



# Bishop Ullathorne Catholic School Knowledge Organiser

**Year 7**  
**Autumn Term**  
**2023-2024**

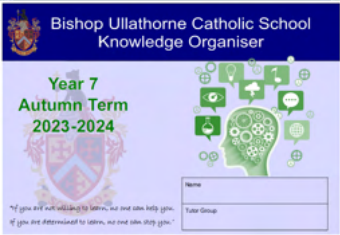
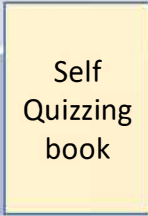


*"If you are not willing to learn, no one can help you.  
If you are determined to learn, no one can stop you."*

Name

Tutor Group

# Your Knowledge Organiser and Self Quizzing Book

Knowledge Organisers	Self Quizzing Book	The 'Look Cover Write Check' method
		
<p>Knowledge Organisers contain critical, fundamental knowledge that you <b>MUST</b> know in order to be successful in Year 7 and subsequent years.</p> <p>They will help you recap, revisit and revise what you have learnt in order to move the knowledge within from your short-term memory to your long term memory.</p> <p>You must keep all of your Knowledge Organisers and Self Quizzing books at home because the fundamental knowledge required in Year 7 will also be required in Year 8 to 11.</p>	<p>This is the book that you should write in to complete your Knowledge Organiser Home Learning. <b>You do not need to bring this to school.</b></p> <p>Follow the simple rules on the right about how to use your Knowledge Organiser. You can also watch the video on our Home Learning webpage for more ideas on how to use the Knowledge Organiser.</p> <p>You will be tested as a starter activity in your lesson on the day that the Home Learning is due. This will be completed in your normal exercise book and you will mark it in class.</p>	<p><b>Step 1</b> Check Class Charts for what section your teacher has set you to learn for your Home Learning.</p> <p><b>Step 2</b> Write the title of the section in your Self Quizzing Book .</p> <p><b>Step 3</b> Write out the section that you have been asked to learn.</p> <p><b>Step 4</b> Cover up the section in your Self Quizzing book. Read it, Cover it, Say it in your head, check it...REPEAT until confident.</p> <p><b>Step 5</b> Cover up the section and write from memory in your Self Quizzing book.</p> <p><b>Step 6</b> Check your answers and correct where required. Repeat steps 4 to 6 until you are confident.</p>

# Contents

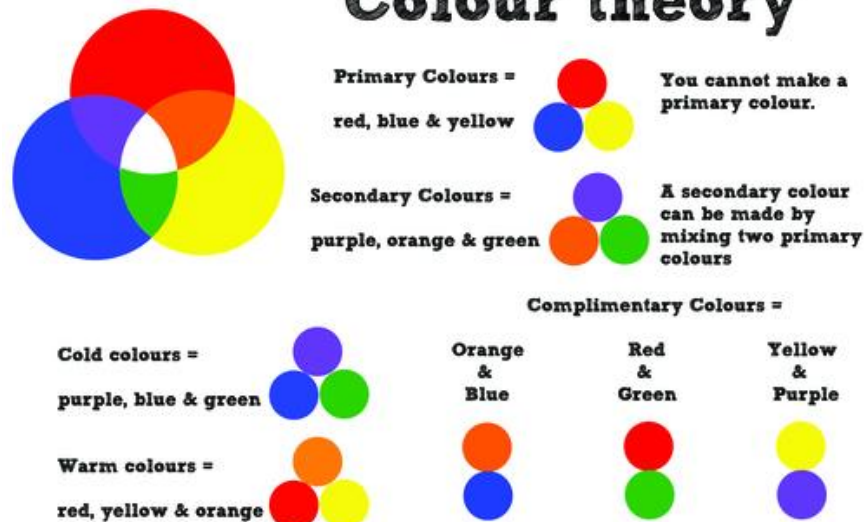
Subject	Page	Subject	Page
Art	1	History	25 - 27
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Design and Technology: Art Textiles	6	Modern Foreign Languages: Spanish	34 - 37
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Design and Technology: Product Design	9 - 10	PE	40 - 44
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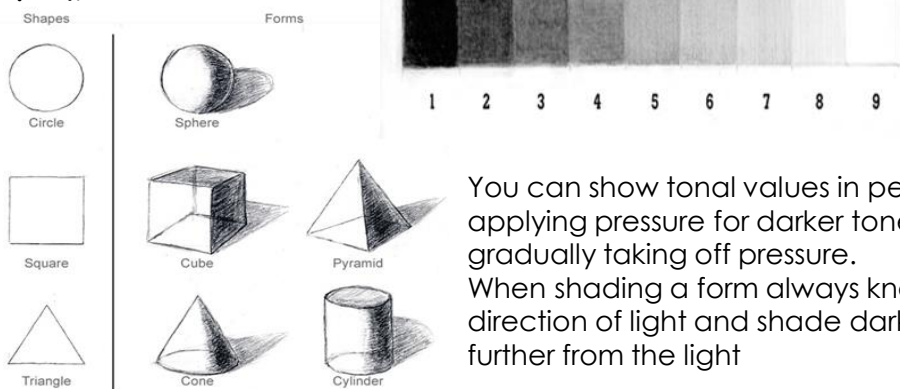
## a. Art keywords

Formal Elements	The parts used to make a piece of artwork.
Line	Line is the path left by a moving point.
Shape	A shape is an area enclosed by a line. It could be just an outline or it could be shaded in.
Form	Form is a <b>three dimensional shape</b> , such as a cube, sphere or cone.
Tone	This refers to the lightness or darkness of something.
Texture	This is to do with the <b>surface quality</b> of something, the way something feels or looks like it feels.
Pattern	Design, motif or symbol repeated over and over.
Colour	Sensation produced in eye by light reflected from objects. Paint for example, can possess a hue, such as red
scale	The relationship between the actual size of object and the size you draw it.
composition	The arrangement of elements within an artwork. The way you arrange objects to create your artwork
Observational	Observing and drawing object that is in front of you
Landscape painting	landscape painting, the depiction of natural scenery in art. Landscape paintings may capture mountains, valleys, bodies of water, fields, forests, and coasts and may or may not include man-made structures as well as people.

## b. Colour theory



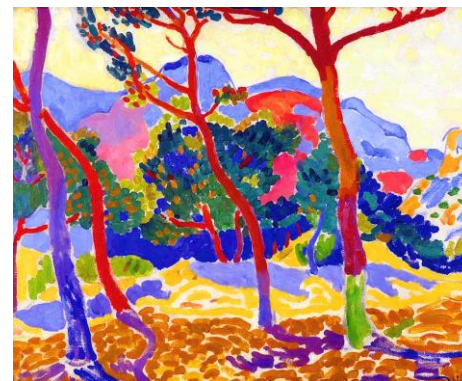
## c. Using tone to create form



### Home learning tasks:

1. Formal elements title page
2. Shading basic shapes sheet
3. Artists study and analysis
4. Take a photograph of favourite landscape

**Fauvism** -a style of painting with vivid expressionistic and non-naturalistic use of colour that flourished in Paris from 1905 and, although short-lived, had an important influence on subsequent artists, especially the German expressionists. Matisse was regarded as the movement's leading figure.



David Hockney- born 1934  
 A British artist who produced a series of works that was influenced by the Fauvist style.

**'Mullholland drive: the road to the studio' 1980**

### Artists:

Henri Matisse  
 Andre Derain  
 Raoul Dufy  
 Marc Chagall  
 Maggie Laubser  
 Alice Bailly







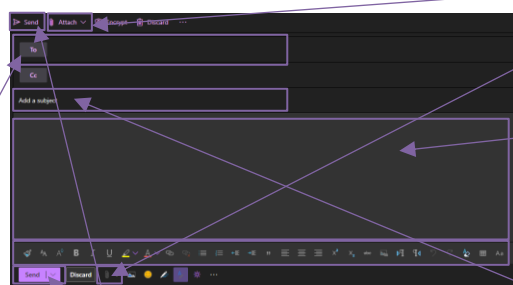
# Year 7 Computer Science – Clear Messages in Digital Media



**New message** Click new message to create an email

This is where you will type the senders email address – remember it must have an @ symbol and an ending - .com .co.uk etc.

## Email

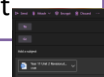


Send email to recipient

Email will be written here

You must send your message with a sensible subject

Attach will allow you to choose a file or files to send to the recipient



## Creating a Presentation

A presentation is made up of several slides about a topic, usually shown in a particular order on a screen with the use of animations.

Colour scheme matches the topic and all slides are consistent.

A neat, consistent design used across all slides

Transitions added between slides

Objects animate in and out for effect.

Bullet points summarise key facts.

Images make the presentation more interesting and illustrate points made

## What to trust?

Here are 6 quick checks we can do to evaluate the reliability of websites.

