Name:

Form:

Knowledge Organisers

Year 7 Term 3

Knowledge is Power

Knowledge Organiser Guide

Your Knowledge Organiser (KO) contains the most important facts, vocabulary, dates, formulas, and definitions you'll need for each subject this term. Learning this core knowledge is essential – it helps you:

✅ Do well in your assessments
✅ Make better progress in lessons
✅ Fill gaps if you miss a lesson
✅ Take part in Connect tasks with confidence
✅ Become a more independent learner

🔁 **The Look, Cover, Write, Check (LCWC) Method**

This is a daily 15–25 minute routine you can use:

LOOK
Choose a small section of the Knowledge Organiser – just one row or a few key facts. Read it carefully. Say it out loud to help it stick.

COVER
Cover the section with a book, your hand, or a piece of paper.

WRITE
From memory, write down what you remember in your exercise book or on paper. Try to get it as close to the original as possible.

CHECK
Uncover the section and check your answer. Tick what's correct and fix any mistakes using a different colour.

REPEAT
Move on to the next small section and repeat the process.

🧠 Other Great Techniques

Alongside Look. Cover, Write, Check, try these techniques to boost your memory and understanding:

1. Self-Quizzing
Make flashcards from the KO (question on one side, answer on the other) or ask someone at home to quiz you.

2. Mind Mapping
Create mind maps from sections of your KO – this helps you make connections between ideas.

3. Dual Coding
Draw simple diagrams or doodles next to facts – this helps visual learners remember better.

4. Teach It
Explain a topic from your KO to a family member or friend. Teaching helps you learn deeply.

5. Spaced Practice
Revisit the same facts over several weeks. Don't cram – return to older content regularly.

📚 Using Your KO in Class

Connect – If your teacher allows, use your KO as part of the Connect activity at the start of your lesson.
Missed a Lesson? – Use the KO to catch up on key knowledge you've missed.
Homework & Revision – Use the KO as your go-to revision tool before assessments.

Art: Y7 Term 3

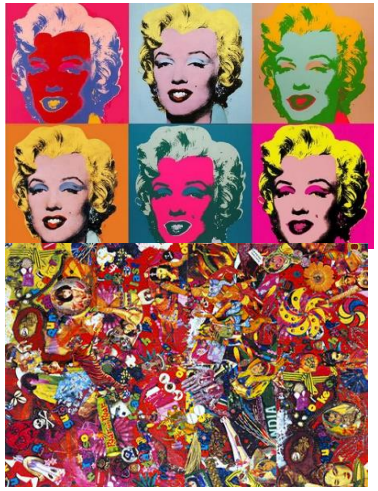
Art Knowledge Organiser: Year 7 Introduction to Art – Term 3

Theoretical Knowledge

Repetition	This is when an artist **repeats** and reuses similar **formal elements** (**such as line, shape, colour**) in their artwork. Repetition is a key feature of **Roy Lichtenstein's** work.
Clay	**Clay** is a material that can be moulded and shapes when wet. Clay is used to make **pottery** and **ceramics**.
3D Sculpture	A **three-dimensional** piece of art that you can view from **every angle** and can be made from **wood, clay, stone** etc. **Claes Oldenburg** creates sculptures.
Collage	This is a **technique** where an artist uses **cuttings** from **multiple sources** (pictures, magazines, newspapers etc) to create a new artistic composition. Chila Burman does this.
Evaluate and Analyse	Discuss and describe the impact of an outcome. You will explain the meaning of key aspects of artworks and give your opinion.
Colour	**Colour** is one of the **formal elements**, and one of the most important ones in **Pop Art**. Colour can be used to make an artwork bold and bright and many Pop Artist's use colour in their work.
Portrait	A **portrait** is a picture/drawing/artwork of a **person**.
Culture	In art, **Culture** is seen to represent different traditions, histories and societies. This includes dress, language, religion and rituals.
Commercialism	**Art is used commercially** to help advertise and sell products. See **Andy Warhol's** campbell's soup as an example.

Artists in Focus:

- Andy Warhol
- Chila Kumari Burman
- Claes Oldenburg
- Roy Lichtenstein



Art Knowledge Organiser: Year 7 Pop Art – Term 3

Theoretical Knowledge

Pop Art was a bright and bold art movement that began in the **1950s** and **60s** in the **United Kingdom** and the **United States**. It used images from **everyday life**, like **comic books**, adverts, and famous people, to show that art could be fun and for everyone. Artists like **Andy Warhol** and **Roy Lichtenstein** made colourful works inspired by **popular culture**, using things like soup tins and cartoons. **Pop Art helped change the way people thought about what art could be.**

Ben Day dots are tiny coloured dots used in printing to make pictures. Ben Day dots were popular in comic books and pop art. If you've seen art by **Roy Lichtenstein**, he made big, colourful pictures using this **dot style**. **Ben Day dots** are a clever way to make pictures using small dots instead of lots of ink – kind of like pixel art, but with circles!

Onomatopoeia: When you say the sound.
Lots of Pop Artists used onomatopoeia in their work.

When making a clay sculpture we follow the rule of **score, slip, stick and smooth.**

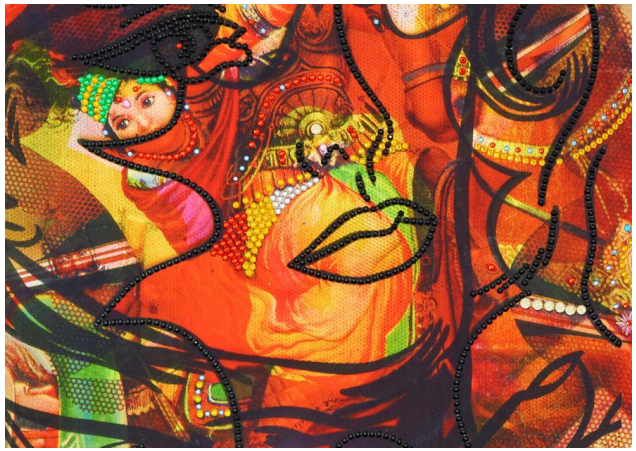
Key Terms:
Score – score means to crosshatch into the surface of the clay. You must do this on both surfaces that you would like to attach.
Slip – slip is a mixture of clay and water; it acts like a glue when sticking two pieces of clay together.
Stick – stick is where you bring both pieces together gently to attach them together.
Smooth – smoothing involves smoothing the edges of the join using your finger or a clay too.
All 4 steps are essential to avoid any elements falling off!

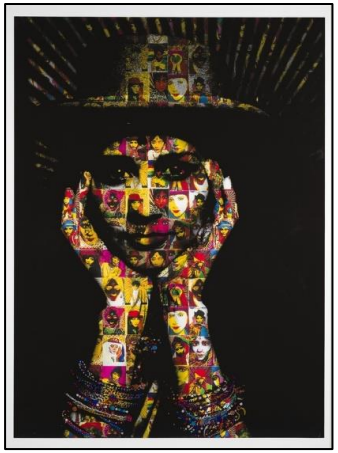
Art Knowledge Organiser: Year 7 Pop Art – Term 3

Theoretical Knowledge

ANDY WARHOL

Andy Warhol was a famous **American** artist **known for creating Pop Art**, a bright and colourful style that showed **everyday things** like soup tins, fizzy drink bottles, and celebrities as art. He was inspired by **adverts**, **magazines**, **shops**, and **TV**, and he believed that popular things people saw all the time, like famous brands and stars, were **just as important as traditional art.** Warhol wanted to show that **ordinary objects** could be **interesting** and **creative**, and he often repeated the same image in different colours to make it feel like something from a factory, just like products on a shop shelf.





Chila Kumari Burman is a **British artist** who makes bold and colourful art using lights, photos, drawings, and mixed materials. She is inspired by her **Indian heritage**, her childhood in **Liverpool**, and everyday things like sweets, Bollywood films, and street signs. Her art often celebrates **strong women, her culture, and the idea of being proud of who you are.**

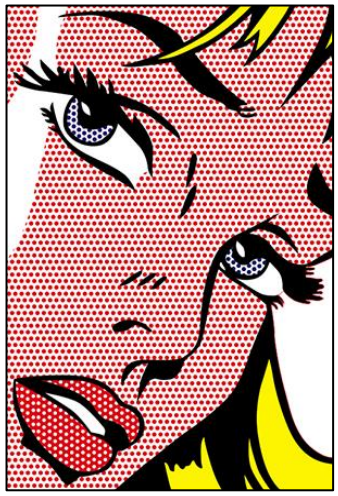
CHILA KUMARI BURMAN

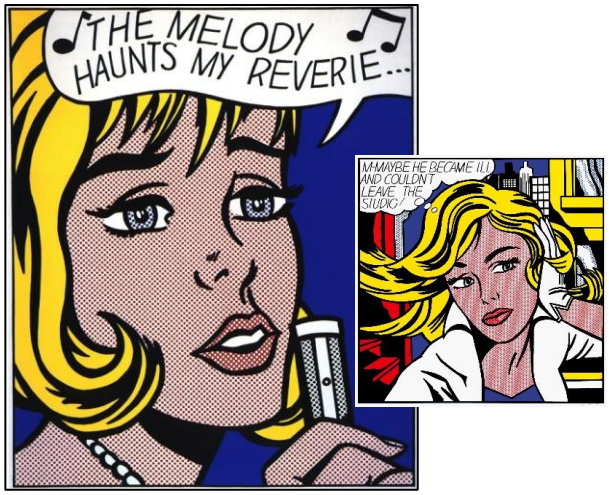
Art Knowledge Organiser: Year 7 Pop Art– Term 3

Theoretical Knowledge

ROY LICHTENSTEIN

Roy Lichtenstein was an **American** artist who became famous for his **Pop** Art, which used bold colours, thick black lines, and dots to make pictures that looked like comic books. He was inspired by **cartoons**, **adverts**, and **everyday objects**, and he wanted to show that **popular culture,** like comic strips and superheroes, could be turned into serious art. His paintings often showed people with **speech bubbles** and **dramatic expressions**, just like in comics, and he made them big, so they stood out. His fun, eye-catching style made him one of the most **important** Pop Art artists in the world.





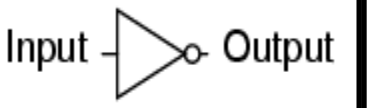
CLAES OLDENBURG

Claes Oldenburg was an **American** artist known for making Pop Art sculptures of **everyday objects**, but in **huge** sizes! He was **inspired** by **normal things** like food, tools, and household item, for example, he made giant sculptures of ice cream cones, burgers, and even a clothes peg. He wanted to make people see ordinary objects in a **fun**, surprising way. His art was **playful** and often placed in **public spaces**, so everyone could enjoy it. By turning small, familiar things into massive artworks, Oldenburg made people smile and **think differently about the world around them.**

Computing: Y7 Term 3

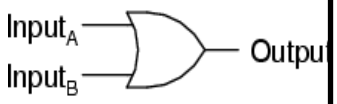
Boolean Logic Knowledge Organiser

NOT gate truth table



Input	Output
0	1
1	0

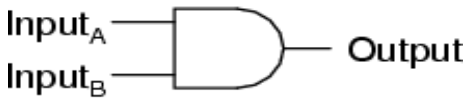
2-input OR gate



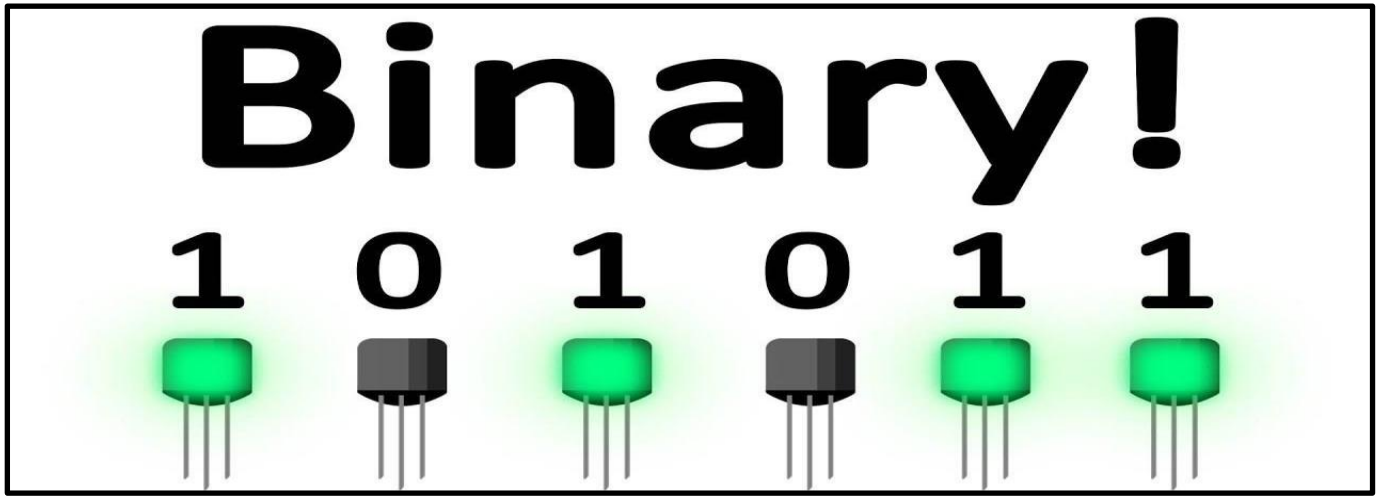
A	B	Output
0	0	0
0	1	1
1	0	1
1	1	1

Binary	**A series of 1s and 0s used for data and instructions represented by switches/ transistors.**
Boolean logic	**A form of logic centred around operations between combinations of 1s ad 0s.**
AND (Conjunction)	**A Boolean operation where both inputs must be a 1 for the output to be 1.**
OR (Disjunction)	**A Boolean operation where at least one input needs to be a 1 for the output to be 1.**
NOT (Negation)	**A Boolean operation where the output is the inverse of the input.**
Truth table	**A table which can be used to work out the output for different combinations of inputs being used with Boolean operators.**
Logic diagram	**A way to visualise how data passes through different gates.**

2-input AND gate



A	B	Output
0	0	0
0	1	0
1	0	0
1	1	1



Python Knowledge Organiser

What is a Python?

Python is a **text based programming language** that can be used to create small programs, web applications, games and even search engines like Google and YouTube!

Python is easy to learn and is agreat beginner language.

Variables

A variable is something that can be **used to store information**. The information that is stored can be changed.

Input statements

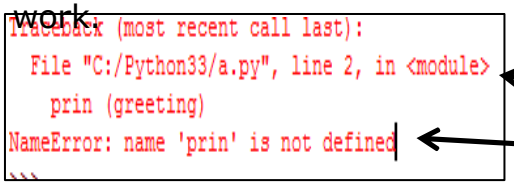
Using **var = input ()** we can ask a user to input some information.

We can then **print** this back to the console window.

userName is a **variable.** This means we can change the information stored. We can also name it whatever we want.

Syntax

Syntax is what we call the format that the code needs to be in, in order to be processed correctly.
If it is not in the correct format then the code will not work.



Python tells us where the error is and what type it is. Here it says the line the error is on
Here it says what type of error.

IF statements

IF statements can be used to select different options in a program depending on a condition. Also known as **selection.**

Executing a program

In order to run or **test** a program written in Python the user needs to go to **Run** and then **Run Module.**

Alternatively, you could press the **F5**button on the keyboard.

Print statements

In order to display text in the **shell** you need to use a **Print** statement.

