biomass, electricity, generator, device, system, energy store, gravitational, chemical, fossil fuel, thermal, elastic, kinetic, power, incandescent, dissipated, transferred, conserved
Forces 1 • that the SI unit of distance is the metre (m) and the SI unit of time is the second (s). • that if overall (resultant) force on an object is non-zero, its motion changes and it slows down, speeds up or changes direction. • Draw and interpret distance-time graphs including labelling changes in motion. • how the speed of an object varies when measured by observers who are not moving, or moving relative to the object. • that forces can be described using the words push and pull • that gravity causes the non-contact force of weight. • Draw force diagrams to show the action of gravity in different situations. • that gravity can be compared to other forces.	Speed, average speed, relative motion, acceleration, hypotenuse, non-contact force, mass, weight, Newton, kilogram
Waves 1 • that our senses rely on sound from our environment to give us information. • how sound travels and explain why sound does not travel through a vacuum. • the meanings of the terms amplitude, frequency and wavelength. • the definition of auditory range and explain why it means humans cannot hear certain sounds. • that our senses rely on light from our environment to give us information. • that when a light ray meets a different medium, some of it is absorbed and some reflected. Know that the speed of light is 300 million metres per second in a vacuum and that this speed varies in different media. • the difference between convex lenses and concave lenses. • that the detected colour of light can vary.	Vacuum, oscilloscope, amplitude, period, frequency, wavelength, auditory range, ultrasound, incident, reflected, angle of incidence, angle of reflection, normal line, translucent, opaque, luminous, scattering, retina, convex lens, concave lens, heliograph, medium

TECHNOLOGY

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D& T & Engineering Unit 1 - Practical skills – Year 7

Key word	Definition
Measurement	Millimetres not centimetres.
Steel rule	Used for accurate measurements (do not use a plastic ruler).
Tenon saw	Useful hand saw for small to medium size projects.
Coping saw	A type of bow saw used to cut intricate external shapes and interior cut-outs in woodworking.
Bench hook	Used to hold pieces of wood when cutting
Wood work vice	Used for holding pieces of wood securely, including bench hooks.
Hammer	various types, but ball-pein is commonly used in school.
Sandpaper	For sanding and shaping wood until it is smooth. Comes in a variety of grit sizes.
Wood rasp/file	Woodworking file for coarse shaping of wood. Comes in various shapes – half-round, flat, round etc.

D&T & Engineering Unit 2 - STEM– Post a Pringle – Year 7

15. Technology

Key word	Definition
Kinetic energy	All moving things have kinetic energy. The amount of kinetic energy an object has depends upon: the mass of the object the speed of the object. Moving cars have kinetic energy.
Crumple Zone	Crumple zone in cars, are designed to absorb kinetic energy in a crash. CRUMPLE ZONES make the force SMALLER by increasing the impact time. This means the impact takes LONGER to happen so the impact force is REDUCED .
Types of Impact Tests in the car industry	Types of impact tests: Side impact test, offset frontal impact test, pole test, pedestrian test
Prototype	The first working model of a design used for testing, development, and evaluation.
Triangulation	The use of triangles to incorporate strength into a structure.
Strength	The ability of a material to resist a force applied to it.
Toughness	The ability of a material to not break when a force is suddenly applied to it.
Design Specification	A document that lists all the design criteria that the finished product must meet. It must have enough detail that a designer could look at it and, with no other information, design a product.
Function	What a product does and how it works.
Physical Model	A model of a design made using real materials.
Volume	**Volume is the amount of space a 3D shape takes up**
Mass	**Mass is the amount of matter in an object. Mass is measured in kilograms (kg)**
Evaluation	Where a designer reflects on the design of a product, looks at what went well during testing and identifies ways that a product could be improved.