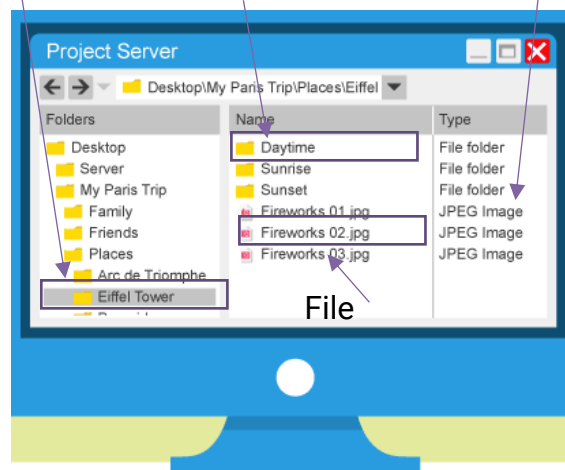
- Professional look – does the site look professional?
- Quality Information – is the information well written, have no
- spelling errors, is well detailed?
- Links - are they working properly?
- Up-To-Date – is it updated regularly?
- Address – does the web address relates to website's content?
- Backed up – is the information backed up by other websites?
- Out of the 6 checks above, the last is arguably the most important!

## Folders & Subfolders

Folder

Sub-Folder

File Type



File

## Presentation Key Words

- Search engine
- Key words
- Filter
- Results
- Information presentation
- Animation
- Slide show
- Transition
- Animate
- Linear order



## Our School Network

Every student has their own work area which they can access from any computer in the school. To log into school computers you need to use your personal log on which looks like this - **23brindleyk** – and the password you have created. To log onto Office 365 you need to use your email which looks like this – **23brindleyk@bishopullathorne.co.uk** – and the password you have created for this.

## Lesson overview

1

Welcome to CPSHE.

The Ullathorne Way and Character Passport.

Belonging.

Aspects of school life.

My wellbeing check-in.

Welcome to JED

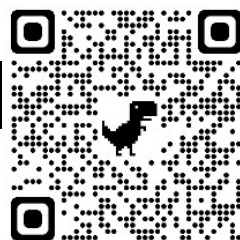
- Citizenship
  - Personal
  - Social
  - Health
  - Economic
- Education



Keywords	Definitions
Welcome	A friendly greeting.
CPSHE	Citizenship, Personal, Social and Health Education
Citizen	An inhabitant.
Belonging	Being a member of.
Rules	A set of regulations.
Safe	A sense of being protected.
Community	A group having something in common.
JED	This is a Job Explorer Database that you will use to start your careers journey.

2

5



7



Job Explorer Database, 2022-23 edition



Jed, the Job Explorer Database, has searches, quizzes, pictures and text to help you find out more about hundreds of jobs.

The best way to find out how to use Jed is by having a go and clicking on things to see what they do. Start by choosing which Jed you want to use.



The Job Explorer Database for adults, sixth form, and secondary school



Jed made easy, for early teens and younger



## Student responsibilities

As a student of Bishop Ullathorne school I will strive to be the best person I can by:

- Following the values of the Ullathorne Way by being compassionate, faith filled and prophetic, attentive, eloquent, grateful, wise and curious.
- Being in school every day, being on time for school and lessons.
- Wearing my Bishop Ullathorne school uniform.
- Following the instructions of all school staff.
- Taking care of our school environment.
- Completing my class and homework to the best of my ability.
- Conforming to the bus travel code of conduct.
- Having the correct equipment I need each day.



6

8

## Global Goals

Learning for Sustainability





## Year 7 CPSHE Autumn Term 2

### Being Healthy

#### Lesson overview

1

The Ullathorne Way and Character Passport

Healthy lifestyles

Body image

Mental wellbeing

My life on screen

#### Keywords

#### Definitions

2

Swap

To exchange something.

Smoking

Inhaling and exhaling cigarette smoke.

Vaping

Inhaling and exhaling vapour containing nicotine and flavouring.

Body image

Describes our ideas of how our body looks and how we think it is perceived by others. This can include our thoughts and feelings about our height, weight, shape, skin and colour.

Self esteem

The beliefs you have about yourself – what you think about the type of person you are, your abilities, the positive and negative things about you and what you expect for your future.

Eat well guide

Is based around the image of a plate and is used to help us to see what a balanced diet should look like.

Mental well-being

Mental wellbeing does not have one set meaning. We might use it to talk about how we feel, how well we are coping with daily life or what feels possible at the moment.

CEOP

Child Exploitation and Online Protection—who you contact if you have been the victim of online abuse.



#### Swaps

4

#### Things to swap from:

#### Things to swap to:

5

#### Breakfast swap

• Sugary cereals

• Plain porridge  
• Plain wholewheat biscuits  
• Plain shredded whole grain

#### Drinks swap

• Fizzy drinks  
• Sugary drinks  
• Sugary squash

• Water  
• No-added-sugar drinks  
• Sugar-free drinks  
• Lower-fat milks  
• Diet drinks

#### After school snack swap

• Muffins  
• Cakes  
• Croissants or pastries  
• Biscuits  
• Chocolate bars  
• Cereal bars  
• Sugary breakfast cereal  
• Puddings  
• Sweets

• Fruit, fresh and tinned (in juice not syrup)  
• Cut up vegetables such as carrot or cucumber sticks  
• Plain rice cakes  
• Toast or bagel with spread such as low fat spreads and reduced fat hummus  
• Wholewheat biscuits and shredded whole grain cereals  
• Plain unsalted nuts  
• Fresh or tinned fruit salad (not in syrup)

#### Pudding swap

• Chilled desserts  
• Cakes  
• Ice cream  
• Puddings  
• Yoghurt

• Fruit, fresh and tinned (in juice not syrup)  
• Fresh or tinned fruit salad (not in syrup)  
• Sugar-free jelly  
• Low-fat, lower-sugar yoghurt

## WHY EXERCISE?

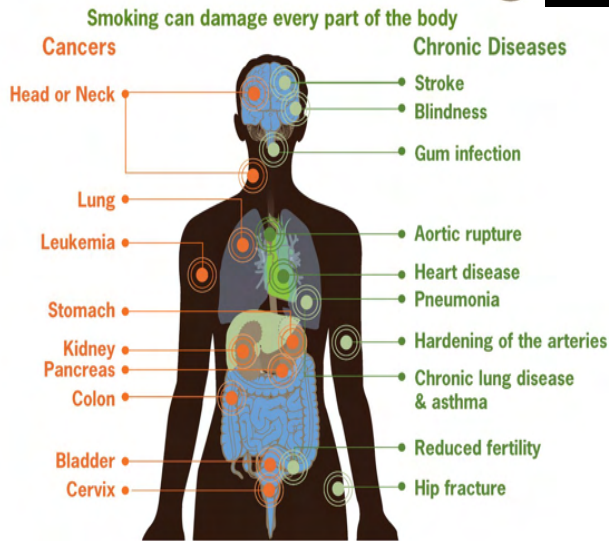
Regular physical activity is very important for all people who want to lead a healthy and fulfilling life. Here are some of the reasons why.

	<b>Exercise increases your energy.</b>	
	<b>Exercise increases your strength and muscle tone.</b>	
	<b>Exercise helps you sleep more restfully.</b>	
	<b>Exercise burns off unwanted calories.</b>	
	<b>Exercise improves your circulation.</b> <small>This enables all the organs and muscles in your body to work efficiently.</small>	
	<b>Exercise helps your joints stay loose and supple.</b>	
	<b>Exercise improves endurance.</b> <small>The more you do, the more you will be able to do.</small>	
	<b>Exercise helps relieve stress.</b> <small>It also enables you to cope with high-pressure situations.</small>	
	<b>Exercise helps provide you with a good posture.</b>	
	<b>Exercise increases your ability to concentrate and learn.</b>	
	<b>Exercise makes you happy.</b> <small>It improves your state of mind as well as your self-confidence.</small>	



# Risks from Smoking

6



# Causes of Teenage Stress

8

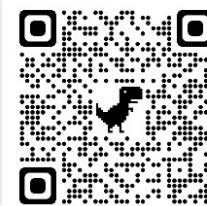
- Physical development
- Spots
- Sexuality
- Relationships
- Peer pressure and friends
- Money
- Sense of Inadequacy
- Exams
- Fear of failure
- Employment
- Parents
- Bullying and violence
- Drugs and Alcohol usage
- Self Image
- Loneliness



childline

10

ONLINE, ON THE PHONE, ANYTIME  
childline.org.uk | 0800 1111



YOUNG MINDS  
fighting for young people's mental health



7

## Tips for Developing a POSITIVE BODY IMAGE

See yourself as a whole human being, rather than an object with certain physical characteristics.