Data types

Different types of data are stored in variables as different **data types**. There are **three** main data types: **String, Integer** & **Float**

String
A type of variable for storing **text**
"strings" **e.g.** "Hello World"

Integer
A type of variable for storing **whole numbers**
e.g. 10, 182, -44

Float
A type of variable for storing **decimal numbers**. Also known as a **real** number
e.g. 2.5, 5.05, 3.14

DT: Y7 Term 3

Design Technology Knowledge Organiser: Y7 Day of the Dead Term 3

Theoretical Knowledge

Key Terms and Definitions

Keyword	Definition
Aesthetics	What the design/product looks like, themes, colours, design styles
Cost	How much the product costs to make and sell
Customer	Who will buy and use the product
Environment	What would the product do to the environment, think sustainability issues
Size	What is the size of the product
Safety	Are there any safety issues with the product
Function	What does the product do
Materials and Manufacturing	What the product is made from and how it will be made

DIA DE LOS MUERTOS

Day of the Dead

The **Day of the Dead** is a holiday traditionally celebrated on November 1 and 2, though other days, such as October 31 or November 6, may be included depending on the locality. The multi-day holiday involves family and friends gathering to pay respects and remember friends and family members who have died. These celebrations can take a humorous tone, as celebrants remember amusing events and anecdotes about the departed. It is widely observed in Mexico, where it largely developed, and is also observed in other places, especially by people of Mexican heritage.

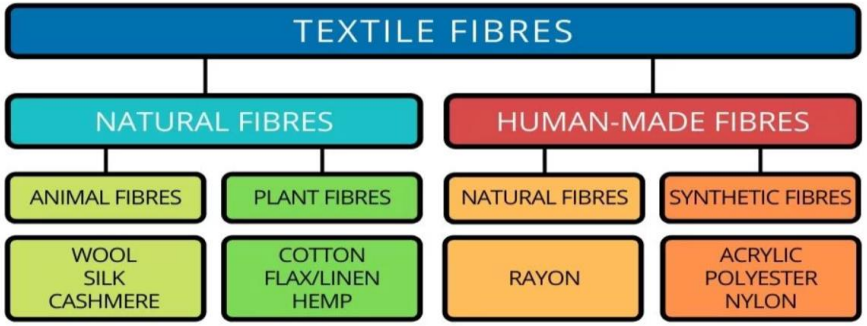
Design Technology Knowledge Organiser: Y7 Day of the Dead Term 3

Theoretical Knowledge

Fabric Types

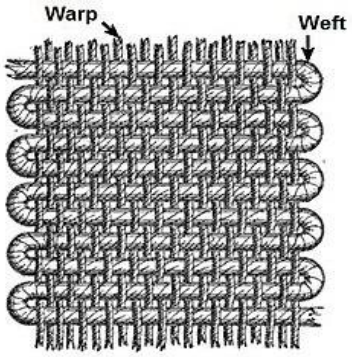
1. **Woven fabrics**, made by weaving threads of fiber together at right angles.
2. **Knit fabrics**, created by loops that loop on top of each other.
3. **Nonwoven fabrics**, such as felt, vinyl, and interfacings.

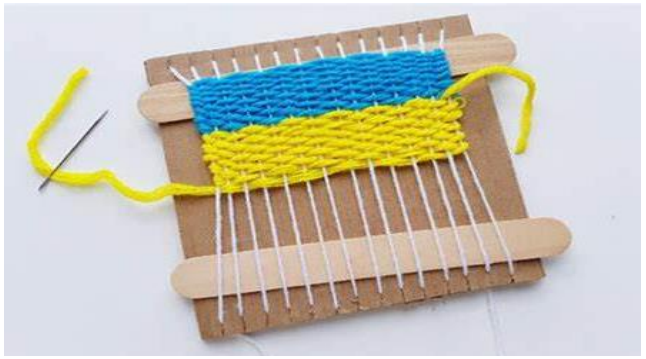
Fibres



We will be using **FELT** to make our Day of the Dead character with. Felt is normally made by using the **NON-WOVEN** manufacturing technique using **WOOL** (which normally comes from shearing sheep)

Weaving is a method of textile production in which two sets of yarns are interlaced at right angles to form a fabric or cloth. The cloth is made on a loom by using Warp and Weft techniques to join the yarns together.





Design Technology Knowledge Organiser: Y7 Day of the Dead Term 3

Theoretical Knowledge

Applique

Appliqué is a fun and creative sewing technique where you cut out shapes from fabric and sew them onto another piece of fabric to make a design or picture.

Imagine cutting out a red heart from felt and sewing it onto your school bag. That's appliqué!

Sewing Safety Tips for Students

Needle Safety

- Always handle needles carefully—hold them by the eye or the blunt end.
- Store needles in a pincushion or container when not in use.
- Never leave needles or pins loose on the table or floor.

Scissors Safety

- Use fabric scissors only for fabric to keep them sharp.
- Pass scissors handle-first to others.
- Always cut away from your body and keep fingers clear of the blades.

Threading & Stitching

- Use a needle threader if needed to avoid poking fingers.
- Keep stitches small and controlled to avoid tangling or pricking yourself.
- Don't pull the needle too hard—gentle, steady movements are safest.

Workspace Safety

- Keep your workspace tidy—no clutter or loose threads.
- Check the floor for dropped pins or needles before leaving.
- Use a tray or box to keep small items organized.

General Safety

- Ask for help if you're unsure how to use a tool.
- Don't rush—take your time to avoid accidents.
- Wash hands before and after handling fabric and tools.

Drama: Y7 Term 3

DRAMA Knowledge Organiser: STYLE & GENRE **Naturalism** Y7 HT5

Style: *the way in which Drama is performed*

Genre: *the type of story you are telling*

Naturalism: *style of performing close to real life.*

A performance that presents events and characters on stage as in real life.

NATURALISM attempts to hold up **a mirror to nature** and give the illusion of **characters as actual people** in **real-life situations** using **everyday language**.

It is both a STYLE & a GENRE

Genre is on the page
Style is on the stage

GENRE is a type of Drama, such as COMEDY, TRAGEDY or MUSICAL.

STYLE is the way in which Drama is performed, such as PHYSICAL THEATRE, COMEDY or NATURLISM.

What is SUBTEXT?

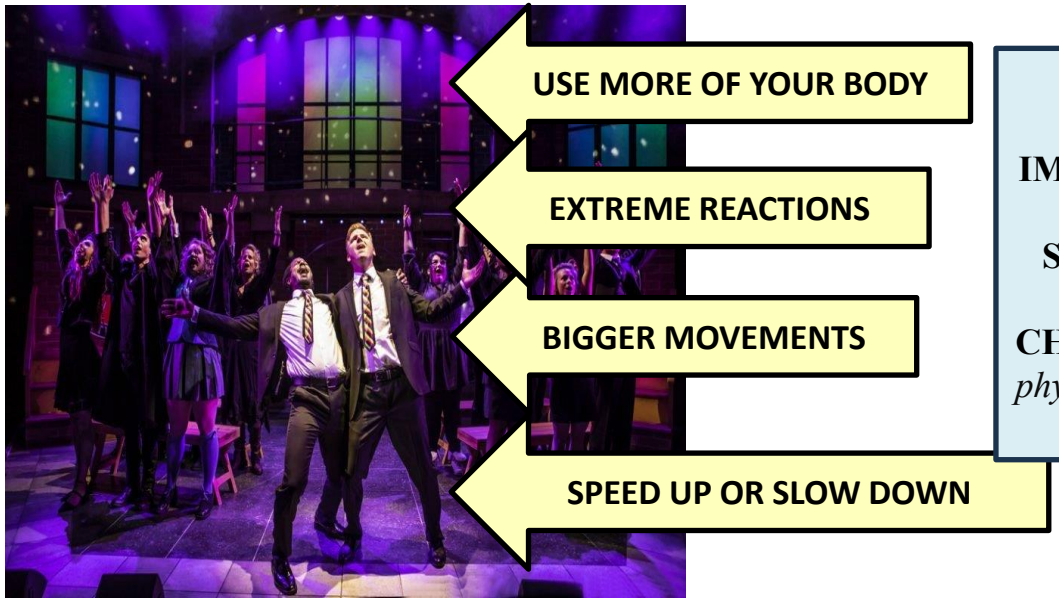
SUBTEXT refers to **the emotion or intention hiding beneath the words a character says.**

In Drama, just like in the real world, **not all CHARACTERS say exactly what they are thinking or feeling.**

SUBEXT is a key element of NATURALISM.

DRAMA Knowledge Organiser: Comedy Y7 HT6

The goal of comedy is simple: **get the laugh!**
One way to do this is **use of EXAGGERATION.**



COMEDY VOCABULARY

IMPROVISATION: *a spontaneous performance created with little or no preparation.*
STOCK CHARACTER: *easily recognisable, stereotypical character.*
CHARACTER SIGNATURE: *exaggerated physical representation of a character*

EXAGGERATION: *making something seem bigger or more important than it really is*

English: Y7 Term 3

Knowledge Organiser: Shakespeare's Heroes and Villains

Tier 2 Vocabulary

Tier 1 Word	Definition	As a picture	In a sentence
Domineering (adj)	Trying to control others		Prospero is **domineering** towards other characters in *The Tempest.*
Malicious (adj)	Wanting to harm or upset others		In *Othello*, Shakespeare presents Iago as a **malicious** character.
Courage (n)	The ability to face danger or pain with bravery		Henry V is presented as showing great **courage** in battle.
Conflicted (adj)	Confused, torn or unable to decide between opposing feelings or views		Hamlet is **conflicted** over whether or not to kill King Claudius.
Despair (n)	A feeling of hopelessness or not being able to improve a situation		Richard II feels **despair** over his loss of the kingdom.
Assertive (adj)	Able to confidently express your views and needs		In *Much Ado About Nothing*, Beatrice is unusually **assertive** – she always speaks her mind.

Tier 3 Vocabulary

Imperative

a verb that is a direct instruction, e.g. 'Run!', 'Sit with me'

'question your desires'
A Midsummer Night's Dream

Simile

describes something by saying it is like something else (usually using 'like' or 'as')

'I see you stand like greyhounds'
Henry V

Metaphor

describes something by saying it is something else

'the hollow crown'
Richard II

Imagery

words that create a vivid picture in the audience's mind

'All but mariners plunged in the foaming brine'
The Tempest

Listing

a series of connected words written one after the other

'she is wronged, she is slandered, she is undone'
Much Ado About Nothing

Dialogue

Conversation between two or more characters

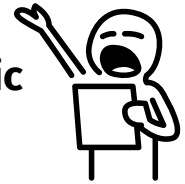
Monologue

Long speech by one character

Soliloquy

When a character thinks out loud, often while alone

Knowledge Organiser: Writing Dramatic Monologues



Tier 2 Vocabulary

Tier 1 Word	Definition	As a picture	In a sentence
Rage (n)	Uncontrollable anger		He slammed the door in a fit of **rage**.
Anguish (n)	Severe mental or physical pain or suffering.		His death had caused her **anguish.**
Inner conflict (adj + n)	When someone is confused, torn or unable to decide between opposing feelings or views		She had an **inner conflict** over whether to tell the truth or keep her secret.
Indifference (n)	Not caring, being interested in or having emotion		He was **indifferent** to the suffering of others.
Malice (n)	The desire to harm or upset others		He delighted in murder - he was filled with **malice**.

Extension knowledge to enhance your writing

- A change in tone can reveal inner conflict
- Punctuation can reflect a character's emotions
- An extended simile or metaphor can be an effective way to express a character's emotional state
- Narrators are not always reliable - writers might hint they are being untruthful
- Tone can be created with similes, metaphors, repetition, rhetorical questions and contrast

Tier 3 Vocabulary

Dramatic monologue

Long speech by one character in a play, poem, or novel

Characterise

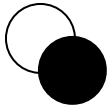
to describe or present someone or something in a specific way

Voice

how a character speaks or narrates, hinting at their personality

Contrast

showing how different two things are



Tone

the mood or attitude conveyed by someone's words

'I tell you I must go!'

Repetition

words or phrases are used again for effect

'What about my life? What about me?'

Simile

describes something by saying it is <u>like</u> something else (usually using 'like' or 'as')

'I saw my life branching out before me like the green fig tree in the story'

Metaphor

describes something by saying it <u>is</u> something else

'Fire is catching. If we burn, you burn with us'

Food & Nutrition: Y7 Term 3

Food & Nutrition Knowledge Organiser: Y7 Term 3

Keywords and Definitions

Knowledge

Sugar is a **simple carbohydrate** that gives the body **quick energy** but contains **no other nutrients** (known as "**empty calories**").

Natural Sugars	Found in fruit (fructose), milk (lactose) These foods have other nutritional benefits.
Free (Added) Sugars	Sweets, chocolate, cakes, biscuits, fizzy

UK Government Sugar Recommendations (NHS/UK Guidelines)
- Children aged 11+ and adults should have **no more than 30g** of **free sugars per day**.
- That's about **7 sugar cubes (teaspoons)**.
- Children aged 7–10: **24g/day**, and ages 4–6: **19g/day**.
- Reduce sugary drinks and snacks, especially for children.

Drink	Approx. Sugar (per 330ml can/bottle)
Cola/Fizzy Drink	35g (over daily limit!)
Energy Drink	30–40g
Fruit Juice (unsweetened)	20–25g
Flavoured Water	15–20g
Milkshake	20–30g
Water	0g (best choice!)

Condition	Linked To	How to Reduce Risk
Obesity	Eating too many sugary/starchy foods	Eat balanced meals, exercise, avoid overeating
Tooth Decay	Frequent sugary snacks/drinks	Brush teeth twice a day, reduce sugar intake
Type 2 Diabetes	Long-term high sugar intake, obesity	Eat fewer simple sugars, increase fibre, stay active

Food and Nutrition Knowledge Organiser: Y7 Term 3

Key Words and Definitions

Protein

Protein is a **macronutrient** (a nutrient needed in large amounts), made from **amino acids**

Main Functions of Protein

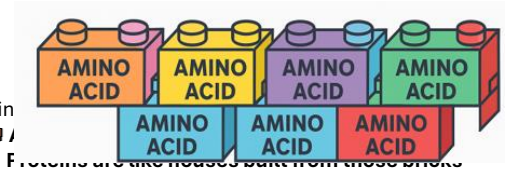
- **Growth** – muscles, skin, hair, nails
- **Repair** – healing cuts, rebuilding body tissue
- **Energy** – can be used for energy if needed

Sources:

- Animal-based: meat, fish, eggs, dairy
- Plant-based: beans, lentils, tofu, nuts, seeds

What Is an Amino Acid?

An **amino acid** is a **tiny building block** that joins with others to make **proteins**.



Thin

Your body uses **20 different amino acids** to build all the proteins it needs.

Theoretical Knowledge

HIGH BIOLOGICAL VALUE PROTEINS	
Meat	Beef, pork, lamb, chicken
Fish	Tuna, salmon, white fish
Eggs	Excellent protein source
Dairy Products	Milk, cheese, yoghurt

HBV (High Biological Value)	Contains **all essential amino acids**	Meat, fish, eggs, soya, dairy
LBV (Low Biological Value)	Missing **one or more essential amino acids**	Beans, peas, nuts, seeds, grains

LOW BIOLOGICAL VALUE PROTEINS	
Pulses	Beans, lentils, chickpeas
Nuts & Seeds	Almonds, sunflower seeds
Soya Products	Tofu, soya milk (HBV – exception)
Wholegrains	Brown rice, oats

Food and Nutrition Knowledge Organiser: Y7 Term 3

Cheese is made from **milk** (usually cow's, goat's, or sheep's). It's made by **curdling milk**, then pressing and ageing the curds.