Triangulation

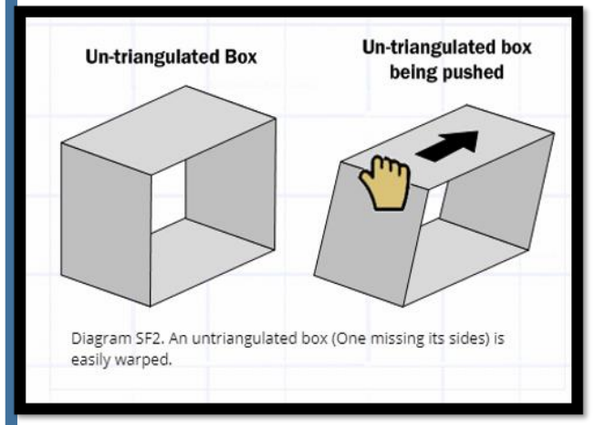


Diagram SF2. An untriangulated box (One missing its sides) is easily warped.

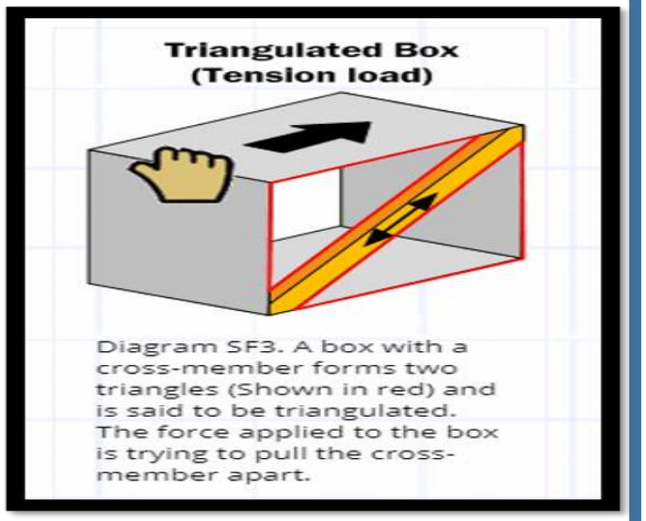


Diagram SF3. A box with a cross-member forms two triangles (Shown in red) and is said to be triangulated. The force applied to the box is trying to pull the cross-member apart.

Volume of a cuboid

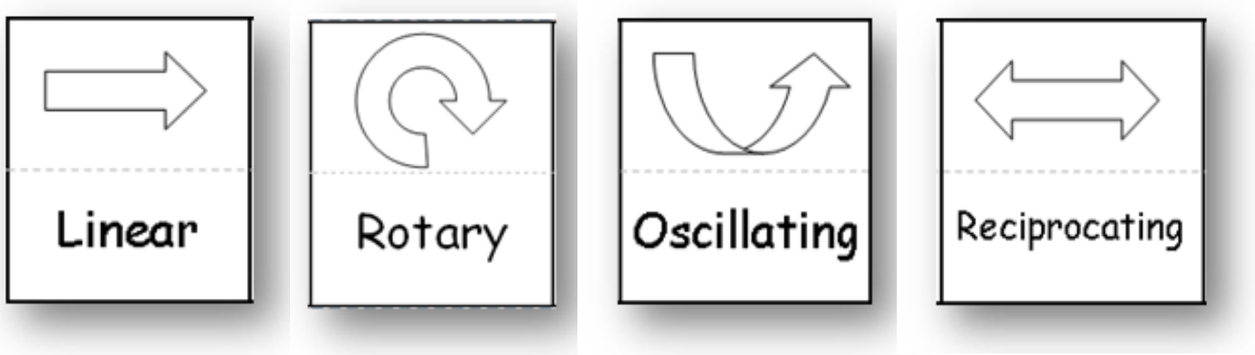
To find the volume of a cuboid multiply its **length by its width by its height**.