Be aware of when you talk negatively about your size, shape, and appearance or someone else's.

NEGATIVITY

Don't diet or weigh yourself.

Stop using your size or shape as a measure of your self-worth.

Become more concerned with how you feel rather than how you look.

Focus on what your body can do instead of focusing on how it looks.

## 5 Tips TO HELP TEENS COPE WITH STRESS

9

GET SOME SLEEP

Getting enough sleep helps you grow and develop normally, pay attention throughout the day, and maintain overall health. For teens, this means about **8-10 hours each night**.

FOCUS ON YOUR STRENGTHS

Take time to **think about what you're good at** and ways to do more of those things. By focusing on and building your strengths, you can keep your stressors in perspective.

DO THINGS THAT MAKE YOU HAPPY

Find activities or hobbies that make you happy and incorporate them into your daily life.

ENGAGE IN PHYSICAL ACTIVITY

Exercise takes our mind off stress and releases chemicals in our brain that make us feel better. This can be anything from a stroll in the park, to a downhill bike ride or basketball game with friends.

TALK TO SOMEONE

It can be hard to manage stress alone. Talk to a parent, teacher or other trusted adult about your problems and they may be able to help you find ways to manage your stress.

MENTAL HEALTH FIRST AID  
MHFA.org/teens

## BE SMART & STAY SAFE ONLINE

11

**S SAFE**

Keep safe by being careful not to give out your full name, address, phone number, email, school name, or photo to strangers. Think twice before sharing photos or documents with anyone, even if you know them; it could lead to cyber bullying.

**M MEETING**

Meeting someone you have only been in touch with online can be dangerous. Only do so with your parents' or carers' permission and even then only when they can be present. Remember online friends are still strangers even if you have been talking to them for a long time.

**A ACCEPTING**

Accepting emails, IMs or opening files from people you don't know or trust can be dangerous - they may contain viruses or nasty messages.

**R RELIABLE**

Someone online might lie about who they are and information on the internet may not be true. Always check information with other websites, books or someone who knows. If you like chatting online, it's best to only chat to your real world friends and family. Don't play online games with strangers or accept friend requests from strangers.

**T TELL**

Tell your parents, carers and/or teachers if someone or something makes you feel uncomfortable or worried, or you or someone you know is being cyber bullied.

**BE SMART WITH A HEART**

Always show respect online. Never share images/videos of others without their permission. Never share inappropriate images/videos of yourself or others. Never lie or make hurtful comments online. Never create fake accounts to cause distress to others. Never create posts, vlogs or access sites that your parents wouldn't approve of.



# Year 7 Art Textiles - Day of the Dead

## 1. History of The Day of the Dead

Spanish: Día de Muertos or Día de los Muertos) is a Mexican holiday celebrated in Mexico and elsewhere associated with the Catholic celebrations of All Saints' Day and All Souls' Day, and is held on November 1 and 2. The multi-day holiday involves family and friends gathering to pray for and to remember friends and family members who have died. It is commonly portrayed as a day of celebration rather than mourning.



## 2. Keywords

Calaca	The skull depicted in the day of the dead celebrations
Calavera	The name used for sugar skulls
Catarina	The female skull shown in day of the dead celebrations
Dia de los Muertos	The Spanish for Day of the dead
Applique	The layering of fabric on top of each other to create
Tie dye	Using elastic bands to create pattern in fabric using a resist technique and placing in a dye bath
Block printing	Using a block pattern and fabric paint
Seam	two pieces of fabric are sewn together
Zip	a commonly used device for binding the edges of an opening of fabric
Tacking	To easily hold a seam or trim in place until it can be per-
Sewing Machine	a machine used to sew fabric and materials together

## 3. Pinning and Tacking

Watch the video



## 4. Using the sewing machine

Watch the videos



## 5. Artist—Dolan Geiman

Geiman uses salvaged, metals, papers, fabrics and materials to create a bold rich contemporary collage. His work is highly tactile and echoes the theme of fold art. He screen prints onto his backgrounds to create a 3 dimensional



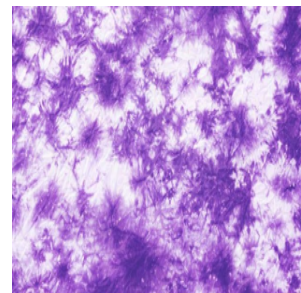
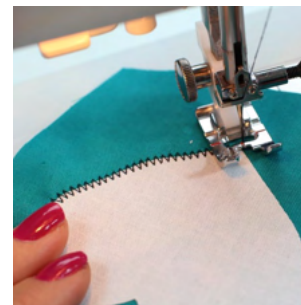
## 6. Techniques

The three techniques you will focus on in year 7 is:

Applique

Block Printing

Tie Dye



## 7. Applique

A technique of layering of fabric. Originally discovered in Egypt 980BC but is also seen in Siberia, Mongolia and later in Eu-

## 8. Block Printing

A method for printing on textiles originally using wooden blocks. The earliest examples date back to China 200AD.

9. Tie-dye is characterized by the use of bright, saturated primary colours and bold patterns. The earliest examples can be found in the 5th century China.



Follow this link to see the artists work first hand.

**1 Health & Safety:** • Wash hands in soapy water. • Tie long hair back. • Wear and apron and tuck tie in. • Roll back sleeves.

**Working with high risk foods:** • High risk foods are foods which help support the growth of bacteria. Examples are meat, eggs, shellfish, cooked rice, fish, dairy. • Always keep high risk foods in the fridge. • Always check use by dates before use. • Ensure high risk foods are cooked to a core temperature of 75°C. • Always prepare high risk foods on correct chopping board. • Always wash hands after handling high risk foods.

**When using the cooker:** • Turn pan handles in away from edge of cooker • Always turn hob off when not in use. • Never leave food cooking on the hob unattended. • Be careful not to let food boil dry. • Never touch an electric hob when turned off, it may still be hot. • Don't leave metal spoons in pans when cooking as they can become very hot. • Always use oven gloves when removing food from the oven.

**Knife Safety:** • Specific types of knives are designed for different cutting and shaping tasks. • Knives are dangerous if not handled correctly and care should be taken at all times. • A flat and stable cutting surface is essential to avoid injury when cutting food. • The bridge and claw holds enable you to cut safely.



2

## Vegetarians

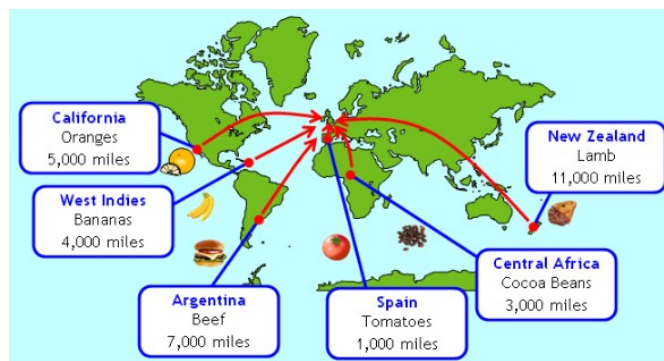
**Vegans** do not eat meat, eggs or dairy. They do not consume anything from an animal. Vegans eat vegetables, grains and pulses.

**Lacto-ovo vegetarians** do not eat meat but eat both dairy products and eggs. They also eat vegetables, grains and pulses.

**Lacto vegetarians** do not eat meat or eggs but eat dairy products. They also eat vegetables, grains and pulses.

• **Food miles** means the distance that food travels from where it is grown to where it is bought. This is an environmental concern because of the CO2 emissions from transport.

• **Seasonal foods** means foods that are in season. Choosing these reduces food miles



## Year 7 Catering Knowledge Organiser



3

## Eatwell Guide Key Messages

Eat at least 5 portions of a variety of fruit and vegetables every day.

Base meals on potatoes, bread, rice, pasta or other starchy carbohydrates; choosing wholegrain versions where possible.

Have some dairy or dairy alternatives (such as soya drinks); choosing lower fat and lower sugar options

Eat some beans, pulses, fish, eggs, meat and other proteins (including 2 portions of fish every week, one of which should be oily).

Choose unsaturated oils and spreads and eat in small amounts.

Drink 6-8 cups/glasses of fluid a day.

If consuming foods and drinks high in fat, salt or sugar have these less often and in small amounts.



**Food intolerances** are much more common than food allergies. The symptoms of an intolerance are noticed after the food has been eaten, and include bloating and stomach pain.

A **Food allergen** is a substance or food that may cause an allergic reaction. Some are mild, but others can be very serious if the correct treatment is not given quickly.