Cow's Milk	Cheddar, Mozzarella, Brie
Goat's Milk	Goat's cheese
Sheep's Milk	Feta

Category	Examples	Description
Hard Cheese	Cheddar, Parmesan, Red Leicester	Firm, long shelf life, aged
Soft Cheese	Brie, Camembert, Cream cheese	Soft texture, mild flavour
Blue Cheese	Stilton, Roquefort, Gorgonzola	Blue/green mould veins, strong taste
Fresh Cheese	Cottage cheese, Ricotta, Mozzarella	Not aged, high in moisture, mild
Processed Cheese	Cheese slices, spreadable cheese	Made with added ingredients and preservatives

Nutrient	Function
Protein	Helps with **growth and repair** of the body
Calcium	Keeps **bones and teeth strong**
Fat	Gives energy (but too much can lead to weight gain)
Vitamin A	Good for **skin and eyes**
Vitamin B12	Helps make **red blood cells**

How Is Cheese Made?

- Milk is warmed
- Starter bacteria are added – they turn lactose (milk sugar) into lactic acid.
- Rennet is added – this causes the milk to curdle (form curds and whey).
- The solid curds are cut and heated.
- Whey (liquid) is drained off.
- Curds are pressed into shape.
- Cheese is aged (matured) to develop flavour and texture (some cheeses are ready to eat fresh).

Some cheeses (like blue cheese) have special moulds added to create veins and strong flavours.

Food and Nutrition Knowledge Organiser: Y7 Term 3

What Is Seasonality?

Seasonality means that certain **foods grow naturally at specific times of the year**, depending on the **weather, daylight and temperature**.

In the UK, different fruit and vegetables are **in season** at different times.

"In season" means the food is **freshly grown**, **local**, and at its **best quality**.

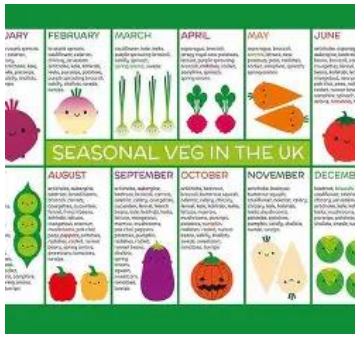
Why We Import Some Foods

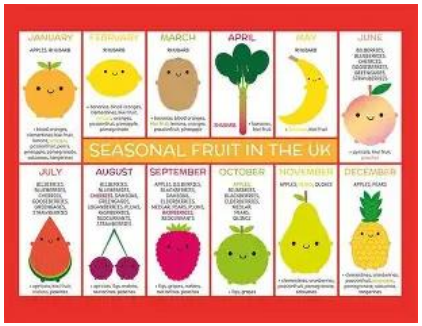
Some foods like bananas, pineapples, and mangoes don't grow in the UK because:

- The **climate is too cold**
- The **growing season is too short**
- We **want fruit all year round,** not just when it's in season

Imported foods are often **flown or shipped** long distances, which increases **food miles** and harms the environment.

Spring	Summer	Autumn	Winter
Asparagus	Strawberries	Apples	Parsnips
Radishes	Raspberries	Pumpkins	Sprouts
Spinach	Tomatoes	Pears	Leeks
New potatoes	Courgettes	Squash	Cabbage
Rhubarb	Peas	Plums	Kale





Benefits of seasonal foods	Why It Matters
Tastes better	Foods are harvested at the right time – fresher and more flavourful
More nutritious	Less time between picking and eating = more vitamins
Cheaper	Supply is higher when in season = lower prices
Better for the environment	Less energy and fuel needed for transport, storage, and growing in greenhouses
Supports local farmers	Boosts the UK economy and local jobs

Food & Nutrition Knowledge Organiser: Y7

Skills

Chicken Goujons

Ingredients

50g breadcrumbs OR 2 slices bread
1 x 5ml mixed herbs
1 x 15ml parmesan cheese
2 chicken breasts/Quorn pieces
1 x tablespoon plain flour
1 egg, beaten

Method

1. Preheat the oven to 200°C or gas mark 6.
2. Grate the cheese and place in a small bowl.
3. Place the breadcrumbs and herbs in a small bowl and mix.
4. Pour the flour onto a small plate.
5. Beat the egg in a small bowl.
6. Cut the chicken into nuggets (approximately 4cm x 3cm chunks) using a clean chopping board.
7. Dust the chicken in the flour.
8. Dip in the beaten egg.
9. Roll in the breadcrumb mixture.
10. Place on the baking tray.
11. Repeat steps 7-10 for all the chicken pieces. Thoroughly wash and dry your hands.
12. Bake in the oven for 20 minutes, until golden brown.

Frittata

Ingredients

2 spring onions, or 1 small onion
100g cheese (grated or broken into small chunks)
3 or 4 eggs
50g frozen peas
1 courgette
2 slices of ham/salami/chorizo

Method

1. Crack the eggs in to the small bowl taking care to remove any shell.#
2. Mix the eggs well with a fork.
3. Prepare the vegetables – slice onions, grate courgette, drain peas – and place in the bowl with the egg.
4. Slice the ham and add to the bowl.
5. Add the cheese to the bowl and mix well.
6. Season with salt and pepper and add herbs
7. Heat a tbsp of oil in the frying pan over a low heat.
8. Pour the bowl into the middle of the pan.
9. Cook gently for 20 mins until the egg is set. DO NOT STIR.
10. Place the pan under a hot grill for 2 mins to colour the top of the fritatta

Cheese Scones

Ingredients

225g self-raising flour
50g butter or margarine
1 egg
125ml milk
50g cheese

Method

1. Heat oven to 220C/fan 200C/gas 7. Tip the flour into a large bowl then mix. Add the butter, then rub in with your fingers until the mix looks like fine crumbs.
2. Stir in the cheese.
3. Crack the egg into a jug, whisk with a fork, then pour in milk up to 150ml on the jug.
4. Make a well in the dry mix, then add the liquid a little at a time, until it forms a dough.
5. Make the dough into a ball.
6. Place on a floured work surface and roll out.
7. Using a cutter, cut out scones, re-rolling the dough to use it all up.
8. Brush the tops with beaten egg, then carefully place onto the baking tray.
9. Bake for 10 mins until risen and golden on the top.

Food & Nutrition Knowledge Organiser: Y7

Skills

Macaroni Cheese

Ingredients

100g macaroni (or other short pasta)
100g grated cheese
375ml milk
25g plain flour
25g butter or margarine

Method

1. Cook the pasta in a large pan of boiling water for about 6 minutes. Then drain the pasta and place in a container
2. Put the milk, margarine/butter and flour in the pan.
3. Whisk over a low heat until thickened – DO NOT STOP WHISKING, OTHERWISE IT WILL GO LUMPY.
4. Turn off the heat and add most of the cheese.
5. Stir in the pasta, then put into your dish.
6. Put the remaining cheese on top.
7. Bake for 15 mins

Fruit Crumble

Ingredients

50g butter or margarine
100g plain flour
25g sugar
50g oats
2 apples OR 100g blackberries OR 4 sticks of rhubarb OR 2 pears
25g sugar extra if using rhubarb/blackberries
2 tablespoons sultanas (if using apples

Mrthod

1. Place flour and butter in a bowl.
2. Rub in until mixture resembles breadcrumbs.
3. Stir in sugar and oats (if using.)
4. Peel and core the apple or prepare the other fruit by slicing or chopping.
5. Place the fruit in an ovenproof dish with two tablespoons of water. Add sugar if using rhubarb or blackberries.
6. Carefully spoon the crumble topping over the fruit.
7. Bake for 30 to 40 mins at 160C/gas mark 5.

Aloo Ghobi

Ingredients

150g potatoes
100g cauliflower, cut into florets
1 tbsp olive oil
1 small onion, finely chopped
3 cloves garlic, sliced
1 red chilli, deseeded and finely chopped
5cm fresh ginger, peeled and finely sliced
1 tsp cumin
1 tsp turmeric
1 tbsp tomato puree
300g can chopped tomatoes

Method

1. Heat half a pan of water, until boiling.
2. Peel and chop the potatoes into small cubes.
3. Boil the potatoes and cauliflower for 5 to 10 minutes. Drain and put the potatoes and cauliflower in your container.
4. Heat the oil in the pan over a medium heat
5. Add the onion and cook for 2-3 mins until starting to soften
6. Add the garlic, chilli, and ginger
7. Cook for a further minute before adding the spices. Fry for about 5 mins until the spices release their aroma and the onion has caramelised. Add the drained potatoes and cauliflower.
8. Stir in the tomato pureé and chopped tomatoes and continue to bubble on a medium heat for 6-8 mins, until the sauce thickens

Geography: Y7 Term 3

GEOGRAPHY Knowledge Organiser: Y7 UNEQUAL WORLD

	Core knowledge
How are the world's countries classified?	• **High-Income Countries (HICs)** – These are countries with high levels of income, and strong economies and its people have a good quality of life, such as the UK, USA, and Germany. • **Low-Income Countries (LICs)** – These countries have lower levels of income, often relying on farming, with its people having a poorer quality of life. Examples include Chad and Afghanistan. • **Newly Emerging Economies (NEEs)** – These are countries experiencing rapid industrial and economic growth, often moving from an LIC to an HIC status. Examples include India, Brazil, and China. • Most HICs are in Europe, Oceania and North America. NEEs are found in South America and Asia, whilst LICs are in Central Africa.
What is life like in HICs, LICs and NEEs?	• **Quality of Life**– People in **HICs** generally have high wages, good healthcare, and access to education, while **LICs** often face poverty, poor healthcare, and low literacy rates. **NEEs** are improving but still have inequalities between rich and poor areas. • **Employment**– **HICs** have diverse economies with many jobs in services (e.g., banking, technology). **LICs** rely on agriculture and raw materials, often with lower wages. **NEEs** are shifting towards manufacturing and industry, creating new job opportunities. • **Infrastructure and Services** – **HICs** have advanced transport networks, modern hospitals, and reliable electricity. **LICs** often struggle with poor roads, limited healthcare, frequent power shortages and unclean water. **NEEs** are rapidly improving infrastructure but may still have overcrowding and pollution.
What are development indicators?	• Development indicators are statistics that help measure the level of development of a country: 1. **Birth Rate** – The number of live births per 1,000 people per year. **LICs tend to have high birth rates** due to lack of contraception and the need for more children to work on farms, while **HICs have lower birth rates** due to family planning and career-focused lifestyles. 2. **Infant Mortality Rate** – The number of babies who die before their first birthday per 1,000 live births. **A high infant mortality rate** suggests poor healthcare, malnutrition, and sanitation, which is more common in **LICs**, whereas **HICs** have much lower rates due to better medical care. 3. **Calorie Intake** – The average number of calories eaten per person per day. **HICs have high calorie intake**, often leading to health issues like obesity, while **LICs may have lower calorie intake**, leading to malnutrition. 4. **Literacy rate** (percentage of adults who can read and write) is higher in **HICs** due to good education systems, whereas **LICs** may have lower rates due to poverty and lack of schools. 5. **Life expectancy** (average number of years a person is expected to live) is also higher in **HICs** because of better healthcare, whereas **LICs** may have shorter life expectancies due to disease and not eating enough food.
Why do LICs exist in the world today?	• **Colonialism** – Many **LICs** were once ruled by richer countries (colonies). These powerful countries took **natural resources** and used the land for their own benefit. When the LICs became independent, they were left with **weak economies and little money** to develop. • **Natural Disasters** – Some **LICs** experience frequent **earthquakes, floods, and droughts**, which destroy homes, farmland, and businesses. With little money to rebuild, development is slow, and people struggle to escape poverty. • **Climate** – Some LICs have **very hot or very wet climates**, which make farming difficult. If crops fail due to **droughts or heavy rains**, people may go hungry, and the country earns less money from selling food. • **War and Conflict** – Many LICs have had **wars or ongoing fighting**, which **destroys towns, schools, and hospitals**. This means that the government must pay money to repair the damage rather than improving the country. • **Corruption** – In some LICs, **leaders may keep money for themselves** instead of spending it on healthcare, schools, and roads. This stops the country from developing, and people continue to live in **poor conditions**.

History: Y7 Term 3

History Knowledge Organiser: Y7 HT5 - The Early Tudors

Keywords and Definitions

Heir	A person who inherits property and / or titles.
Dissolution	Ending an official institution. For example, the monasteries.
Economic	How money is earned and spent.
Illegitimate	A child born to unmarried parents.
Monasteries	A building occupied by a community of monks.
Monks	A member of a religious community, who takes vows.
Political	To do with war, power, government and rights.
Protestant	A follower of the new reformed religions that are not part of the Catholic Church.
Religious	To do with religious beliefs.
Reformation	The re – forming of the Catholic Church.
Succession	The person next in line to the throne.

Knowledge

Henry VII

Henry VII came to the throne of England in 1485 after beating Richard III at the Battle of Bosworth. This was the end of the Wars of the Roses. When he became king, Henry married Elizabeth of York. This united the House of York with the House of Lancaster and meant that he did not have to fear revenge from the Yorkists for killing Richard III. As king, Henry VII banned the nobles from having their own private armies and he made himself very rich. He died in 1509 and his son became Henry VIII.

Henry VIII

Henry VIII was king from 1509 to 1547.
He is most famous for having six wives and for the Break from Rome and his creation of the Church of England.
He had three children; Mary I, Elizabeth I and Edward VI.

The Break with Rome

- Henry VIII wanted to divorce Catherine of Aragon, but the Pope refused to allow this.
- New Protestant ideas coming from Europe encouraged Henry that he could establish his own Church.
- In the 1530s, Henry created the Church of England with himself as Head of the Church.
- This meant that he could give himself a divorce and that he was now God's representative on Earth.
- The Break from Rome also led to the Dissolution of the Monasteries. Between 1536 and 1540, all monasteries in England were closed leading to social problems such as homelessness, a lack of charity and a lack of hospital care.

The Wives of Henry VIII

1. Catherine of Aragon – a Spanish princess and mother of Mary I. Henry **DIVORCED** her when she failed to give him a male heir.
2. Anne Boleyn – an English noblewoman and mother of Elizabeth I. Anne was **BEHEADED** in 1536 and accused of treason.
3. Jane Seymour – an English noblewoman that **DIED** giving birth to her only son, Edward VI in 1537.
4. Anne of Cleves – a German princess that Henry **DIVORCED** after a few months in 1540 because he said she was ugly.
5. Katherine Howard – an English noblewoman that was **BEHEADED** for adultery in 1542.
6. Catherine Parr – an English noblewoman that **SURVIVED** Henry but later died giving birth to her only daughter.

History Knowledge Organiser: Y7 HT6 - The Later Tudors

Keywords and Definitions

Armada	The invasion fleet of ships sent by Spain to attack England in 1588.
Heir	A person who inherits property and / or titles.
Heresy	A belief in religious views that go against the official Church.
Illegitimate	A child born to unmarried parents.
Monasteries	A building occupied by a community of monks.
Protestant	A follower of the new reformed religions that are not part of the Catholic Church.
Reformation	The re – forming of the Catholic Church.
Regent	Someone who rules the country on behalf of the king or queen.
Succession	The person next in line to the throne.
Suitor	A person who is potentially going to marry someone.
Treason	A crime against the monarch and country. Punishable by death.