We can write this as:
volume = l × w × h

D&T & Engineering Unit 3 -Systems & Control- Year 7

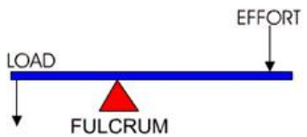
Key word	Definition
System	Something that has an ***input***, ***process*** and ***output***. Systems can be mechanical, electrical or use microprocessors. They help us control a product or environment.
Input	What is taken into the systems. It could be a movement, but could also be a signal from sensor (such as a temperature)
Process	The thing that happens in the system, often mechanical, electrical or computer controlled
Output	What comes out of the system. Again, this could be a movement, or could be something that lights up or makes a noise
Motion	The four main types of movement that can be experienced.
Mechanisms	A system or structure of moving parts that performs some function such as changing motion, direction or speed
Lever	A lever is simply a piece of material that pivots around a point and has a load and an effort. The way these are arranged gives the lever different properties and uses
Linkage	A mechanism that transfers force and motion to another part of the system, often through a change or direction
Effort	The input to the system, usually a physical force from a human or machine
Load	The physical thing that a mechanical system moves, often through the action of the lever, linkage or other mechanism

Types of Motion



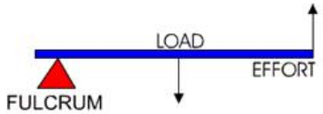
Types of Lever

Class 1



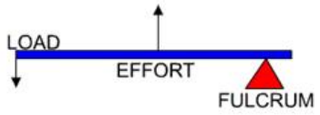
The workman uses a trolley to move the large packing case. The fulcrum is the wheel.

Class 2



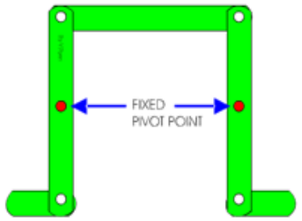
The gardener uses a wheel barrow to lift tools and garden waste. The load is in the centre of the barrow

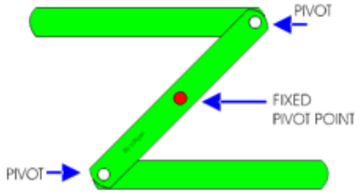
Class 3

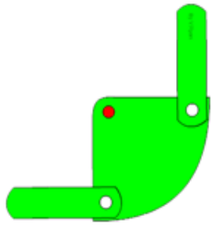


The fisherman catches the 'fish' which becomes the load at the end of the lever.

Types of Linkage







Food –Year 7

Eatwell Guide

8 tips for healthy eating

1. Base your meals on starchy foods.
2. Eat lots of fruit and veg.
3. Eat more fish.
4. Cut down on saturated fat and sugar.
5. Try to eat less salt – not more than 6g a day.
6. Get active and try to be a healthy weight.
7. Drink plenty of water.
8. Don't skip breakfast.

Key words

Rubbing in- flour is **rubbed** into a fat to make dishes such as shortcrust pastry, crumbles and scones.

Chopping – the process of preparing vegetables and fruit

Al dente - describes pasta that is cooked to be firm to the bite.

Stewing – to gently cook apples with sugar and a small amount of water

Bridge hold – making a bridge between your thumb and first finger and holding the food while safely cutting.

Gelatinisation – when flour is mixed with a liquid and heated, such as a sauce, the mixture will thicken.

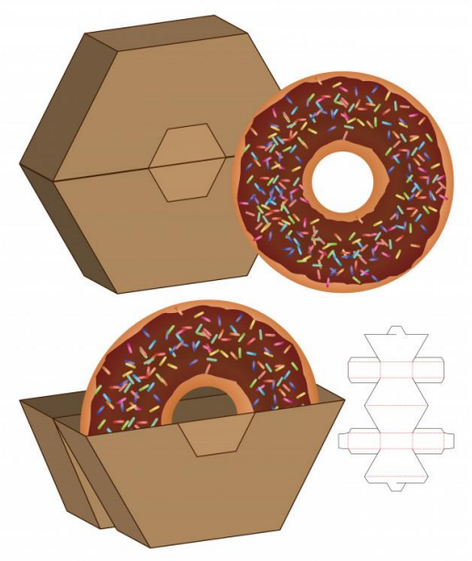
Equipment

Chopping Board
Vegetable Knife
Colander
Electric mixer
Hobs
Oven

Personal hygiene & Safety rules

- Wash hands before you start cooking.
- Always wear a blue safety apron.
- Only 1 person at a time should take their food out of the oven.
- Always use oven gloves to put food in the oven and to take out.
- Long hair should be tied back.
- Do not run in the classroom.
- Follow teacher instructions at all times.