5



6

Age group	Nutritional needs
Pre-school children 1-4 years	All nutrients are important, especially protein, vitamins and minerals. Limit the amount of free sugars and salt in foods and drinks
Children 5-12 years	All nutrients are important, especially protein, vitamins and minerals. Limit the amount of free sugars and salt in foods and drinks
Adolescents (teenagers)	Protein, Calcium and vitamin D, Iron and Vitamin C
Adults	Calcium and vitamin D, Iron and vitamin C
Older adults	Fibre Calcium and Vitamin D Iron and Vitamin C

Fruit category	Examples
Soft	Raspberry, blackberry, redcurrant, strawberry
Citrus	Orange, lime, lemon, grapefruit,
Stone	Plum, apricot, peach, cherry
Tree	Apple, pear
Exotic	Banana, kiwi, melon, pineapple, mango
Dried	Currant, date, sultana, raisin



7

	Cooking method
<b>Cooking with Fat</b>	Shallow frying, sautéing, stir frying
<b>Cooking with water</b>	Boiling, steaming, simmering
<b>Cooking with dry heat</b>	Grilling, baking, roasting, dry frying, toasting

Vegetable category	Examples
Leaves	Cabbage, salad leaves, spinach
Stems	Celery, chard, asparagus
Roots	Carrots, parsnips, beetroot, turnips, swede, radish, ginger
Bulbs	Onions, garlic, shallots, leeks, spring onions, fennel
Tubers	Potatoes, sweet potatoes, yam
Seeds	Peas, broad beans, runner beans, lentils
Vegetable fruits	Tomato, cucumber, aubergine, avocado





**Food that is grown** in the UK includes crops such as wheat and barley. Also fruits and vegetables such as apples, potatoes and soft fruits such as strawberries and raspberries.

**Food that is reared** in the UK includes cows for meat and milk, sheep, pigs and chickens for meat and eggs.

**Food that is caught** in the UK is fish and shellfish such as mackerel, haddock, mussels, scallops and salmon.

## 1 Steps to create quality edge on acrylic:

1. Use a **coping saw** or **junior hacksaw** to create the shape
2. Use a **flat / round / half round file** to remove deep scratches
3. Use **sandpaper**: low to high number
4. Use **wet & dry paper**: low to high number

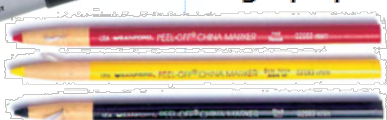
<b>Junior Hacksaw</b>		A saw used for cutting straight lines in woods, metals and plastics
<b>Sand-paper</b>		A low grade abrasive material used to smooth woods and plastics
<b>Wet and dry paper</b>		A high grade abrasive material used to achieve a high quality finish
<b>Vice</b>		Used to hold work in place when sawing and filing

## Marking Out on to Polymers

Permanent marker pen



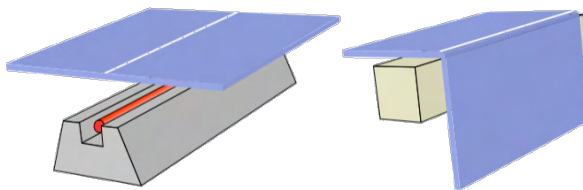
Chinagraph pencil



Scribe



## 2 Line Bending



Step 1: mark out the where to bend with a scribe, chinagraph pencil or permanent marker pen. A steel ruler or try square will make your line straight.

Step 2: place it over the strip of heat and heat it up from both sides until it softens

Step 3: bend the material to the correct angle using a jig and leave it to cool

## Laser Cutting

Step 1: create the design on 2D Design computer software



Step 2: put the correct **colour, size and thickness** of acrylic on the laser cutter bed and ensure the lid is closed

Step 3: **program** the laser cutter for the right **settings** for **speed and power**

Step 4: turn the **extraction** on and **run** the program. **You must not use the laser cutter without proper extraction because of the fumes!**

Step 5: after it has finished, take your items

# Year 7 Product Design

## 3 Thermoforming Polymers

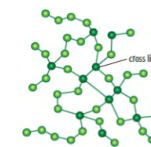
- can be reheated
- can be reshaped
- can be recycled



Examples: acrylic, HIPS, PVC

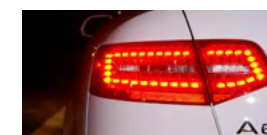
## Thermosetting polymers

- can't be reheated
- can't be reshaped
- can't be recycled



Examples: urea formaldehyde, polyester resin

Acrylic is used for baths, menu holders, shower trays, rear car lights and shop signs

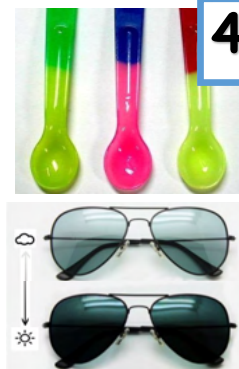


Tough, easily cleaned, food safe  
Widely available  
Easy to cut&finish  
Can be shaped using heat  
Self finishing

Can be scratched easily  
Breaks easily if dropped



4



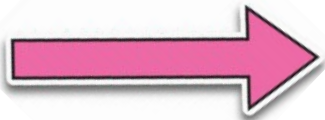
Smart Materials	Description	Uses
<b>Thermochromic</b>	Changes colour when temperature changes	Baby spoons/ cups, kettles,
<b>Photochromic</b>	Changes colour when UV light is present	Sunglasses, cockpit windows
<b>Shape Memory Alloy</b>	Can be deformed and will return to original shape when heated	Glasses frames, medical stents, orthodontic wires
<b>Reactive Glass</b>	Changes from translucent to opaque when an electric current is applied	Glass walls in museums and hotels, Tokyo public toilets



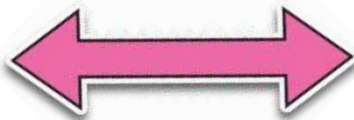
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### Types of Motion

**Linear:** Moving in a straight line in one direction



**Reciprocating:** Moving backwards and forwards in a straight line



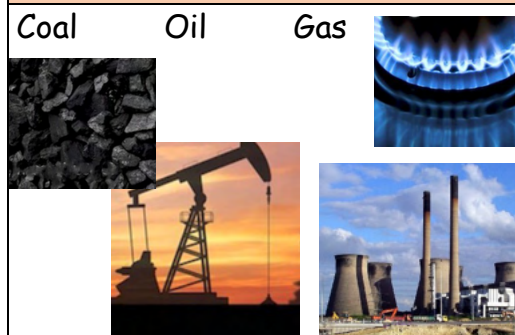
**Oscillating:** Motion that swings backwards and forwards in an arc from a central point



**Rotary:** Motion around a central point



### Non-renewable energy sources



#### Advantages:

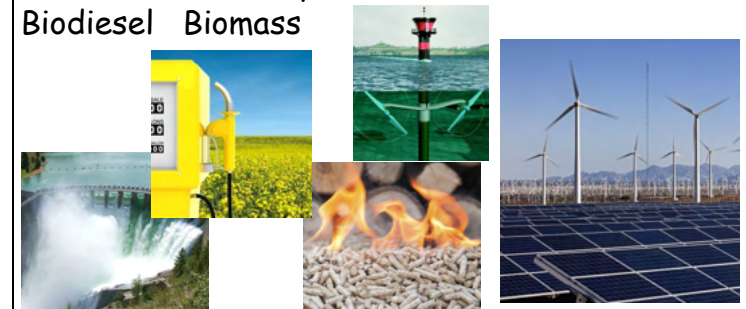
Stable and large-scale  
High power electricity generation  
Relatively cheap to convert

#### Disadvantages:

Highly polluting  
Can significantly impact on the environment and landscape

### Renewable energy sources

Solar Wind Hydroelectric Tidal  
Biodiesel Biomass



#### Advantages:

Less pollution created  
Less non-renewable resources are used  
Some can be stable and a reliable source (e.g. tidal)

#### Disadvantages:

Some can vary (wind)  
Can be expensive to set up  
Some only available in certain areas

6



# Year 7

## DRAMA

### Page 1 of 2



## 2. Performance Skills

### Body Language



The way you use your physicality to communicate.

### Characterisation



Using a range of performance skills to create a character that is different to yourself.

### Gesture



A movement (usually of the arm/hand) that communicates a specific meaning

### Levels



Using different heights to communicate meaning or to add visual interest.

### Voice



How you use your voice to communicate meaning.