Knowledge

Edward VII

Became king in 1547 at the age of 9.
Was a strict Protestant.
Died when he was 15 in 1553 and tried to exclude both his sisters from the line of succession.

Lady Jane Grey

Famously known as the 'Nine Day Queen'.
Edward chose her as his heir because she was a Protestant.
Was overthrown by Mary who had her executed in 1554.

Mary I

Oldest child of Henry VIII. She was a strict Catholic that wanted to make England a Catholic country again.
Married her cousin Philip II of Spain.
Known as Bloody Mary because she burnt nearly 300 Protestants while she was the Queen.
Died childless in 1558.

Mary, Queen of Scots

- Cousin of the three Tudor monarchs.
- In 1568 she arrived in England when she was removed from her Scottish throne.
- Elizabeth imprisoned her for 19 years before she was beheaded in 1587 for trying to replace Elizabeth in a plot called the Babington Plot.

- Reigned from **1558 – 1603.**
- Daughter of Henry VIII and Anne Boleyn.
- Famously known as the Virgin Queen because she never got married.
- Had her cousin, Mary, Queen of Scots executed in 1587.
- In 1588, England defeated the Spanish Armada.

- Her reign in England was known as a 'Golden Age' with men like William Shakespeare writing many famous plays.
- When she died she was succeeded by James VI of Scotland who became the first Stuart king of England.
- She was a Protestant.

The Spanish Armada

1. In 1588, Philip II of Spain sent the Spanish Armada to invade England.
2. The English used fire ships to break the Spanish formation.
3. There was a storm that swept the ships away and England was victorious.

Mathematics:

Y7 Term 3

Mathematics

Year 7 HALF TERM 5:

R1 Speed, distance and time

In this chapter, students explore the relationship between speed, distance, and time, building on their understanding of units, time, and proportional reasoning. They begin by developing fluency in converting between different units of time—such as milliseconds, seconds, minutes, hours, days, and years—and working with fractions of time in both practical and mathematical contexts. Using real-life scenarios, students learn to interpret and use information from tables, timetables, and calendars. As they move forward, they are introduced to the speed formula and learn to calculate speed, distance, or time given the other two values. Emphasis is placed on using efficient strategies and understanding when and how to apply key formulas. Later in the chapter, students explore distance-time graphs—first interpreting them, then constructing their own. They analyse these graphs to extract key information, including calculating speed from gradients. Throughout the chapter, visual representations, structured reasoning, and real-world contexts help students make sense of relationships and solve multi-step problems with increasing independence.

N7 Properties of number

In this chapter, students build a deep understanding of the properties and structures within our number system. They begin by exploring multiples, factors, and prime numbers, laying the groundwork for recognising patterns and relationships between numbers. This includes writing numbers as products of prime factors—an essential skill that supports work on simplifying expressions, finding common factors, and solving problems involving divisibility.

Students then investigate special types of numbers, including square, cube, and triangular numbers, and develop their understanding of roots. This leads to exploring higher powers and roots in more complex contexts. Throughout the chapter, students are encouraged to use visual representations, such as factor trees and number diagrams, to support their reasoning. Later steps introduce more advanced techniques such as calculating the highest common factor (HCF) and lowest common multiple (LCM), including using Venn diagrams to compare sets of prime factors. Students also consider how recognising factors and multiples can make calculations more efficient. This chapter helps build fluency and flexibility with numbers, supporting later topics across algebra, fractions, and ratio.

Knowledge Organisers : Year 7 HT5

R1 Speed, distance and time

Mathematics

What do I need to be able to do?

Step 1 Convert between milliseconds, seconds, minutes, and hours
Step 2 Convert between hours, days, and years
Step 3 Fractions of time
Step 4 Solve problems with tables and timetables
Step 5 Solve problems with time and the calendar
Step 6 Calculate speed
Step 7 Calculate time and distance
Step 8 Solve problems with speed, distance, and time
Step 9 Interpret distance-time graphs
Step 10 Draw distance-time graphs
Step 11 Calculate speed from a distance-time graph (E)

Keywords

Convert – Changing between different units of time.
Milliseconds – One thousandth of a second
Seconds – Basic unit of time.
Minutes – 60 seconds
Hours – 60 minutes
Days – 24 hours
Years – 365 or 366 days
Fraction – Part of a whole, here used to describe parts of time.
Speed – How fast something moves (distance divided by time)
Distance – How far something travels
Time – Duration of an event or process.
Graph – A visual way to show data, e.g. distance-time graph.

Conversions

Convert between milliseconds, seconds, minutes, and hours

Unit	Conversion
1 second	= 1,000 milliseconds
1 minute	= 60 seconds
1 hour	= 60 minutes
	= 3,600 seconds
	= 3,600,000 milliseconds

Tips:
To convert **up** ms → s divide.
To convert **down** s → ms multiply

Convert between hours, days, and years

Unit	Conversion
1 day	= 24 hours
1 week	= 7 days
1 year	= 365 days (or 366 in a leap year)
	= 52 weeks + 1 day
	= 8,760 hours (non-leap year)

Examples:
48 hours = 2 days
1 year = 8,760 hours

Speed, Distance, Time

÷ 60: minutes → hours
× 60: hours → minutes

Before calculations – make sure you are working in the same units as the speed

Learn or learn how to rearrange the formular for speed, distance and time

$$\text{time} = \frac{\text{distance}}{\text{speed}}$$

Substitute in the variables given

$$\text{distance} = \text{speed} \times \text{time}$$

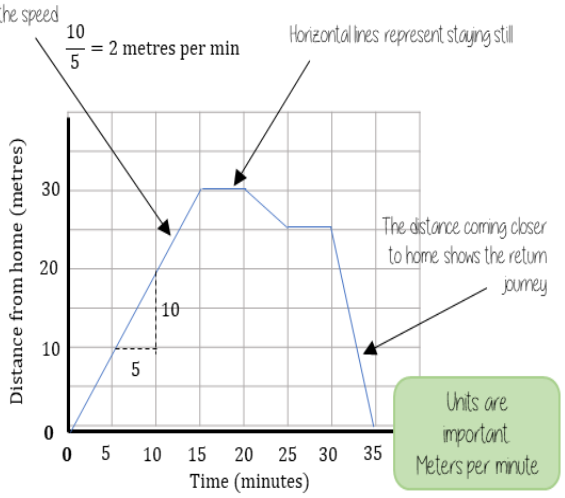
Distance – Time graphs

Gradient = speed

The steeper a gradient the faster the speed

$\frac{10}{5}$ = 2 metres per min

Horizontal lines represent staying still



The distance coming closer to home shows the return journey

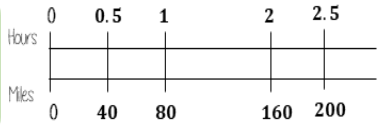
Units are important
Meters per minute

Speed, Distance, Time

"per" for every
e.g. 80 miles per hour (mph)
Travel 80 miles every hour

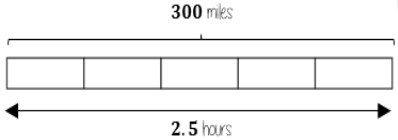
$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

You can use a double number line to help you calculate distance



e.g. A boat travels at a constant speed for 2.5 hours
It travels 300 miles

Bar models can help to calculate mph



Each part is half an hour
Each part is 60 miles

Rates of change & units

Common rates of change relationships

Revisit your conversions between units of length and capacity

Speed miles **per** hour
Exchange rates euros **per** pounds
Density mass **per** volume

÷ 1000: metres → kilometres
× 1000: kilometres → metres

Knowledge Organisers : Year 7 HT5
R1 Speed, distance and time

Mathematics

R1 - SPEED, DISTANCE AND TIME

Retrieval Practice

1) What is the fourth multiple of 7?

2) Whitney rolls a six-sided dice. What is the probability she rolls a number greater than 4?

3) Work out 7.5 x 16

4) Write the number two hundred and five thousand, six hundred and twenty in figures.

Vocabulary check: Significant figure

Sparx Maths

Extension work

Codes for related Independent Learning tasks on SPARX maths:

Click on 'Independent Learning' on home page, then enter code in search box

Convert between milliseconds, seconds, minutes, and hours – U169
Convert between hours, days, and years – U170
Fractions of time – M532 Solve problems with tables and timetables – U175
Solve problems with time and the calendar – U176
Calculate speed – U316 Calculate time and distance – U317
Solve problems with speed, distance, and time – U318
Interpret distance-time graphs – U319 Draw distance-time graphs – U320
Calculate speed from a distance-time graph (F) – U321

Career Focus - Where could this take you?

As an auditor, I have to make sure I understand lots of number skills and Identify patterns to make sure accounts make sense and comply with the law

Topic Link

This topic links to:

Additional Resources

To further practice and develop your knowledge see : https://corbettmaths.com/contents/

Anagrams

s e y a r

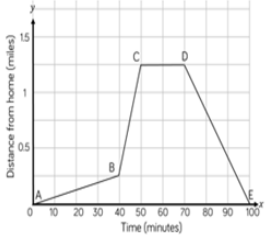
a t n c s i d e

s e p e d

m n o h t s

Self quizzing

Tom sets off from his house. Sometimes he walks, sometimes he runs and at one point he stops for a break.
Match the line segment to the activity.



AB	Running
BC	Stop for a break
CD	Walking at a quick speed
DE	Walking very slowly

Dani says, "Tom travels for 1.25 miles".
Is Dani correct? Explain your answer.

Challenge Activities

A machine fills 200 bottles in 8 minutes.
At what rate is the machine filling bottles?
How many bottles can the machine fill in 2 and a half hours?
How long will it take for the machine to fill 1500 bottles?
After a service, the machine operates 10% more efficiently.
How does this change your answers?

Knowledge Organisers : Year 7 HT5

N7 Properties of number

Mathematics

What do I need to be able to do?

- Step 1 Multiples
- Step 2 Factors
- Step 3 Prime numbers
- Step 4 Write a number as a product of prime factors
- Step 5 Square, cube and triangular numbers
- Step 6 Square roots and cube roots
- Step 7 Explore higher powers and roots (E)
- Step 8 Highest common factor (HCF)
- Step 9 Lowest common multiple (LCM)
- Step 10 HCF and LCM from a Venn diagram (E)
- Step 11 Use factors to simplify calculations (E)

Keywords

Multiples – Numbers obtained by multiplying a number by an integer.
Factors – Numbers that divide exactly into another number.
Prime – A number with only two factors: 1 and itself.
Prime factorisation – Writing a number as a product of prime numbers.
Square – A number multiplied by itself (e.g. $4 = 2^2$).
Cube – A number raised to the power of three (e.g. $8 = 2^3$).
Root – The inverse operation of powers (square root, cube root).
HCF – Highest Common Factor; largest factor shared by two numbers.
LCM – Lowest Common Multiple; smallest multiple shared by two numbers.
Venn diagram – A diagram showing common and distinct factors/multiples.
Simplify – Making calculations easier by reducing numbers using factors.

Multiples

The "times table" of a given number

All the numbers in this lists below are multiples of 3.

3, 6, 9, 12, 15…

This list continues and doesn't end

$3x$, $6x$, $9x$ …

x could take any value and as the variable is a multiple of 3 the answer will also be a multiple of 3

Non example of a multiple

4.5 is not a multiple of 3 because it is 3×1.5

Not an integer

Factors

Arrays can help represent factors

5×2 or 2×5

Factors of 10
1, 2, 5, 10

10×1 or 1×10

The number itself is always a factor

Factors and expressions

x x x x x

$6x \times 1$ OR $6 \times x$

Factors of $6x$
6, x, $1, 6x$, $2x$, 3, $3x$, 2

x x / x x — $2x \times 3$

x x x / x x x — $3x \times 2$

Prime numbers

2

- Integer
- Only has 2 factors
- and itself

The first prime number
The only even prime number

Learn or how to quick recall…

2, 3, 5, 7, 11, 13, 17, 19, 23, 29…

Square and triangular numbers

Square numbers

odd, even, odd

Representations are useful to understand a square number n^2

1, 4, 9, 16, 25, 36, 49, 64 …

Triangular numbers

Representations are useful – an extra counter is added to each new row

Add two consecutive triangular numbers and get a square number

1, 3, 6, 10, 15, 21, 28, 36, 45…

Common factors and HCF

1 is a common factor of all numbers

Common factors are factors two or more numbers share

HCF – Highest common factor

HCF of 18 and 30

18: 1, 2, 3, 6, 9, 18
30: 1, 2, 3, 5, 6, 10, 15, 30

Common factors (factors of both numbers)
1, 2, 3, 6

HCF = 6

6 is the biggest factor they share

Common multiples and LCM

Common multiples are multiples two or more numbers share

LCM – Lowest common multiple

LCM of 9 and 12

9: 9, 18, 27, 36, 45, 54
12: 12, 24, 36, 48, 60

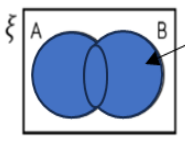
LCM = 36

The first time their multiples match

Comparing fractions

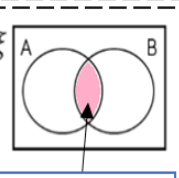
$\frac{3}{5}$ and $\frac{7}{10}$ — Compare fractions using a LCM denominator → $\frac{6}{10}$ and $\frac{7}{10}$

Venn diagrams



The LCM is the numbers in both circles

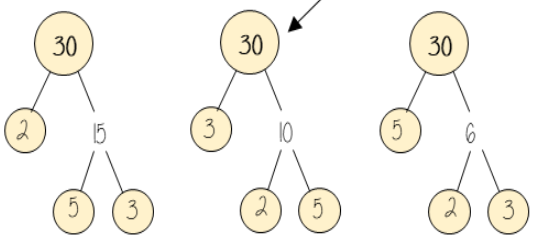
Remember you must multiply the numbers together



The HCF would be the number in overlap

Product of prime factors

Multiplication part-whole models



All three prime factor trees represent the same decomposition

$30 = 2 \times 3 \times 5$

Multiplication is commutative

Multiplication of prime factors

Using prime factors for predictions

e.g. 60 — 30×2 — $2 \times 3 \times 5 \times 2$
150 — 30×5 — $2 \times 3 \times 5 \times 5$

Knowledge Organisers : Year 7 HT5

N7 Properties of number

Mathematics

N7 - PROPERTIES OF NUMBER

Retrieval Practice

1) The probability of winning and losing a game are shown. What is the probability of a draw?

Win	Draw	Lose
0.5	?	0.2

2) Write the sample space for this spinner.

3) Work out 327 + 296

4) Calculate −4 − 9

Sparx Maths

Extension work

Codes for related Independent Learning tasks on SPARX maths:

Click on 'Independent Learning' on home page then enter code in search box

Multiples – M503 Factors – M504 Prime numbers – M505
Write a number as a product of prime factors – M506
Square, cube and triangular numbers – M507 Square roots and cube roots – M508
Explore higher powers and roots (E) – M509
Highest common factor (HCF) – M510 Lowest common multiple (LCM) – M511
HCF and LCM from a Venn diagram (E) – M512
Use factors to simplify calculations (E) – M513

Career Focus - Where could this take you?

A data analyst is like a detective for numbers. They look at lots of information and find hidden patterns or secrets that help companies and people make better decisions.

Topic Links

This topic links to Factors and multiples and Powers and roots

Some students will progress further and be able to
Use prime factors to find HCF's and LCM's

To further practice and develop your knowledge see:

https://corbettmaths.com/contents/

worksheets: 216, 218, 219, 220

Self quizzing

State whether the statements are true or false.
Explain why each time.