Graphics – Year 7



Keywords:

- Branding
- Typography
- Logo
- Net
- Packaging
- Parallel
- Render
- Construction Line
- Horizon
- Eye Level
- Receding Line
- Vanishing Point
- Colour

Sketching

is a rapidly executed freehand drawing that is not intended as a finished work. A sketch may serve several purposes: it might record something that the artist sees, it might record or develop an idea for later use…

Typography

is the art and technique of arranging type to make written language legible, readable, and appealing when displayed. The arrangement of type involves selecting typefaces, point sizes.

Packaging

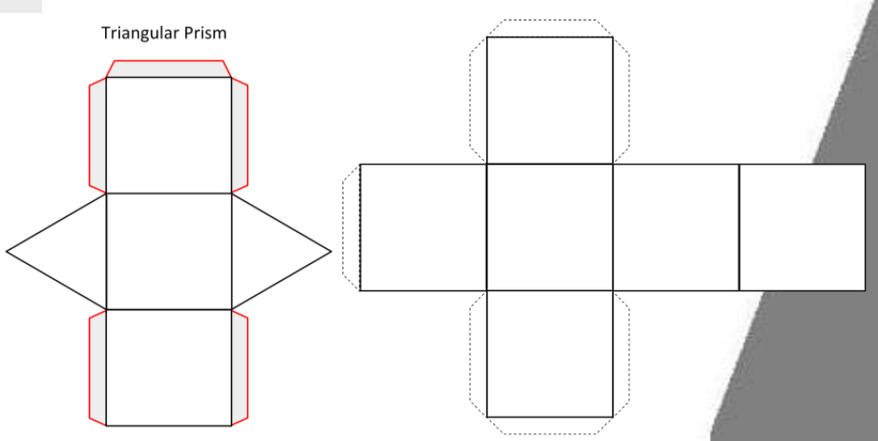
materials used to wrap or protect goods.
e.g. wrapping, wrappers, packing, cover, covering
"avoid products with excessive packaging"

Logo

A recognisable and distinctive symbol or device which uniquely identifies a company or organisation.

Nets

A flat 2D shape which may be folded and glued to form a hollow 3D shape. Often used to make boxes used in packaging.



Textiles Year 7 - Pocket monster

Technique	Definition
Applique	To attach fabric to a background piece of fabric.
Embroidery	Decorative stitching which can be used to create a line, shape, picture or pattern.
Running stitch	A simple stitch which creates a dotted line effect where the needle and thread go in and out of the fabric.
Needle	A very fine slender piece of polished metal with a point at one end and a hole or eye for thread at the other, used in sewing.
Pin	Attach two or more pieces of fabric together with metal pins

DID YOU KNOW?
In **1903 Richard Steiff** in Germany created one of the first soft toys, a soft stuffed bear which had realistic style fur. At the same time in America, **Morris Mitchom** created ateddy bear inspired by a drawing of President Roosevelt with a bear cub.

Keyword	Definition
Aesthetics	The way an item looks
Character	A person or thing in a book, play or film
Creative	An unusual, interesting or visually effective idea
Construction	The way a product is made
Template	A shape which can be drawn around.
Accurate	Correct, exact precise
Sample	A small test of a technique or idea
Personalise	To make an object unique to your ideas, opinion or preference
Manufacture	To produce an item in large quantities in a commercial setting.

Equipment:
Needle
Fabric scissors
Paper scissors
Iron

Materials:
Stuffing
Felt
Embroidery thread