### Facial Expression



Using your face to show how a character is feeling

### Proxemics:

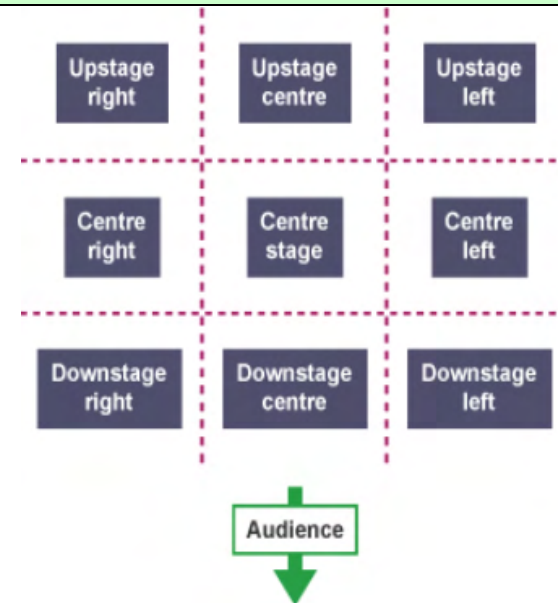


Where a character stands in relation to other characters and/or the audience.

## 1. Key Words

<b>Performance</b>	A piece that is presented to an audience.
<b>Dramatic convention</b>	Techniques used to communicate to the audience.
<b>Performance skills</b>	Signs and Symbols in Drama - an actor will use their <b>Vocal Skills</b> and <b>Physical Skills to communicate to an audience</b>
<b>Technical elements</b>	Signs and symbols in drama - use of Props, Costume, Lights, Sound, Music, Scenery, Set, Hair, Make-up, Backdrop...

## 3. Areas of the Stage



**Remember:** The stage is always from the **actor's** point of view, as they are the ones standing on the stage.

Demonstrate good **spatial awareness** by using all areas of the stage, where appropriate.

## 4. Drama Conventions

### Tableau / Freeze Frame



A 'living picture' showing a moment in time – as though the pause button has been pressed.

### Narration



Normally spoken to the audience, performers give information, tell the story or comment on the action

### Mime



A silent performance, that uses physicality to communicate intentions to the audience

# Year 7 DRAMA Page 2 of 2



## 5. Additional Key Words

<b>Characterisation</b>	Using a range of performance skills to create a character that is different to yourself.
<b>Genre</b>	The type of story being told e.g. comedy, tragedy
<b>Performance style</b>	The way the actors perform, the visual characteristics of the setting and costumes, and the choice of conventions used e.g. naturalistic

## 6. Vocal Skills (Skills that involve using your voice)

<b>1. Projection</b>	Ensuring your voice is <b>loud and clear</b> for the audience to hear.
<b>2. Volume</b>	How <b>loudly</b> or <b>quietly</b> you say something. ( <b>Shouting, whispering</b> )
<b>3. Tone</b>	The <b>way</b> you say something in order to communicate your emotions. ( <b>E.g. Angry, worried, joyous tone of voice</b> )
<b>4. Pace</b>	The <b>speed</b> of what you say. ( <b>How quickly, how slowly</b> )
<b>5. Pause</b>	The <b>silence</b> between words and/or sentences. Moments of <b>pause</b> can create <b>tension</b> , show that you are <b>thinking</b> or create <b>emphasis</b> .
<b>6. Accent</b>	Use of an <b>accent</b> tells the audience <b>where your character is from</b> .
<b>7. Pitch</b>	How <b>high</b> or <b>low</b> your voice is.
<b>8. Emphasis</b>	Changing the way a word or part of a sentence is said, in order to <b>emphasise</b> it. ( <b>Make it stand out.</b> ) Try emphasising the words in capital letters and see how it changes the meaning:  "How could <b>YOU</b> do that?"  "How could you do <b>THAT</b> ?"

## 7. Physical Skills (Skills that involve using your body)

<b>1. Movement</b>	Does an actor move <b>towards</b> or <b>away</b> from another character?
<b>2. Posture</b>	The <b>position</b> an actor holds <b>their body</b> when sitting or standing. For example, an upright posture or slouched.
<b>3. Gait</b>	The way an actor <b>walks</b> .
<b>4. Facial Expressions</b>	A form of <b>non-verbal communication</b> that expresses the way you are feeling, using the face. E.g. <b>Raised eyebrows</b> or <b>pursed lips</b> .
<b>5. Gestures</b>	A <b>movement of part of the body</b> , especially a hand or the head, to express an idea or meaning. E.g. <b>Waving, pointing, thumbs up</b> .
<b>6. Pace</b>	How <b>quickly</b> or <b>slowly</b> an actor moves.
<b>7. Levels</b>	<b>Sitting, Standing, Lying</b> – what does it show?
<b>8. Touch</b>	<b>Physical contact</b> or lack of it with other characters.

1

## Choosing your narrative point of view (POV)

Point of View	Definition	Effect
First person	written as if the narrator is a character, observing or taking part in the story. Tells the story using the pronoun 'I', 'we'.	It gives the reader access to the main character's thoughts, feelings, observations and motivations. It gives the reader a close connection with the main character.
Second Person	written as if the narrator is talking directly to the reader. It tells the story using the pronouns 'you'	It creates a more intimate relationship between the narrator and the reader. It involves the reader
Third Person	written as if the narrator is talking about the characters and events, but not necessarily a character in them.	It gives the reader access to delve in to all characters thoughts and feelings. It is more detached and so allows the reader to make judgements about the characters, rather than being involved with just one character. It also gives a smoother transition (movement) between past, present and future tense.
Limited narrator	a narrator aligned to a specific character, knowing nothing outside of that character's thoughts and interactions with the world and story	Allows the narrator to make a detached judgement about the main character and so manipulate the reader's opinion of the character.
Omniscient narrator	a narrator who is god-like, able to move from place to place and character to character, realigning the reader to any perspective they wish to share.	Allows the narrator to make detached judgements about multiple characters and so the reader can make more detached judgements about most of the characters.

2

## How Narratives are typically structured

Think of the books you've read, plays or films you've watched. Can you identify how this structure was used? Many writers use it!

### CLIMAX

*Main character comes face to face with a key problem and has a choice to make (the most tense and exciting part)*

### CONFLICT / Rising Action

*A series of events unfold to keep the reader interested*

### Inciting incident

*A problem is introduced and something happens to trigger the rising action*

### EXPOSITION

*The information at the beginning that sets the scene (Introduces setting and main characters)*



### Falling Action

*The problem unravels and the hero either wins or loses.*

### Resolution

*The problem is solved*

### Denouement

*The story ends exposing the fallout from the way the characters deal with the climax*



3

### Commonly used storylines

The same old story? In 2004, Charles Booker wrote a book in which he claimed that there were only seven basic story plots and that all literature, films, video games and plays use. Knowing these plots will help you think about archetypal stories (typical ones).

1. Overcoming the Monster: the protagonist (hero) sets out to defeat an antagonist (enemy) which threatens the hero or their homeland.
2. Rags to Riches: the poor protagonist acquires power, wealth, loses it all and gains it back, growing as a person as a result.
3. The Quest: the protagonist and companions set out to acquire an important object or to get to a location. They face temptations and other obstacles along the way.
4. Voyage and Return: the protagonist goes to a strange land and, after overcoming the threats it poses or learning important lessons unique to that location, they return with experience.
5. Comedy: light and humorous character with a happy or cheerful ending; a comedy is a dramatic work in which the central motif (recurring idea) is the triumph over adverse circumstance, resulting in a successful or happy conclusion.
6. Tragedy: the protagonist is a hero with a major character flaw or great mistake which leads to their downfall (ruin / death). Their unfortunate end leads to pity.
7. Rebirth: an event forces the main character to change their ways and often become a better individual.

4

### Creating engaging characters

Protagonist	Antagonist
The protagonist is the main character in the story. At the end they are usually the hero.	The antagonist is the bad character in the story. They are usually involved in conflict with the protagonist

5



### Using a narrative hook to open

Puzzling hook	Comical hook	Visual hook	Direct speech hook	Atmospheric hook	Direct address hook
This opening generates questions about the story or situation, causing the reader to feel intrigued.	An opening that appeals to the reader's sense of humour.	An opening that focuses on the sense of sight in creating a strong visual description, for example of a setting or character.	This start focuses on a conversation to plunge the reader straight into the story.	The start of the story sets the tone or mood - e.g. makes a dark mood clear.	In this opening a writer speaks to the audience directly using 'you' or 'your'.

6

### Effective linguistic methods

Simile	A simile compares two things using the words 'like' or 'as'. <b>The snake moved like a ripple on a pond</b>
Metaphor	A metaphor is a word or phrase used to describe something as if it were something else. <b>A wave of terror washed over him.</b>
Personification	Personification is giving an inanimate object human feelings or actions. <b>The thirsty flowers seemed to reach out and beg for water.</b>
Symbolism	We grow up learning lots of symbols and these can be used in stories to convey meaning and feeling from single image. E.g <b>a red rose can symbolise romantic love.</b>

7

### Effective linguistic methods

Foreshadowing	Is a hint at something that will come later and have greater importance.
Flashback	Flashback is a device that moves an audience from the present moment in a chronological narrative to a scene in the past
Cyclical structure	This is where your writing comes 'full circle' and ends with a link back to the beginning.