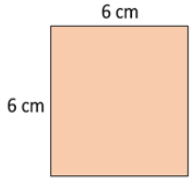
4.5 is a multiple of 3	1002 is a multiple of 3	0 is a multiple of 3

Write down the highest common factor of 12 and 18
Use this fact to help work out the highest common factors of these pairs of numbers.

120 and 180	6 and 9
24 and 36	18 and 27

Challenge Activities

Ali works out the perimeter and area of this square.
Perimeter = 24 cm
Area = 36 cm^2
He thinks "The perimeter of a square can never be equal to its area".
Do you agree? Justify your answer.



Mathematics

Year 7 HALF TERM 6:

N8 Add and subtract fractions

In this chapter, students develop a secure and flexible understanding of adding and subtracting fractions, building on prior knowledge of equivalence, simplification, and number operations. The chapter begins with simplifying fractions and converting between mixed numbers and improper fractions, laying the groundwork for confident manipulation of fractional expressions. Students then progress to adding and subtracting fractions with the same denominator, as well as those involving whole numbers. From there, they explore fractions with different denominators, starting with cases that share a simple common multiple and moving toward those requiring more complex conversions. Throughout, students are encouraged to use visual models, number lines, and reasoning strategies to build a conceptual understanding. Later in the chapter, students extend their skills to more advanced contexts, including operations with improper fractions and mixed numbers, working fluently between fractional and decimal representations, and tackling simple algebraic fractions. Finally, they apply their understanding to substitution and solving equations that include fractional values. This structured progression ensures students develop both accuracy and confidence in working with a wide range of fractional problems.

G2 Angles and polygons

In this chapter, students develop a comprehensive understanding of angles and polygons through hands-on exploration and reasoning. They begin by drawing and measuring lines and angles accurately, while becoming familiar with standard geometric notation to communicate their work clearly. Students explore key angle relationships, including angles around a point, angles on a straight line, and vertically opposite angles. They then apply these concepts to identify and name a variety of polygons, focusing on understanding their properties. The chapter progresses to studying angles within triangles and quadrilaterals, using these to solve increasingly complex problems involving angle calculations. Students investigate parallel and perpendicular lines, developing techniques to find unknown angles in parallel line contexts. Advanced steps introduce angles in polygons beyond quadrilaterals, including calculating interior and exterior angles, and extend to simple geometric proofs. Throughout, students use reasoning and logical deduction to build a strong foundation in geometric principles, preparing them for further study in geometry.

Knowledge Organisers : Year 7 HT6

Mathematics

N8 Add and subtract fractions

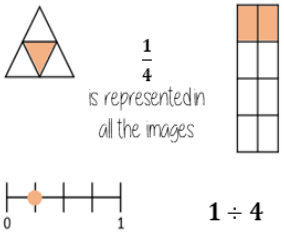
What do I need to be able to do?

- **Step 1** Simplify a fraction
- **Step 2** Convert between mixed numbers and improper fractions
- **Step 3** Add and subtract fractions with the same denominator
- **Step 4** Add and subtract with fractions and integers
- **Step 5** Add and subtract fractions where denominators share a simple common multiple
- **Step 6** Add and subtract fractions with any denominator
- **Step 7** Add and subtract improper fractions and mixed numbers
- **Step 8** Use equivalence to add and subtract decimals and fractions (E)
- **Step 9** Add and subtract simple algebraic fractions (E)
- **Step 10** Substitution and solving equations with fractions (E)

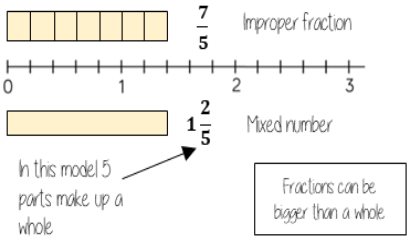
Keywords

- **Simplify** – Reducing a fraction to its lowest terms.
- **Mixed number** – A whole number combined with a fraction (e.g. $1\frac{3}{4}$).
- **Improper fraction** – A fraction where the numerator is greater than or equal to the denominator (e.g. 7/4).
- **Denominator** – The bottom number of a fraction, showing the total parts.
- **Add/Subtract** – Combining or taking away amounts.
- **Common multiple** – A number that is a multiple of two or more denominators.
- **Equivalence** – Different fractions or decimals that represent the same value.
- **Decimal** – A number expressed with a decimal point (e.g. 0.5).
- **Algebraic fraction** – A fraction with variables in numerator and/or denominator.
- **Substitution** – Replacing variables with numbers to solve equations.

Representing Fractions

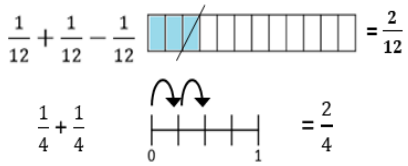


Mixed numbers and fractions



Add/Subtract unit fractions

Same denominator

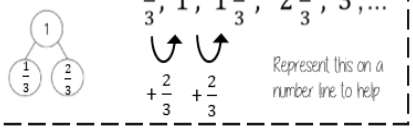


With the same denominator ONLY the numerator is added or subtracted

Add/Subtract fractions

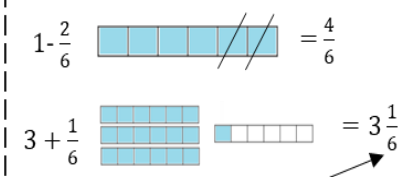
Same denominator

Sequences



Represent this on a number line to help

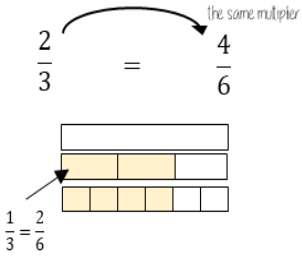
Add/Subtract from integers



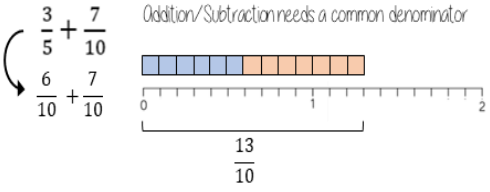
The denominator indicates the number of parts a whole is made up of

Equivalent fractions

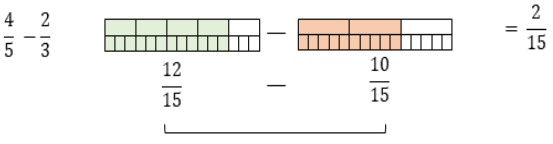
Numerator and denominator have the same multiplier



Add/Subtraction fractions (common multiples)

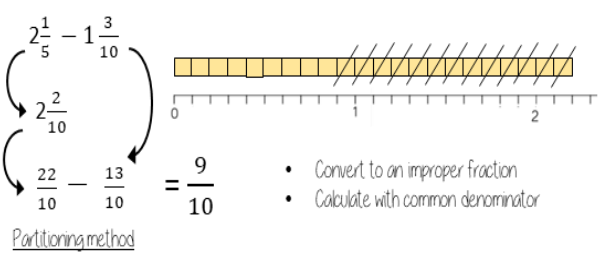


Add/Subtraction any fractions



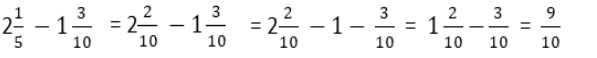
Use equivalent fractions to find a common multiple for both denominators

Add/Subtraction fractions (improper and mixed)

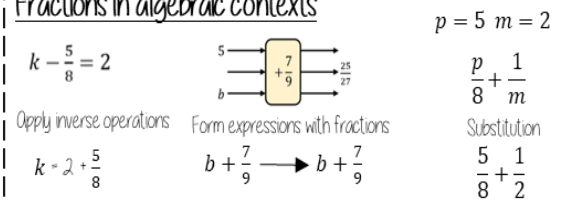


- Convert to an improper fraction
- Calculate with common denominator

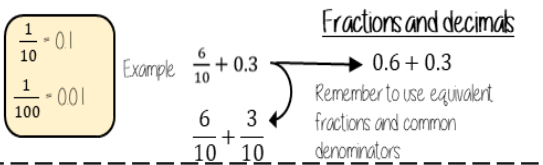
Partitioning method



Fractions in algebraic contexts



Fractions and decimals



Remember to use equivalent fractions and common denominators

Knowledge Organisers : Year 7 HT6

Mathematics

N8 Add and subtract fractions

N8 - ADD AND SUBTRACT FRACTIONS

Retrieval Practice

1) Work out $20 + 10 \div -2$

2) Solve the equation $8 = 2x + 3$

3) 80% of a number is 24. What is the number?

4) Find the next two terms in the linear sequence.

0.79 0.75 0.71 ...

Sparx Maths

Extension work

Codes for related Independent Learning tasks on SPARX maths:

Click on 'Independent Learning' on home page then enter code in search box

Simplify a fraction – M671
Convert between mixed numbers and improper fractions – M601
Add and subtract fractions with the same denominator – M835
Add and subtract with fractions and integers – M835
Add and subtract fractions where denominators share a simple common multiple – M835
Add and subtract fractions with any denominator – M835
Add and subtract improper fractions and mixed numbers – M931
Use equivalence to add and subtract decimals and fractions (E) – M264
Add and subtract simple algebraic fractions (E) – U685
Substitution and solving equations with fractions (E) – M417

Career Focus - Where could this take you?

As a pharmacist, I need to have a good understanding of fractions and negative numbers when making and storing pharmaceutical drugs.

Topic Links

This topic links to:
Fractions, decimals and percentages equivalence

Additional Resources

To further practice and develop your knowledge see :
https://corbettmaths.com/contents/

Fractions 132-136

Anagrams

N e a r o t r m u

n e d a o r t i n m o

m i p e r p r o

Self quizzing

Work out the missing fractions.

$4 + \frac{\square}{\square} = 4\frac{2}{5}$ $4 - \frac{\square}{\square} = 3\frac{3}{5}$ $6 + \frac{\square}{\square} + \frac{\square}{\square} = 6\frac{5}{7}$

$7 - \frac{\square}{\square} - \frac{\square}{\square} = 5\frac{5}{8}$ $6 + \frac{\square}{\square} - \frac{\square}{\square} = 5\frac{8}{9}$

Challenge Activities

$11\frac{3}{4} + 5\frac{7}{8}$

$11\frac{3}{4} - 5\frac{7}{8}$

Is it more efficient to convert the mixed numbers to improper fractions before adding/subtracting? Or, should I add/subtract my integers first, before the fractions?

Use Whitney's methods to calculate the answers.
What would your advice to Whitney be?

Teddy thinks the difference between the answers is 11.68

Is Teddy right? Explain your answer.

Knowledge Organisers : Year 7 HT6

Mathematics

G2 Angles and polygons

What do I need to be able to do?

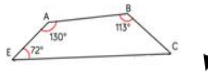
Step 1 Draw and measure lines and angles
Step 2 Understand and use geometric notation
Step 3 Angles around a point
Step 4 Angles on a straight line
Step 5 Vertically opposite angles
Step 6 Recognise and name polygons
Step 7 Angles in a triangle
Step 8 Angles in a quadrilateral
Step 9 Solve problems with angles
Step 10 Parallel and perpendicular lines
Step 11 Angles in parallel lines (E)
Step 12 Angles in a polygon (E)
Step 13 Simple proofs (E)

Keywords

Line – A straight continuous extent with length but no thickness.
Angle – The figure formed by two rays meeting at a common endpoint.
Notation – Symbols used to represent geometric figures and angles.
Point – The common endpoint where angles meet.
Straight line – A line with an angle of 180°.
Vertically opposite – Angles opposite each other when two lines cross, always equal.
Polygon – A closed shape with straight sides.
Triangle – A polygon with three sides.
Quadrilateral – A polygon with four sides.
Parallel – Lines that never meet and are always the same distance apart.
Perpendicular – Lines that intersect at a 90° angle.
Proof – A logical argument that shows a statement is true.
Interior angles – Angles inside a polygon.

Letter and labelling convention

The letter in the middle is the angle
The arc represents the angle

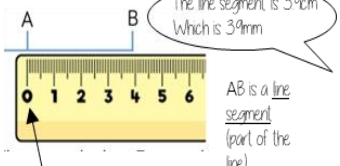


Angle Notation: three letters ABC
This is the angle at B = 113°

Line Notation: two letters EC
The line that joins E to C

Draw and measure line segments

Conversions: 1cm = 10mm, 1m = 100cm



AB is a line segment (part of the line)

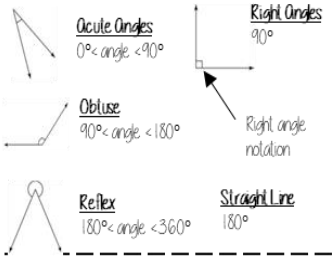
Make sure the start of the line is at 0.

Angles as measures of turn

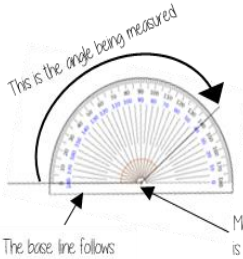
East to South is a quarter turn clockwise

Quarter Turn	Half Turn	Three-quarter Turn	Full Turn
90° Clockwise	180°	270° Anti-Clockwise	360°

Classify angles



Measure angles to 180°

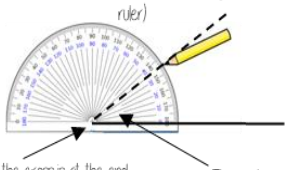


Read from 0° on the base line.
Remember to use estimation.
This is an obtuse angle so between 90° and 180°

Draw angles up to 180°

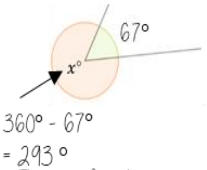
Draw a 35° angle.

Make a mark at 35° with a pencil and join to the angle point (use a ruler)



Sum of angles at a point

360°



360° - 67°
= 293°

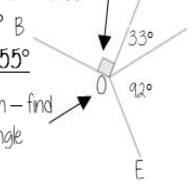
The sum of angles around a point is 360°

Find angle BOE

Angle notation – 90°

90° + 33° + 92° = 205°
360° - 205° = BOE = 155°

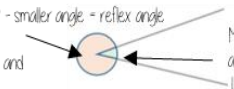
Angle notation – find this missing angle



Angles over 180°

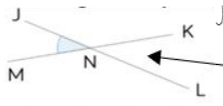
Use your knowledge of straight lines 180° and angles around a point 360°

360° - smaller angle = reflex angle



Measure the smaller angle first (less than 180°)

Vertically opposite angles

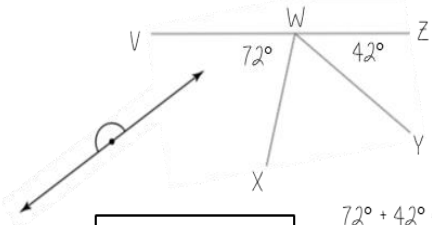


JNM = KNL

Vertically opposite angles are the same

Sum of angles on a straight line

Adjacent angles that share a common point on a line add up to 180°

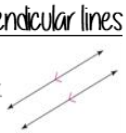


Find angle XWY

72° + 42° = 114°
180° - 114° = **66°**

Parallel and Perpendicular lines

Parallel lines
Straight lines that never meet
(Have the same gradient)



Perpendicular lines
Straight lines that meet at 90°

Polygons

3	- Triangle	6	- Hexagon	9	- Nonagon
4	- Quadrilateral	7	- Heptagon	10	- Decagon
5	- Pentagon	8	- Octagon		

If all the sides and angles are the same, it is a **regular** polygon

Knowledge Organisers : Year 7 HT6
G2 Angles and polygons

Mathematics

G2 - ANGLES AND POLYGONS

Retrieval Practice

1) Add $\frac{3}{5}$ to 0.3

2) Solve the equation $3x = \frac{1}{5}$

3) Change $\frac{47}{7}$ to a mixed number.