8

## TIPTOP Paragraphing

Paragraphs are just a group of sentences sharing the same idea. They structure your writing to make it easier for readers to follow. Always start a new paragraph when you change the focus of your writing.

When writing about a new **TIME** or about a different **PLACE**. When writing about a new **TOPIC** or about or as a new **PERSON**.

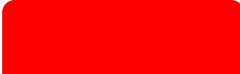
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### Varying your paragraphs and sentences

Effective, engaging writing is not thoughtless. Paragraphs and sentences must be used for effect: to guide the reader and develop the narrative.

Shorter sentences can alter the pace of your writing. Description can alter the rhythm.

For single, sudden ideas you want to draw attention to, (a single sentence or single word paragraph works brilliantly.



11

## Synonyms



### The Colon Functions to:

- To introduce a list
- Introduce a quotation from a book or a person
- Offers a definition or to elaborate on or consolidate an idea

10

### Sentence types

Declarative	A declarative sentence simply makes a statement (of declaration). They pass on information. They always end with a full stop.
Imperative	An imperative sentence is used to convey a command, request of forbiddance. Bring me a glass of water.
Interrogative	An interrogative sentence asks a question.
Exclamatory	An exclamatory sentence conveys a strong emotion and ends with an exclamation mark.

12

### Vary your sentence starts

<b>-ing</b> Grabbing his bag ...	<b>Connective</b> Despite the weather, the man went outside.
<b>-ed</b> Petrified, the woman ...	<b>Verb adverb</b> Perched precariously on the branch, the bird sang.
<b>Adverb (ly)</b> Cautiously, the boy ...	<b>Triple noun</b> Owls, crickets, mice: the woods were alive with noise.
<b>Preposition</b> Under the dark clouds ...	<b>Triple adjective</b> Thin, bare, skeletal: the trees hung ...
<b>Pair of adjectives</b> Strong and bright, the sun ...	<b>Simile</b> Like a predator stalking its ...

13

### The Semi-Colon Functions to:

- Offer more information giving a 'why' or 'how'
- To highlight a contrast between two people or things

To join two independent ideas where the second idea

# Year 7 English: 'Island at the End of Everything'- Kiran Millwood Hargrave

## Plot Overview

1

**Amihan** lives on Culion Island, a leper colony in the Philippines.

Her mother, **Nanay**, is touched by the disease, **Ami** is not. All is well until **Mr Zamora**, a scientist and butterfly collector arrives and makes huge changes to the islanders' lives.

Anyone who does not have leprosy is forced to leave the island. All children who do not have leprosy are forced to go and live in an orphanage on another island.

**Amihan** is forced to leave **Nanay** and got to live at the orphanage, she looks after a young boy called **Kidlat** and she forms a friendship with a girl called **Mari** who has **always** lived at the orphanage. **Mari** has a shrunken arm and was abandoned by her parents when she was small.

2

## Characters

### Amihan:

- Resilient
- Thoughtful
- Guilt-ridden
- Tenacious

### Nanay:

- Determined
- Strong
- Caring
- Kind

### Mari:

- Strong-willed
- Compassionate
- Wise
- Impulsive

- Dominant
- Protective
- Clever
- Kind Hearted

### Mr Zamora:

- Thoughtless
- Insensitive
- Obsessive
- Selfish

### Sister Margaritte

- Sympathetic
- Influential
- Sensitive
- Dignified

### Kidlat

- Vulnerable
- Innocent
- Scared
- Loyal

3

## GENRE: Historical Fiction

### Time and place:

Takes place in the early 1900's when leprosy had been widespread for thousands of years throughout Asia, Africa and Europe until a cure was developed in the 1980's. It is a hugely stigmatised condition linked to dirtiness and sin, in reality it is simply a bacterial disease.

### Setting:

Culion Island is a real place in the Philippines, it was the world's largest leper colony between 1906 and 1998. Culion Island can be visited to this day and there is a museum where people can see the island's fascination history.

### Character:

The story is told in **first person and present tense** through the eyes of Amihan. This style of narration gives a sense of immediacy and allows us to feel close to the main character. Other styles of narration can be found in the prologue which is written in **second person and present tense** and the epilogue which is written in **third person and past tense**.

### Historical Context:

The book explores a real-life event surrounding the forced migration of families affected by leprosy. From 1906 to 1910 alone 5,303 men, women and children were transported to Culion Island.

### Key Terms:

**Leprosy:** A bacterial infection which damages the nerves, respiratory tract, skin and eyes. The damage means that sufferers are no longer able to feel pain. Leprosy also leads to weakness in the hand and feet meaning sufferers struggle to complete everyday tasks. **Segregation:** Insisting (by law) that people live in groups and do not mix. **Forced Migration:** People are told to relocate and forced to live in another location.

**Amihan** writes letters to **Nanay**, but **Nanay** only writes one back. **Ami** worries about her mother's failing health as her Leprosy becomes worse.

**Mari** breaks **Mr Zamora's** 'killing jar' in which he traps and kills butterflies for his collection- he threatens to send her to the workhouse unless she fixes it back together. **Mr Zamora** catches **Mari** snooping around his office and realises she has uncovered one of his secrets. He sets about getting revenge and tries to cover up what he has been doing. **Ami** a letter from **Nanay** and learns that she is really poorly in hospital.

5

## The Purpose and Function of DIALOGUE

Dialogue is used for 2 main reasons:

- To reveal something about a character's motives, personality or feeling.

Let's be honest the most important thing readers need to know about any character is what they want: Perhaps they want to achieve something; understand themselves/ the world better or maybe even redeem themselves and be better people. This can all be revealed through dialogue.

- To move the action of the plot forward

Through dialogue characters are able to provide new information, increase tension or reveal a new conflict/problem to be solved.

To reveal something about a character's motives, personality or feeling- An example:

"The disease has taken your nose. Is that your daughter beside you?" He does not wait for an answer. 'How would you feel if she ended up looking like that?'

The use of dialogue reveals Mr Zamora's insensitivity and bigotry, he argues that allowing children to stay with parents will lead to them being diseased and disfigured. Mr Zamora's narrow-minded views are unsympathetic and look at the situation in a clinical, scientific and hostile way. Although many people on Culion Island are touched, they are accepting of each other and live in a community where they have always loved and supported each other with sensitivity and without judgement.

To move the action of the plot forward- An example:

"From here on we, we will facilitate this through a process of segregation... Those who are clean must stay in the areas marked Sano. Those who are lepers must keep to their designated places." The use of dialogue here allows us to understand the full extent of Mr Zamora's plan. He has revealed that from this point on families will be separated and those who have leprosy will not be allowed to mix with those who have not. Ami will no longer be allowed to live with her mother.

**Mari** is blamed for **Mr Zamora's** secret getting out and he promises to send her away to the workhouse, **Mari** and **Ami** decide they must escape to see **Nanay** before it is too late.

**Mari** and **Ami** secretly leave the island and they realise **Kidlat** has followed them, so they take him with them across the water to Culion.

**Mr Zamora** follows to try and track them down, he managed to capture **Mari** and **Kidlat** and sends them away to the mainland.

**Amihan** manages to see **Nanay** in hospital and tells her mother all about her adventures and the friends she has made.

In the epilogue, **Amihan** tells us of a young girl she meets named **Sol**. Sol is lost and because it is getting late, **Ami** lets her stay overnight and drives her back to the orphanage the following day.

## Commonly Confused Homophones

Their  
There

These two homophones are the most frequently confused, yet they are two easy to remember. Their, to do with people, has an 'i' in it which could easily be turned into a person. There, to do with place. Has an 'r' in it which could easily be turned into a signpost.

### For example:

'You were in such a rush to take these children from their families, you have arrived early.'

'I see her clearly as if I were there too.'



6

## Themes

### Friendship, love and family.

The strong bond between Nanay and Amihan is evident from the beginning. Ami is devoted to Nanay and her well-being comes first. Ami chooses to go straight home after school instead of playing with her classmates. It seems Ami is naturally caring as she takes on this role with Kidlat. Ami and Mari are connected by their individuality and difference, as they story progresses it is clear they share a strong bond have strengths with complement each other.

### Death and Sickness

From the very beginning of the novel we see reference to sickness and witness the appalling and undignified treatment of those with leprosy. The fragility of life is further emphasised on several occasions as Ami witnesses the deaths of the brutal and unexpected deaths of butterflies, and fish.

### Home and journeys

Ami yearns to be home with her mother and the novel follows her journey away from home and back again. Each journey fraught with heart ache and difficult decisions. We watch Ami's personal journey and watch her grow and adapt.