4) Simplify $8ab + 6ab - ab$

Sparx Maths

Extension work

Codes for related Independent Learning tasks on SPARX maths. Click on 'Independent Learning' on home page then enter code in search box

Draw and measure lines and angles – U421
Understand and use geometric notation – U422
Angles around a point – U423
Angles on a straight line – U424
Vertically opposite angles – U425
Recognise and name polygons – U426
Angles in a triangle – U427
Angles in a quadrilateral – U428
Solve problems with angles – U429
Parallel and perpendicular lines – U430
Angles in parallel lines (E) – U431
Angles in a polygon (E) – U432
Simple proofs (E) – U433

Careers Focus – Where could this take you?

Navigation is one of the oldest mathematical practices. Used by sailors and, relatively speaking, more recently by aircraft navigators. The practice relies heavily on geometry and angles.

Topic Links

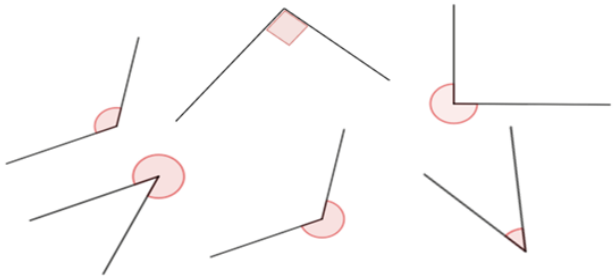
This topic links to using a ruler, using a pair of compasses and names of angles

Additional Resources
To further practice and develop your knowledge see :
https://corbettmaths.com/contents/

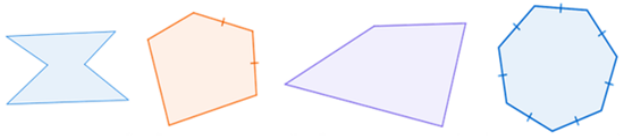
Videos 28, 31, 38, ; Worksheets 28, 31, 38

Self quizzing

Classify the angles as acute, obtuse, reflex or right-angles.



Write the name of each polygon and decide whether it is **regular** or **irregular**.



Challenge Activities

WXYZ is a square. Side XY is 5 cm long.

Draw the square and find the lengths of its diagonals WY and XZ.
Is there more than one way to draw this square?
Investigate if WXYZ were a rhombus instead.

The table contains information about the colour of students eyes in class 8a. There are 30 students in class 8a. Complete the table and draw a pie chart to represent the data.

Manufacturer	Frequency	Angle of sector
Brown	6	
Hazel	8	
Blue		60°
Green		48°
Silver	2	
Amber		

MFL: Y7 Term 3

German Knowledge Organiser : Year 7 Topic 4 — School

School Subjects

Deutsch	- German
Englisch	- English
Französisch	- French
Wissenschaft	- Science
Mathe	- Maths
Musik	- Music
Religion	- R.E.
Sport	- P.E.
Erdkunde	- Geography
Geschichte	- history
Technologie	- ICT
Kunst	- Art
Theater	- Drama
Technik	- D.T.

The School Day

am...	- On...
Montag	- Monday
Dienstag	- Tuesday
Mittwoch	- Wednesday
Donnerstag	- Thursday
Freitag	- Friday
Samstag	- Saturday
Sonntag	- Sunday
in der...Stunde	- In lesson...
in der Pause	- at breaktime
nach der Schule	- after school

School Rules

im Korridor laufen	- to run in the corridor
eine Uniform tragen	- to wear a uniform
Piercings haben	- to have piercings
in der Stunde sprechen	- to speak in lesson
die Hausaufgaben machen	- to do homework
pünktlich sein	- to be punctual
höflich sein	- to be polite
rauchen	- to smoke
Musik hören	- to listen to music
im Klassenzimmer singen	- to sing in the classroom

In the Classroom

das Klassenzimmer	- the classroom
der Tisch	- the table
der Stuhl	- the chair
der Computer	- the computer
das Whiteboard	- the whiteboard
das Poster	- the poster
das Fenster	- the window
die Wand	- the wall
die Tür	- the door

Rooms

in der Schule	- in school
im Klassenzimmer	- in the classroom
im Korridor	- in the corridor
in den Toiletten	- in the toilets
auf dem Schulhof	- on the playground
in der Kantine	- in the canteen
in der Sporthall	- in the sports hall
im Computerraum	- in the computer room

Describing Teachers

er/sie ist	- he/she is
alt	- old
jung	- young
fair	- fair
unfair	- unfair
freundlich	- friendly
lustig	- funny
streng	- strict
pünktlich	- punctual
geduldig	- patient

Opinions

Mein Lieblingsfach ist	- My favourite subject is
Ich mag	- I like
Ich mag...nicht	- I don't like
Ich mag...sehr	- I really like
Ich liebe	- I love
Ich hasse	- I hate
toll	- great
einfach	- easy
schwierig	- difficult
interessant	- interesting
langweilig	- boring
nützlich	- useful
nutzlos	- useless
kompliziert	- complicated
am besten	- the best
lustig	- funny

GRAMMAR

Modal Verbs: müssen & dürfen

Ich muss = I must
Man muss = you musr
Ich darf = I am allowed
Man darf = you are allowed

→ It sends the infinitive to the end
Man muss die Hausaufgaben machen

Stretch & Challenge

wir müssen = we must	wir dürfen = we are allowed to
sie müssen = they must	sie dürfen = they are allowed to

Negatives

nicht cannot go int front of a noun
Ich mag Kunst nicht (I don't like art)

Stretch & Challenge

Es gibt (there is)takes the accusative
der → den
ein → einen
mein → meinen

Possessive Pronouns

	masc.	fem.	neut.
my	mein	meine	mein
your	dein	deine	dein
his	sein	seine	sein
her	ihr	ihre	ihre

Spanish Knowledge Organiser : Year 7 Topic 4

Free-Time & Hobbies

Sports (jugar)

Juego	- I play
al bádminton	- badminton
al baloncesto	- basketball
al fútbol	- football
al hockey	- hockey
al rugby	- rugby
al tenis	- tennis
al tenis de mesa	- table tennis
al ping-pong	- ping-pong
al voleibol	- volleyball
con mis amigos	- with my friends

Opinion Phrases

Me encanta	- I love
Me gusta	- I like
Me gusta mucho	- I really like
Me gusta un montón	- I really like
Me gusta bastante	- I quite like
No me gusta	- I don't like
No me gusta nada	- I don't like at all
Odio / detesto	- I hate

Time Phrases

a veces	- sometimes
a menudo	- often
todos los días	- every day
todas las tardes	- every evening
todo el tiempo	- all the time
una vez a la semana	- once per week
dos veces a la semana	- twice per week
el fin de semana	- on the weekend
raramente	- rarely

Online Activities

en mi ordenador	- on my computer
en mi móvil	- on my phone
jugar en línea	- to play online
chtear	- to chat
ver vídeoclips	- to watch video clips
descargar música	- to download music
enviar SMS	- to send texts
hablar con amigos	- to talk with friends
enviar correos	- to send emails
envío	- I send

Sports (hacer)

Hago	- I do
judo	- judo
parkour	- parkour
ciclismo	- cycling
danza	- dance
gimnasia	- gymnastics
natación	- swimming
artes marciales	- martial arts

Stretch & Challenge

hacer equitación	- to go horseriding
hacer esquí	- to go skiing
hacer snowboard	– to go snowboarding
hacer atletismo	– to do athletics
hacer kárate	- to do karate
hacer boxeo	- to go boxing
hacer escalada	- to go climbing
hacer charrería	- to do horseriding (Mexico)

Weather

cuándo…	- when…
hace calor	- it is hot
hace frío	- it is cold
hace sol	- it is sunny
hace viento	- it is windy
está nublado	- it is foggy
llueve	- it is raining
nieva	- it is snowing
en invierno	- in winter
en verano	- in summer
en primavera	- in spring
en otoño	- in autumn

Free-time Activities

quedar con amigos	- meeting with friends
ver la televisión	- watching TV
jugar a la PlayStation	- playing playstation
escuchar música	- listening to music
hacer la compra	- going shopping
hacer deporte	- doing sport
Jugar al fútbol	- playing football
llamar a mis amigos	- phoning my friends
bailar	- dancing
tocar un instrumento	- playing an instrument

GRAMMAR

	-ar	tener (to have)	ser (to be)	hacer (to do)
yo (I)	-o	tengo	soy	hago
tú (you)	-as	tienes	eres	haces
él (he)/ella (she)	-a	tiene	es	hace
nosotros (we)	-amos	tenemos	somos	hacemos
vosotros (you all)	-aís	tenéis	sois	hacéis
ellos/ellas	-an	tienen	son	hacen

Stretch & Challenge

veo – I watch
ves – you watch
ve– he/she watches
vemos– we watch
veis– you all watch
ven– they watch

Opinions

Follow opinion phrases with:

1. **el/la/los/las**

Me encanta el baloncesto(I love basketball)

2. **an infinitive**

Me encanta jugar al baloncesto (I love playing basketball)

Negatives

no= don't
no juego al fútbol
nunca= never
nunca hago natación

Music: Y7 Term 3

SUBJECT Music Knowledge Organiser: Sonority and ensembles

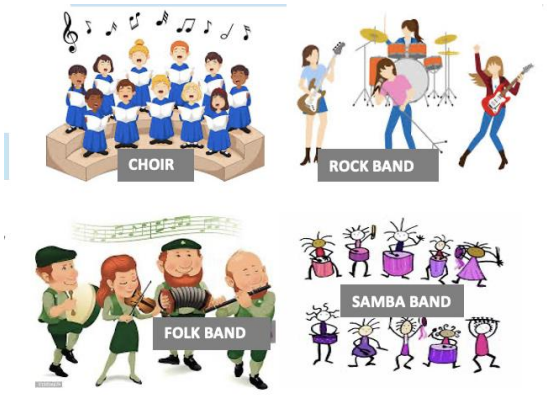
Key Words and Definitions

ENSEMBLE- a group of musicians performing together
FORM/STRUCTURE – How a piece of music is organised into different sections ie verse, chorus
PHRASE – A short section of music, like a "musical sentence".
MELODY – The main tune of a piece of music.
PITCH – The highness or lowness of a sound or musical note.
TEMPO- the speed of music (largo-slow, andante- walking pace, allegro- fast)
DYNAMICS- the volume of music (piano- quiet, forte- loud, crescendo- gradually getting louder
TEXTURE- the layers of music

Theoretical Knowledge

ORCHESTRA – A large **ENSEMBLE** of performers on various musical instruments. No set numbers of performers although a large orchestra) can have between **80-100+** performers.
CONDUCTOR – Leads the orchestra with a **BATON** and hand signals. Stands at the front so they can be seen by all performers. Sets the **TEMPO** and **BEATS TIME.** Brings different instruments 'in and out' when it is their turn to play and keeps performers together. Controls the performance and can adjust the DYNAMICS and mood.
ORCHESTRAL FAMILIES – Instruments of the orchestra can be divided into 4 families/ sections: **STRINGS**, **WOODWIND**, **BRASS** and **PERCUSSION**.
SONORITY (also called **TIMBRE**) – Describes the **UNIQUE SOUND OR TONE QUALITY** of different instruments and the way we can identify orchestral instruments as being distinct from each other. Sonority can be described by many different words including – ***velvety, screechy, throaty, rattling, mellow, chirpy, brassy, sharp, heavy,buzzing, crisp, metallic, wooden etc.***

Other types of ensembles



Important ensemble skills

Active Listening: Paying close attention to other musicians or the conductor/leader
Dynamics and Balance: Achieving a balanced sound where no single part overpowers the others. This involves understanding how loud or soft to play relative to the other musicians.
Technical ability: Each musician should have a strong command of their instrument and be able to play their part. This includes accuracy of pitch and rhythm
Communication: This includes both verbal communication (discussing ideas) and non-verbal communication (eye contact, gestures, and body language to cue entrances and maintain tempo).

PE: Y7 Term 3

PE Knowledge Organiser: Y7 – Athletics Overview

What is Athletics?

- Athletics is a collection of sporting events across a number of disciplines, including running, jumping and throwing events.
- Athletics is a collection of sporting events that consist of three main areas:
- track events
- field events
- combined events
- Athletics is often associated with the Olympics. However, it is not just for elite athletes. Each week athletes also compete at national, county, school or club level events which can be held indoors or outdoors.
- Athletics events are very specialised and often do not require a full combination of fitness

Key Terms/Vocabulary

- High Jump
- 100m
- 200m
- 800m
- 1500m
- 4x100m relay
- Shot Putt
- Discus
- Long Jump
- Run Up
- Reaction Time
- Arm Swing
- Chin, Knee, Toe
- Clean Palm, Dirty Neck
- Communication
- Baton
- Approach
- Rotation
- Take off
- Flight
- Landing
- Stance
- Grip
- Preparation
- Movement
- Release
- Recovery
- Hips to Lips
- Fosbury Slop
- Scissor Kick

Scoring

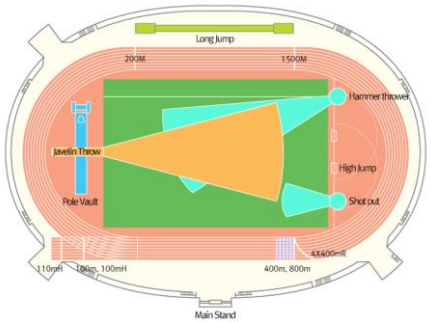
Scoring Success in athletics is not judged on points or goals, but rather on times and distance.

- **Track events**– these races are started with an electronic pistol which is only sounded again on a false start. In races that are very close, officials use a digital line-scan camera across the finish line to give them a photo finish picture. The clock stops when an athlete has passed through the finish line.
- **Jumping events**– these events are measured from the front edge of the take-off board to the first mark made in the sand by the athlete. The distance is always measured to the nearest centimetre and athletes will always be given a minimum of three jumps.
- **Throwing events**– these events are measured from the front edge of the throwing line to the first mark made in the ground by the implement. The distance is always measured to the nearest centimetre and athletes will always be given a minimum of three attempts

Officials

An athletics competition requires a large number of volunteers each day. These include:

- Starter – this person starts all track events
- Starter's marshals – these people line up competitors in correct order ready for starting
- Timekeepers – these volunteers provide official times for all track competitors
- Place judges – these helpers ensure the correct order of positions are given
- Field event judges– these judges measure, record and let athletes know when it is safe to compete
- Relay judges– these make sure runners at change overs are in the correct lane and within the changeover box



Health and safety in Athletics:

Throwing events:

- Keep well away from a person throwing.
- Stand in the safety zone when your partner is attempting a throw
- Wait until everyone has thrown collect your equipment.
- Do not walk past a person who has throwing equipment in their hand.

Running events:

- Ensure the track is fully clear before running
- Ensure that shoe laces are ALWAYS tied before running

General Safety:

- Ensure that all Jewellery is removed before performing any event.
- Ensure that correct kit is always worn – including the correct footwear. Ensure you are always warmed up before participating in any athletics activities

Key Skills – Links to components of fitness

- **Speed-** Especially for running events e.g. 100m/200m/400m sprints and hurdles.
- **Cardiovascular endurance** –Especially for long distance activities e.g. 1500m. Strength – For throwing and jumping events.
- **Co-ordination**– To be able to move different body parts in different events/ to be able to aim a throw in a certain direction
- **Power**– To be able to put in power behind throwing events/excelling of the ground.
- **Muscular endurance** – for all events to allow the muscles to keep working during an event to avoid them getting fatigued.