### Religion and Forgiveness

Faith and religion are important throughout the novel as the nuns play a significant role as caregivers, both on Culion Island and in the orphanage. We learn about forgiveness through the nun's treatment of Mr Zamora and we can also see forgiveness between Mari and Ami as they face several challenges. We also learn about Tolerance through Sister Margaritte who often turns to prayer when times get tough, yet for her humanity prevails above all.

8

**NARRATIVE PERSPECTIVE:** Refers to the person telling the story. This could be a narrator or one of the characters.

### 1st Person

- 'My body jumps awake, as if stopping itself falling from a great height.'
- 'I open my eyes and Mari is there, in a colourless, uncertain morning light, nudging me.'

### 2nd Person

- 'There are some places you would not want to go.'
- 'You sit and clutch your bundle of things from home, what you saved before it was burned.'

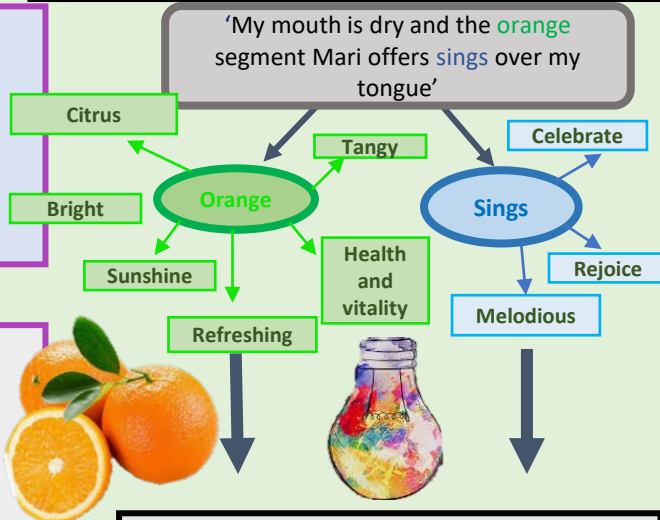
### 3rd Person

- 'Amihan looked at her over the rim of her cup.'
- 'The woman's face seemed to snap shut and darkened, her eyes suddenly fierce.'



### Butterflies

Butterflies are incredibly resilient, during mass migration they fly in their hundreds at heights as tall as the Empire State building. The contrast between something so fragile, yet incredibly resilient is compelling.



### Nanay's Cooking basin:

Nanay's cooking basin unites Nanay and Ami when they are apart, it reminds Ami of the time they spent together and it represents the bond between mother and daughter as Nanay's mother gave it to her as a wedding present. Nanay had hoped to pass it on to Ami as a wedding present too.



### The Killing Jar:

Mr Zamora is one of the wickedest and cruellest characters and yet we can see how he is deeply disturbed. He kills the butterflies to keep them perfect before the world can inflict any damage on them. In his head that makes sense. Ami re-names hers a 'resting jar' at the end of the novel.



7

## The Function and Purpose of SYMBOLISM

Symbolism helps readers to visualise complex ideas and track their development easily. They often communicate big ideas in an efficient and artistic way. Symbols usually suggest the growth and changes within a character over the course of the story. Symbolic meaning is often given to simple/ordinary objects (usually of important/sentimental value) or colours which have a far deeper meaning or significance within the novel. For example, they may link to abstract emotions/traits/ideas (greed/guilt/freedom/love.) or they may be linked/ representative of time (past memories or future ambitions/goals).



When Ami says the 'orange segment Mari offers sings over her tongue', she means that the orange is refreshing and welcome after they the journey they have just endured. Most importantly, the orange is an offering from Mari and a sign that she has not held a grudge against Ami for the unpleasant way she spoke to her on the boat. Mari's act of compassion goes a long way to showing her forgiveness and solidifying their friendship. It is a sign of hope.

# Year 7 English: Salt to the Sea- Ruta Sepetys

## Plot Overview

1

**Joana** believes "guilt is a hunter." She is haunted by her conscience, which tells her, "It's all your fault."



**Florian** knows that if he is captured by the Soviets he will be killed and tortured. The Nazis, if they uncover his secret, will also kill him.

**Emilia** Cold and exhausted, she hides in a potato cellar. Frozen by the January cold, she closes her eyes and thinks of happier times.

**Alfred** writes a letter addressed to a woman, Hannelore, who seems to be his lover back home. He mentally composes these letters throughout the novel, but never writes them down or sends them. A sailor fighting for Germany, Alfred tells Hannelore about his bravery, about his military accomplishments, his dangerous job, and his recent rescue of a beautiful young woman.



2

## Characters

<b>Joana:</b> <ul style="list-style-type: none"> <li>Dedicated</li> <li>Loyal</li> <li>Guilt-ridden</li> <li>Trusting</li> </ul>	<b>Florian:</b> <ul style="list-style-type: none"> <li>Stubborn</li> <li>Selfish</li> <li>Caring</li> <li>Kind</li> </ul>	<b>Emilia:</b> <ul style="list-style-type: none"> <li>Feels ashamed</li> <li>Secretive</li> <li>Vulnerable</li> <li>Untrusting</li> </ul>	<b>Alfred Frick:</b> <ul style="list-style-type: none"> <li>Arrogant</li> <li>Psychopathic</li> <li>Obsessive</li> <li>Selfish</li> </ul>
<b>Eva:</b> <ul style="list-style-type: none"> <li>Thoughtless</li> <li>Offensive</li> <li>Exceptionally rude</li> <li>Selfish</li> </ul>	<b>Ingrid:</b> <ul style="list-style-type: none"> <li>Blind</li> <li>Sensitive</li> <li>Protective</li> <li>Selfless</li> </ul>	<b>Heinz 'Shoe Poet':</b> <ul style="list-style-type: none"> <li>Attentive</li> <li>Life saver</li> <li>Compassionate</li> <li>Thoughtful</li> </ul>	<b>Klaus 'The Wandering Boy':</b> <ul style="list-style-type: none"> <li>Vulnerable</li> <li>Innocent</li> <li>Scared</li> <li>Loyal</li> </ul>



3

## GENRE: Historical Fiction

**Time and place:** Takes place at the end of the Second World War, which involved many of the world's nations, but was primarily fought between the Axis (Germany, Italy, and Japan) and Allies (the United States, Soviet Union, United Kingdom, China, and others).

**Setting:** *Salt to the Sea* looks specifically at far Eastern Europe, and the (former) nation of East Prussia, the territory of which is now split between Russia, Poland, and Lithuania.

**Character:** The story is told from four points of view: **Joana** is a Lithuanian refugee who was allowed to resettle in Germany; **Emilia** is a teenager who escaped the genocide that wiped out many of her fellow ethnic Poles; **Florian** is a former art restorer from Prussia who has stolen from the Nazis as revenge after they killed his father and **Alfred** is a delusional Nazi soldier working on the **Wilhelm Gustloff**.

**Historical Context:** The book explores a real-life event on board a ship called the **Wilhelm Gustloff**. The story of this particular ship was not as widely publicized as other famous ships, like **Titanic** or **Lusitania**, were.

**Key Historical Terms:** - **Amber Room** A real room, in the **Catherine Palace** near the city of **Leningrad**. It was made entirely of amber, precious stones, and precious metals. In 1941, Nazis stole it from the **Soviet Union**. **Hitler Youth:** The youth division of the **German Nazi Party**, instilling in its members the philosophy and doctrines of **Hitler** and the **Nazi Party**. **East Prussia** A province within the larger **Free State of Prussia**. **East Prussia** was partitioned and absorbed by **Poland** and **Lithuania**.

**Florian** prepares to leave, but pauses when Emilia sits up from where she had collapsed on the ground. Florian points his gun at her, but hesitates when she speaks to him in Polish.

**Emilia** realizes Florian has killed the Russian, and probably won't kill her. She asks him, in Polish, if he is okay, but observes, "his face twisted at the sound of my words." She assumes he is German, and like all Germans will look down on her as a Pole, as Hitler had declared, "Polish people were subhuman." Emilia tries to speak to Florian in German, and offers him a potato to thank him for saving her life. He is hungry, injured, and protective of something secret in his backpack.

Joana wonders if **Ingrid** is in fact lucky to be blind, since it saves her from seeing the atrocities of war. Ingrid's other senses are heightened, she notices the sounds of airplanes before anyone else.

**Eva** appears, carrying the Poet's carpetbag and Joana's suitcase. She managed to get passage on a different ship and says her goodbyes, unsentimentally asking Florian to make sure Joana gets her bag.

5

## The Purpose and Function of DIALOGUE

Dialogue is used for 2 main reasons:

- To reveal something about a character's motives, personality or feeling.** Let's be honest the most important thing readers need to know about any character is what they want: Perhaps they want to achieve something; understand themselves/ the world better or maybe even redeem themselves and be better people. This can all be revealed through dialogue.
- To move the action of the plot forward** Through dialogue characters are able to provide new information, increase tension or reveal a new conflict/problem to be solved.