PE Knowledge Organiser: Y7 – Athletics Events

Sprints – 100m

Key Teaching Points (KTP's)

- Drive arms and legs (hips to lips)
- Start low and slowly rise up to roughly 30m mark
- Lunge/dip towards finish line (chest crossing line is key point)

What is the men's and women's world record?

Men's World Record – Usain Bolt – 9.58 seconds

Women's World Record – Florence Griffith-Joyner – 10.49 seconds

Shot Putt – Grip and Stance

Key Teaching Points (KTP's)

- Clean Palm dirty neck
- Feet shoulder width apart in a side on position
- High throwing elbow
- Opposite arm stretched out in line with elbow

What is the men's and women's world record?

Men's World Record – Ryan Crouser – 23.56 metres

Women's World Record – Ilona Slupianek – 22.45 metres

Middle Distance/Pacing (800m)

Key Teaching Points (KTP's)

- Drive arms forward in swinging motion
- Lean slightly forward to help with landing in the middle of foot rather than heel.
- Maintain smooth and efficient stride length

What is the men's and women's world record?

Men's World Record – David Rusdisha 1:40.91 (minutes/seconds)

Women's World Record – Nadezhda Olizarenko – 1:53.43 (minutes/seconds)

4x100m Relay

Key Teaching Points (KTP's)

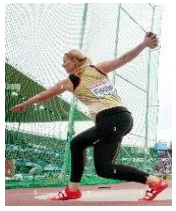
- Baton should be held at the bottom
- Baton starts in right hand then passed to left hand of 2nd runner, right hand of 3rd runner then left hand of 4th runner
- Outgoing runner starts when incoming runner reaches the check mark

What is the men's and women's world record?

Men's World Record – Jamacia – 36.84 seconds

Women's World Record – USA – 40.82 seconds

Discus – Grip and Stance



Key Teaching Points (KTP's)

- Hold the discus flat against their palm.
- Sit the edge of the discus on the pads of their fingers, next to their first finger joints.
- Rest their thumb on the back of the discus.

What is the men's and women's world record?

Men's World Record – Mykolas Alekna – 74.35 metres

Women's World Record – Gabriele Reinsch – 76.8 metres

High Jump – Scissor Kick technique

Key Teaching Points (KTP's)

- Curved run up (take off leg next to the bar)
- Side on to the bar before take off
- Scissor over bar, landing on feet

What is the men's and women's world record?

Men's World Record – Javier Sotomayor – 2.45 metres

Women's World Record – Stefka Kostadinova – 2.09 metres

Long Jump – Take off

Key Teaching Points (KTP's)

- Take off on one leg
- Use swinging arms to provide momentum
- Take off on the board – not over it.

What is the men's and women's world record?

Men's World Record – Mike Powell – 8.95 metres

Women's World Record – Galina Chistyakova – 7.52 metres

PE Knowledge Organiser: Y7 – Cricket Overview

Which ways can a batsman be given out?

A batter is declared out if

- The bowler knocks off the bails of the stumps with a delivery.
- A fielder or wicketkeeper catches the ball directly off the bat and before it hits the ground.
- The umpire believes that the bowler's ball would have hit the stumps if the batter had not obstructed the ball with their pads. This is known as leg before wicket (or LBW).
- They are going for a run but do not make the batting crease before fielding team knocks off the cricket stumps.
- The wicketkeeper stumps them.
- They knock over their stumps while playing a shot or avoiding a delivery.
- The umpire believes the batter has purposely obstructed a fielder who is about to take a catch or attempt a run-out.
- There are other, less common ways of being out in cricket, but these are quite rare such as
  - Timed Out
  - Hit the ball twice
  - Handling the ball

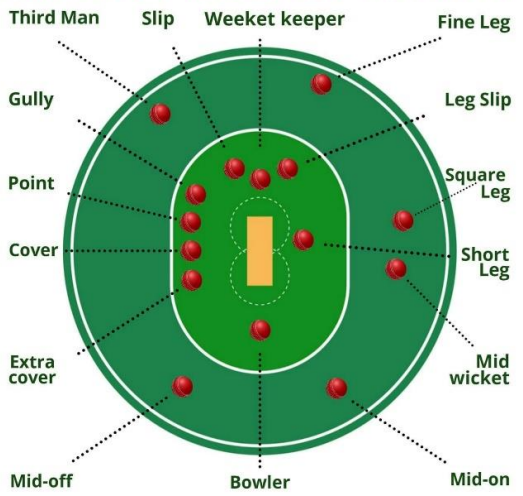
Basic Rules

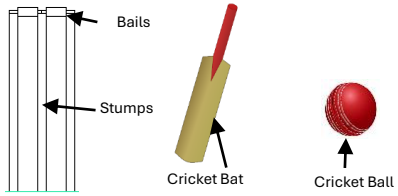
- The winning team in cricket is the side that scores the most runs, although in some situations a draw is recorded if they both get the same number of runs.
- scores the most runs, although in some situations a draw is recorded if they both get the same number of runs.
- A cricket team consists of 11 players and they take it in turns to bat and bowl.
- The bowler must not throw the ball, but bowl the ball overarm at the stumps, which are at either end of a 22-yard area called a wicket.
- The end of an innings is called when 10 of the 11 batting team are given out or the required amount of overs have been bowled. At this point, both teams swap over.

Scoring System

The aim for the batter in cricket is to try to score as many runs as possible throughout their innings.
To score a run requires the batter to strike the ball and run to the opposite end of the pitch while their batting partner runs in the other direction.
It is also possible to score runs without running the length of the pitch, if a batter can hit the ball past the boundary line (four runs) or over the line without bouncing (six runs).

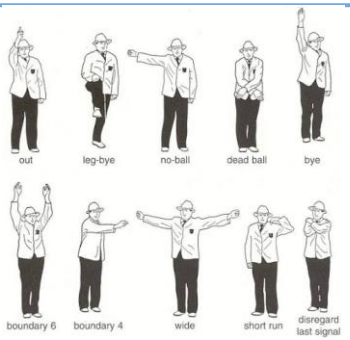
CRICKET FIELDING POSITIONS





Key Terms/Vocabulary

- Batting
- Bowling
- Fielding
- Catching
- Throwing
- Wicket Keeping
- Wicket
- Crease
- Stumps
- Running between the wickets



PE Knowledge Organiser: Y7 – Cricket Techniques

Batting: Grip, Stance and back lift

Key Teaching Points (KTP's)
- V-grip on handle
- Feet shoulder width apart
- Batter side-on to the bowler (weaker shoulder pointing towards bowler)

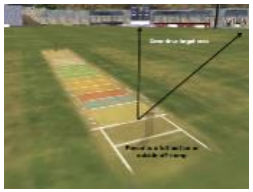
When would I need to be able to use this skill?
To be able to hold the bat correctly when playing different shots. If the stance and grip are correct, the batter will be balanced by having a stable base when playing a range of different shots. This will help with hitting the ball successfully towards the intended target area.

Batting: Stance, footwork when playing a defensive shot

Key Teaching Points (KTP's)
- Head towards the ball
- Front foot to the pitch of the ball
- Play the ball under your eyes

When would I need to be able to use this skill?
To be able to defend good bowling (on the stumps) resulting in the batter not getting out. If a batter can defend good bowling it will increase how long they can bat for which means more opportunities to score runs.

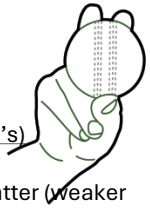
Batting: Cover drives – attacking shots, running between the wickets



Key Teaching Points (KTP's)
- Head towards and over the ball
- Front foot to the pitch of the ball
- Extend hands through the ball to generate power

When would I need to be able to use this skill?
When trying to score runs. When the ball pitches outside of off stump (the ball is not on the stumps) a batter can attack the ball with control to score runs. When running between the wickets, batters can increase the chances of not being run out by sliding their bat into the crease and not turning blind (always watching the ball).

Bowling: Grip and # basic delivery



Key Teaching Points (KTP's)
- Straight bowling arm
- Side on towards the batter (weaker shoulder leading towards batter)
- Bowling arm brushing ear

When would I need to be able to use this skill?
When bowling a delivery to a batter. With the correct grip, a bowler is able to release the ball with the seam straight which helps with accuracy. By demonstrating the KTP's, the bowler is increasing the chances of the ball being bowled straight and only bouncing once.

Bowling: Run up, delivery and follow through

Key Teaching Points (KTP's)
- Run up needs to be in a straight line
- Jump/gather action off dominant leg
- Pull non bowling arm down (like a leaver) to generate pace)
- Follow through action (after the ball has been bowled) to maintain momentum.

When would I need to be able to use this skill?
A run up gives the bowler momentum to be able to bowl the ball quicker. If everything is linear (run up, action, follow through) the bowler is increasing the chance of bowling the ball accurately and straight with pace.

Fielding: Stopping and returning the ball

Key Teaching Points (KTP's)
- 2 hand pick up
- (get low to the ground)
- Side on when throwing the ball
- Non-throwing hand pointing towards the target

When would I need to be able to use this skill?
When fielding and you are throwing the ball at the stumps to run the batter out or if you are throwing the ball into the bowler or wicket keeper to run the batter out. The quicker you are at retrieving the ball and the more accurate the throw at the stumps or to the bowler/wicket keeper, the more chance of running the batter out.

Wicket Keeping: Stance and positioning

Key Teaching Points (KTP's)
- WK stays low for as long as possible
- WK rises with the ball to keep eyes level
- Hands must be together to ensure the ball can be caught

When would I need to be able to use this skill?
When receiving the ball as a wicket keeper from the bowler. The wicket keeper can receive the ball if the batter leaves it or mises the ball or they can catch the ball if the batter hits it. By following the KTP's the wicketkeeper can keep their eyes level with the ball and make sure they are Balanced when catching the ball

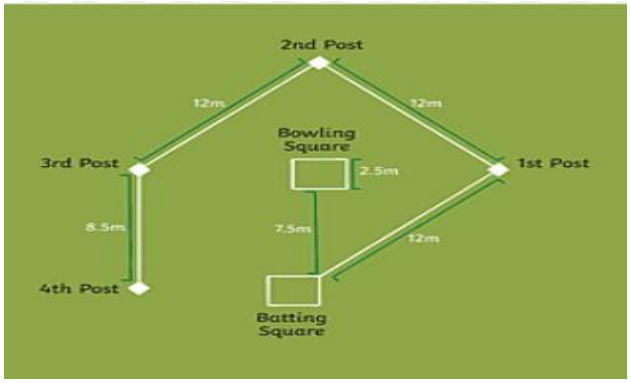
PE Knowledge Organiser: Y7 – Rounders

Which ways can a batsman be given out?

- **Caught:** A fielder catches the ball directly from the bat before it touches the ground.
- **Stumped:** A fielder touches the post the runner is heading to with the ball (or the hand holding the ball).
- **Running Inside:** The runner runs on the inside of the posts rather than the outside.
- **Overtaking:** A runner overtakes another runner on the track.
- **Losing Contact:** The runner loses contact with the post while the bowler has the ball in the square (and the ball is "live").

Key Terms/Vocabulary

•**Backstop:** The "wicket-keeper" of rounders who stands behind the batter.
•**No Ball:** An illegal delivery (too high, too low, wide, or bounces).
•**Long Barrier:** A defensive fielding position used to stop a rolling ball.
•**Follow Through:** The continuation of a throwing or batting motion after release/contact.
•**Stumping:** Touching a post with the ball to get a runner out.



Basic Rules

•**The Teams:** A game is played between two teams of 9 players (substitutes can be used to a maximum of 15).
•**The Objective:** The winning team is the one that scores the most **Rounders** after a set number of innings or a set period of time.
•**The Delivery:** The bowler must bowl a **legal underarm delivery** to the batter. This ball must pass them below the top of the head and above their knee. Not be wide or at the body.
•**Running the Track:** Once the ball is bowled (whether hit or not), the batter must run to at least 1st post. They must stay in contact with the post to be "safe." If contact is lost they should run to the next post. The running area must be left clear by fielders, who can enter this space to retrieve the ball but must get out the way of the runner. The batter must run on their first good ball hit or not.
•**No-Ball Penalty:** If a bowler delivers **2 consecutive no-balls** to the same batter, the batting team is awarded a **1/2 Rounder penalty score**.
•**Dead Ball:** The ball is "dead" when it is returned to the bowler's square. Runners must stop at the post they are at or approaching.
•**Score:** If hit – ½ on 2nd base and 1 rounder on 4th. If not hit – ½ rounder on 4th. Half can be given for instruction or 2 no balls
•**Hit behind:** If the ball is hit behind the line of the front of the batting square the batter can only run to 1st – until the ball crosses this line and back in to play when they can run and still score as normal.

Scoring System

In Rounders, the scoring system rewards both hitting power and tactical running. A batter scores a **full Rounder** if they hit the ball and reach the fourth post in one continuous circuit before the next ball is bowled. If the batter reaches the fourth post but **did not hit the ball**, they are awarded a **half-rounder**. Additionally, a **half-rounder** is scored if the batter hits the ball and successfully reaches the second post before being stumped out. Defensive errors by the fielding team can also result in scores; for example, the batting team receives a **penalty half-rounder** if the bowler delivers two consecutive no-balls to the same batter, or if a fielder obstructs a runner's path on the track. If a game ends in a tie, the team with the fewest number of outs is usually declared the winner.

PE Knowledge Organiser: Y7 – Rounders Techniques

1. Fielding: Catching & Throwing

Key Teaching Points (KTPs)

- **Overarm Throw:** Stand side-on with the ball in your back hand. Bend your elbow so the ball passes near your ear, and release high in front of your body.
- **Underarm Throw:** Step forward with the opposite foot. Swing your arm forward in a smooth motion and release the ball in front of your body.
- **High Catch (Thumbs Together):** Create a "basket" with your hands, thumbs touching. Cushion the ball as it lands and pull it into your chest.
- **Low Catch (Pinkies Together):** Create a basket with your little fingers touching. Keep your eyes on the ball and "give" with the catch to prevent it from bouncing out.

When would I need to use this skill?

Use an **overarm throw** for long distances from the deep field. Use an **underarm throw** for short, accurate passes to a teammate on a base to "stump" a runner.

2. Bowling: The Legal Delivery

Key Teaching Points (KTPs)

- **The Action:** Must be a smooth, underarm motion. Step forward with the opposite leg as you bowl.
- **The Release:** Release the ball just above knee height, following through with your arm toward the batter.
- **A "Good Ball" (Legal):** Must be delivered between the batter's **head and knee height** and must not bounce before reaching the batting square.

When would I need to use this skill?

Consistent "good balls" put pressure on the batter to hit. If you bowl a **"No Ball,"** the batter can score a half-rounder even if they don't hit the ball or get caught.

3. Batting: Stance, technique and rules

Key teaching points:

- Stand sideways on with feet shoulder width apart and knees slightly bent
- Batting arm back straight , Bat up at 90 degrees to arm , held with 1 hand
- Transfer weight from back to front foot
- Follow through in direction you want the ball to go

When would I need to use this skill?

To hit the ball into different part of the field or far away to avoid fielders retrieval and score rounders

.

4. Throwing and catching: Under pressure

Key teaching points:

- As lesson one with this addition:
- Maintain technique even when rushed
- Communicate early
- Move feet before hands
- Anticipate trajectory

When would I need to use this skill?

As a fielder when you race the better to a post. You aim to get the ball there first to stop score.

5. Fielding: Retrieving the Ball

Key Teaching Points (KTPs)

- **The Long Barrier:** Move towards the rolling ball. Drop the knee of your non-dominant leg to the heel of your other foot to create a "wall." Use two hands like a shovel to scoop the ball.
- **Chasing & Lunging:** Run after a ball hit past you. Lunge alongside it and scoop it up with the hand closest to the ball. Pivot your feet to face your target so your body is side-on for a powerful return throw.

When would I need to use this skill?

As a fielder to retrieve the ball quickly and send it back into my team mates nearer the bases to get the runner out or stop score.

6. Batting: Running

Key Teaching Points (KTPs)

- Run from post *immediately* when bowled ball.
- Take shortest line between bases.
- Look ahead, not at the ball.
- Slow into the base (controlled approach).
- Touch base with bat and stay in contact
- Do not overtake runners.
- Decision-making: risk vs reward.

When would I need to use this skill?

When you have batted and hit the ball, these are the decisions you have to make to score and avoid getting stumped out.

7. Rules vs tactics

Key Teaching Points (KTPs)

- Good ball vs No ball
- Scoring (½ rounder / full rounder)
- Out: stumped, caught, bowled, overtaking, obstructing
- Running direction
- Batting box rules

Tactical Play:

- Placing the ball
- Choosing space
- Backing up fielders
- Defensive formations

When to use this?

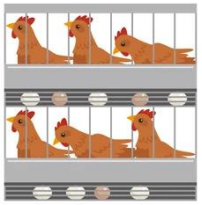
Can you keep the score? Can you decide if it was in or out? Was it a good ball? Should I keep running?

Religious Studies: Y7 Term 3

Religious Studies Knowledge Organiser: Y7 HT3 Animal Rights

Keywords and Definitions

Key Word	Definition
Stewardship	Humans have a duty to care for it, including the animals on it.
Dominion	To rule over nature.
Genesis	First book in the Bible
Factory Farming	Raising large amounts of livestock in confinement
Slaughterhouse	A facility where animals are sent to be made into food
Free Range	Kept in natural conditions with freedom of movement
Vegan	A person who does not eat any food derived from animals
Vegetarian	A person who does not eat meat or fish



Knowledge

Factory farming

- Factory farms hold high numbers of animals to be used for food and can produce a large amount of meat.
- The animals are kept in cramped conditions with no room to move.
- Chickens are kept in small cages and have their beaks removed; pigs are kept in small pens.

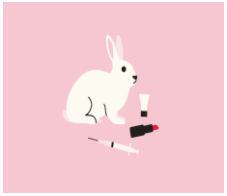
Free range farming

- Animals are free to roam in open fields, this includes cows, pigs and chickens.
- This means they can eat fresh grass.
- Chickens are not kept in small cages; they can move around in barns or outside. They also do not have their beaks removed.

Animal Rights:

- Animals have certain rights, but they are not exactly the same as human rights.
- Most countries have animal welfare laws.
- These laws are made to protect animals from cruelty, neglect, and unnecessary suffering. This means people must treat animals with care and kindness.

Animal experimentation:



- Some people think that animal experimentation is needed for medical and scientific advancements.
- They believe that testing on animals can lead to cures for diseases, and the development of new medicines which can save human lives.
- Some people think that animal experimentation is cruel and inhumane.

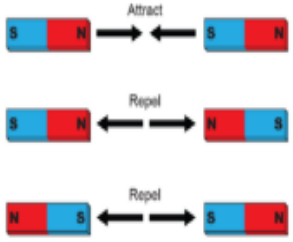
Christianity	Islam	Judaism	Buddhism	Sikhism	Hinduism
Animal testing and meat allowed with humane treatment.	Animal testing and meat allowed with humane treatment.	Allowed but strict rules to reduce suffering.	Allows meat and testing if suffering is minimized.	Mostly against harming animals; vegetarianism common.	Mostly against harming animals; vegetarianism common.

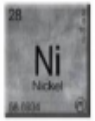
Science: Y7 Term 3

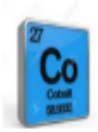
SCIENCE Y7 ELECTRICITY/MAGNETISM KNOWLEDGE ORGANISER

1. Magnetism

- The magnetic materials are Iron, Nickel, Cobalt and Steel
- Opposite poles attract/Like poles repel
- .You can make a simple magnet by stroking a piece of magnetic material with a magnet – this is magnetic induction

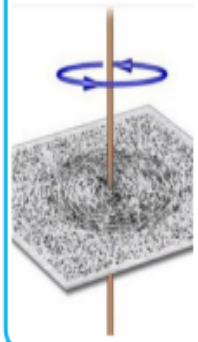


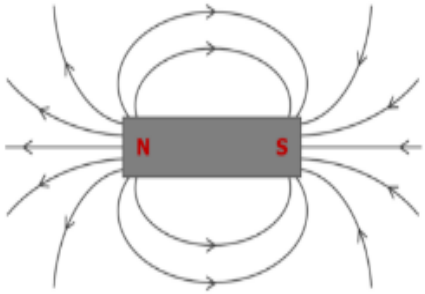




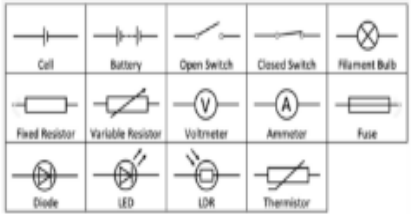
2. Magnetic Fields

- Producer – makes its own food by photosynthesis
- The direction magnetic fields point in is South
- The fields are stronger, closest to the poles.
- A wire with a current flowing through has a magnetic field in the shape of a circle

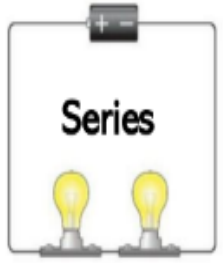


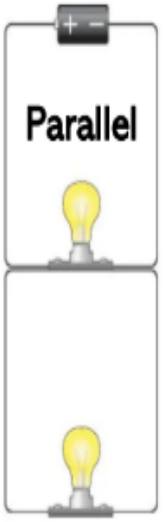


3. Circuits/ Current



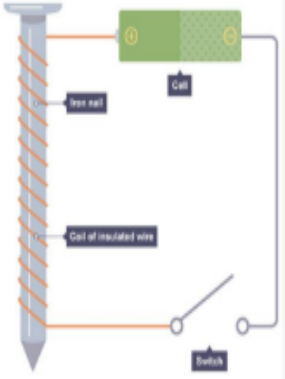
Electrical current is the flow of electrons





4. Electromagnetism

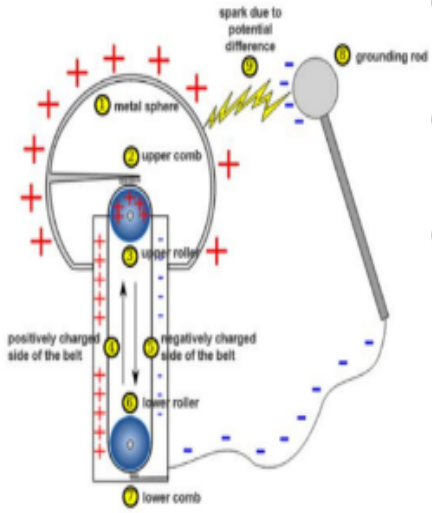
- A coil of wire (solenoid) with a current passing through it has a magnetic field the same shape as a bar magnet.
- If you insert an iron core, it will become a magnet while the current is flowing



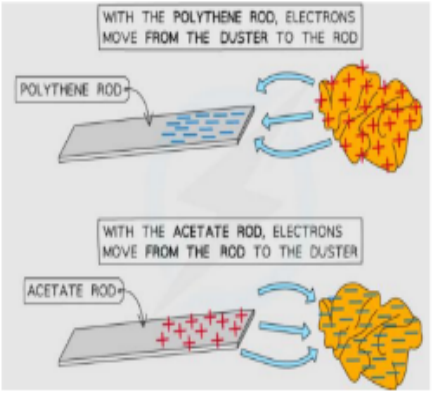
To increase the strength of an electromagnet:

- Soft iron core
- More turns in the coil
- Increasing the current.

5. Charge



- Protons have a positive charge.
- Electrons have a negative charge
- Electrons are transferred through rubbing (friction).



Only electrons can move.

SCIENCE Y7 WAVES KNOWLEDGE ORGANISER

1. Waves – Carry energy

Waves can be transverse of longitudinal

Transverse Waves - The particles vibrate at right angles to the direction that the wave is moving in.

Examples of transverse waves:

Microwaves

UV Light

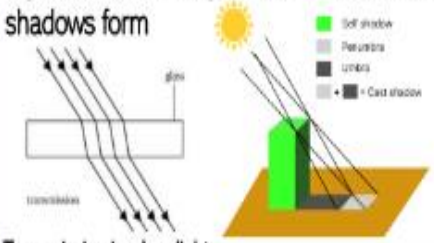
Light

Water Waves

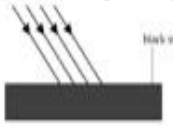
Radio Waves

3. Light

Light travels in straight lines – this is why shadows form



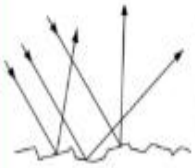
Transmission is when light passes through an object



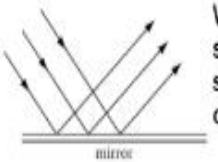
Absorption is when light is absorbed by an object

Opaque A material that light cannot pass through
Translucent A material that light passes through, but you cannot see through
Transparent A material that is see through

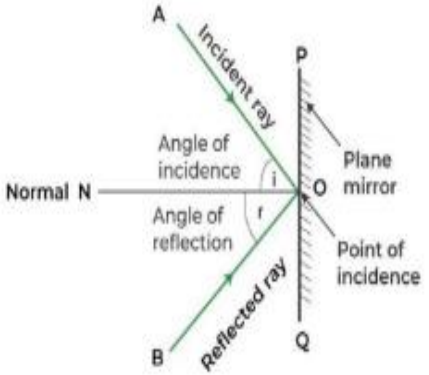
2. Reflection – when light bounces off of a surface



When light hits a rough surface, it scatters in different directions



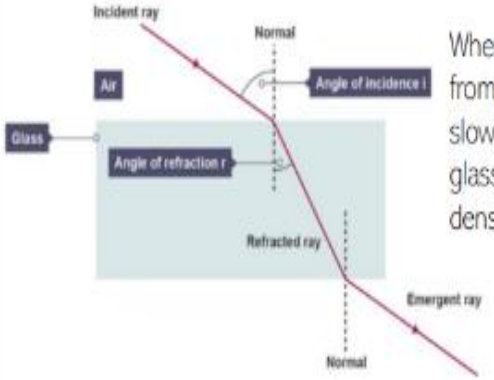
When light hits a smooth, shiny surface it reflects off at equal angles



Law of Reflection

The law of reflection states that the angle of incidence is always equal to the angle of reflection

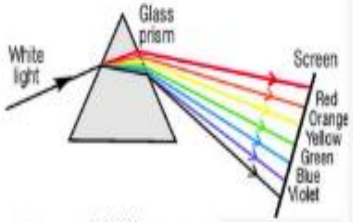
4. Refraction – the change in direction of a bean of light as it travels from one material to another



When light travels from air into glass it slows down because glass is more optically dense than air.

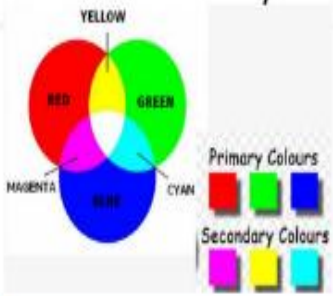
This change in speed can cause the light to refract (appear to bend) at the boundary between the two transparent materials

5. White Light



White light is made from red, orange, yellow, green, indigo, blue light.

It can be separated using a prism



Primary Colours: Red, green blue

Secondary Colours: Magenta, yellow, cyan

6. Colours and Filters

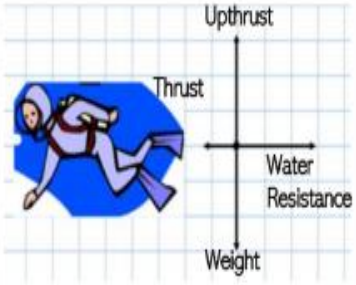
We see objects because light reflects into our eyes

Filters are coloured gates that only let certain colours of light through them

SCIENCE Y7 FORCES KNOWLEDGE ORGANISER

1. Contact or Non-Contact Forces

Force	Contact/Non-Contact
Gravitational	Non-Contact
Electrostatic	Non-Contact
Magnetic	Non-Contact
Normal	Contact
Tension	Contact
Air Resistance	Contact
Friction	Contact
Water Resistance	Contact



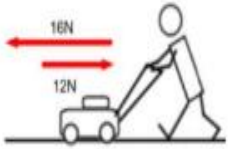
Contact forces at a point of contact while non-contact forces act at a distance

Force is a vector quantity it has a size and a direction. Force diagrams show the size of a force (length of arrow) and the direction it is acting.

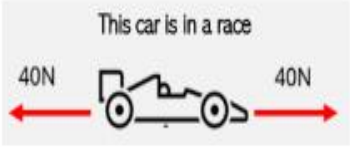
2. Balanced and Unbalanced Forces

Resultant force is a single force that has the same effect as all the forces acting on an object

If there is a resultant force there is a change in shape, speed or direction of the object. If there is a resultant force of ON, the object does not change.

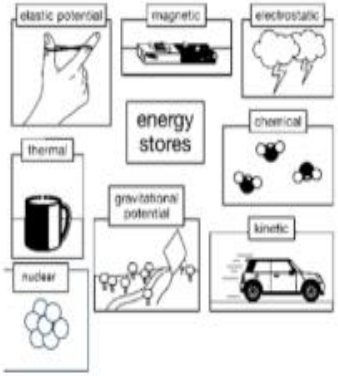


The resultant force is 4N to the left. The man is pushing the mower forwards.



The resultant force is ON, there is no change in movement. This car is in a race and so it must be moving at a constant speed.

3. Energy Stores



Energy Transfers:

- This is when energy is transferred from one energy store to another.

Energy store → Energy store

- There are four energy transfer pathways:
  - Heating
  - Electrical
  - Radiation
  - Mechanical

4. Friction – is the interaction when two surfaces rub together.

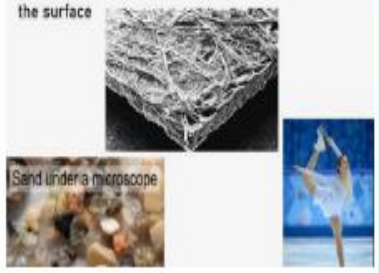
Friction is a contact force.

Friction is the interaction between two surfaces rubbing together.

It can cause surfaces to heat up or wear away

Friction always acts in the **opposite** direction to motion

Friction is directly proportional to the roughness of the surface



Friction can be reduced by using a lubricant

6. Describing Speed

Stationary – not moving. The resultant force would be ON

Constant – moving at a uniform speed. The resultant force would be ON

MATHEMATICAL LITERACY

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$\text{metres/second m/s} = \frac{\text{Metres (m)}}{\text{Seconds (s)}}$$

What does a distance–time graph show?