**To reveal something about a character's motives, personality or feeling-** An example:

"Of course it's for the best," said Eva "A deserter and a Pole? I'm sorry, but they'll be dead on the road in a day." The use of dialogue reveals Eva's selfishness and bigotry, she argues against letting Florian and Emilia tag along. Eva's own wellbeing is more important to her than helping protect two strangers. Although Emilia has done nothing wrong, Eva uses the fact that Nazis are actively targeting people like her as a reason to leave her behind.

**To move the action of the plot forward-** An example:

"Eva pulled me aside. 'You're right- Polish. Her name is Emilia. She's fifteen, from Lwow. But she has not papers.'" The use of dialogue here allows us to understand that they have a problem. If any of the soldiers found out Emilia's true identity, they would all be in trouble for trying to protect her. At this point in the war, a person's papers are essential to their safety and survival. German checkpoints along the road require individuals to show their papers. Failure to do so would be a death sentence.

**Alfred** writes a final mental letter to Hannelore. He remembers their last interactions. He had tried to tell her about Hitler's theories on the sidewalk one day, and she had run away.

**Klaus** cries for the Poet who jumps into the ocean behind them. Florian stands to dive in after him, but the boat is thrown by a wave and he stumbles before he can attempt a rescue

**Florian** wanders through the ship to find the Poet and Klaus. Florian likes the Poet, and wishes he had apprenticed with someone like him instead of Dr. Lange.

Their  
There

For example: 'Their path of destruction lay far and wide.'  
'You'll receive further instruction once you get there.'

These two homophones are the most frequently confused, yet they are two easy to remember. Their, to do with people, has an 'i' in it which could easily be turned into a person. There, to do with place. Has an 'r' in it which could easily be turned into a signpost.



6

## Themes

### Willpower and Fate.

During World War II, the fate of many Europeans was determined by their race, ethnicity, religion, sexuality, and health. The Nazi party labelled many groups as "unworthy of life," and these groups were rounded up, imprisoned, and, in many cases, killed. The characters in *Salt to the Sea* have managed to survive many atrocities. Through their perseverance, they demonstrate the power of the will and of hope.

### Storytelling and fantasy.

*Salt to the Sea* illustrates the horrors of war. Whether escaping genocide at the hands of the Nazi party, escaping death at the hands of roving Soviet gangs, or surviving beatings by soldiers, many of the characters in the novel develop techniques to take a break, or dissociate, from their traumatic or stressful realities. These sometimes take the form of invented fantasy worlds which the characters superimpose atop the upsetting real world, helping them cope with their traumas. They also include folklore and nursery rhymes that connect characters to a happier time, or the memories of which are soothing and comforting. The power of fantasy and storytelling helps characters face unbearable situations.

### Family and community vs. Selfishness

As millions of refugees evacuated Poland, Prussia, Lithuania, and the surrounding countries, bonds of family and community were broken and reformed. The refugees at the centre of the novel (Joana, Florian, Ingrid, Emilia, Eva, the Poet, and Klaus) have either been separated from their families by distance or by death. They form new bonds with each other, partially out of necessity, but also out of love.

7

## The Function and Purpose of SYMBOLISM

Symbolism helps readers to visualise complex ideas and track their development easily. They often communicate big ideas in an efficient and artistic way. Symbols usually suggest the growth and changes within a character over the course of the story. Symbolic meaning is often given to simple/ordinary objects (usually of important/sentimental value) or colours which have a far deeper meaning or significance within the novel. For example, they may link to abstract emotions/traits/ideas (greed/guilt/freedom/love.) or they may be linked/ representative of time (past memories or future ambitions/goals).



8

### Cyclical Structure:

The story returns to the original sentences and expands on them further.



### Storks and birds:

Emilia often remembers her childhood and the storks that would nest near her house in Poland. Storks happier times, she longs for symbolise the family and home she has been robbed of.



### Shoes:

The Shoe Poet, who earned a living as a shoemaker, could tell everything about a person from their shoes. Shoes become symbolic of an individual's true self and the secrets/hurts they hide.



### Emilia's Hair Wreath:

Emilia remembers a tradition she took part in where young girls made wreaths to float down the river, carrying a candle. Whoever caught the wreath would be the girl's future husband. Emilia's got stuck, caught fire and sank.



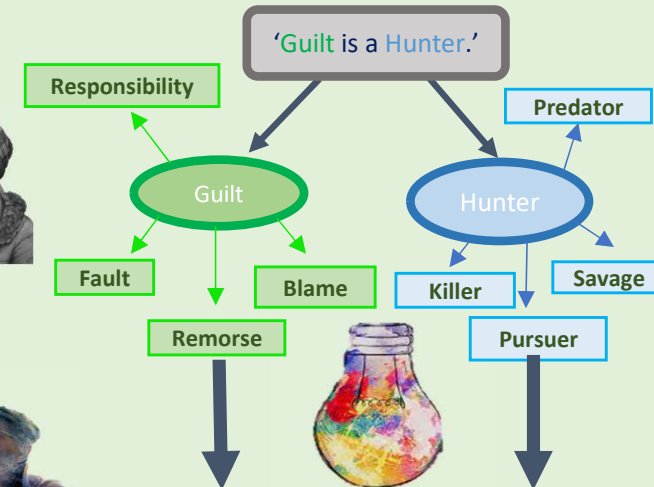
### The Amber Swan:

Florian has stolen a rare & precious amber swan as revenge against Hitler for the death of his father (killed for attempting to assassinate Hitler). The swan symbolises endless cycle of revenge which never brings peace.

9

## The Function and Purpose of Metaphors

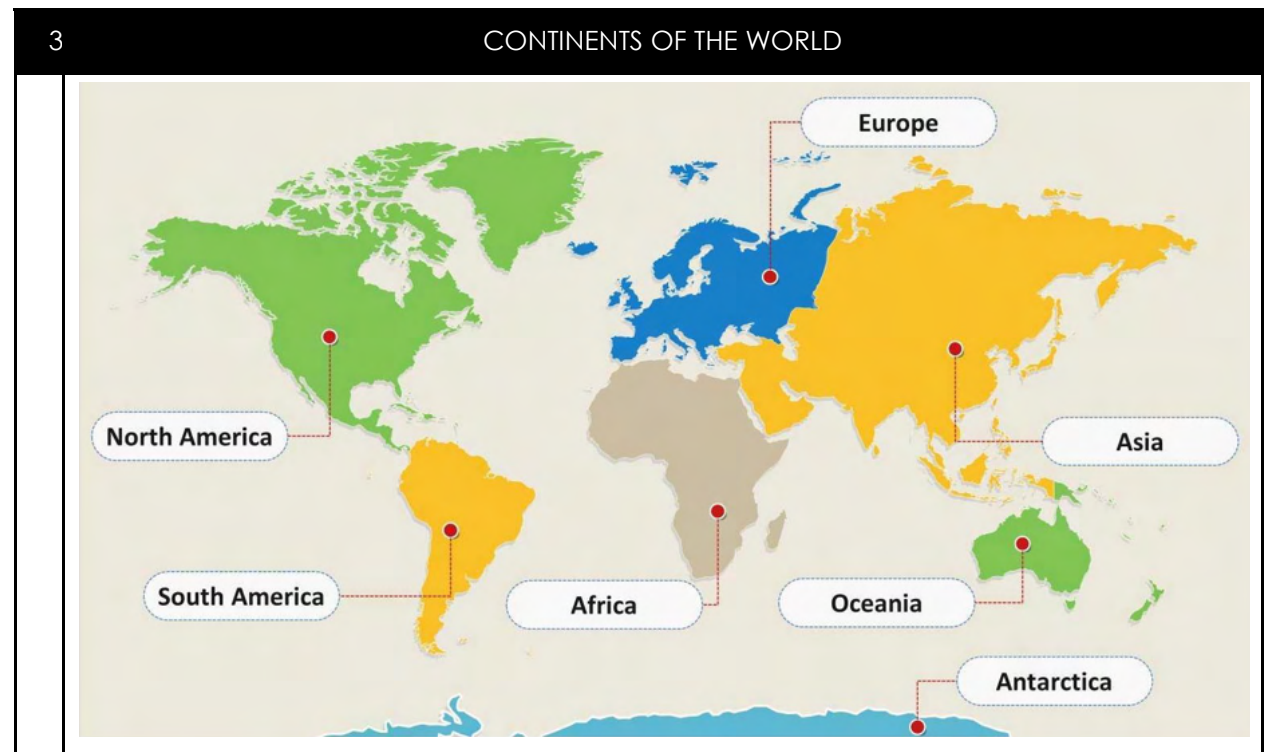
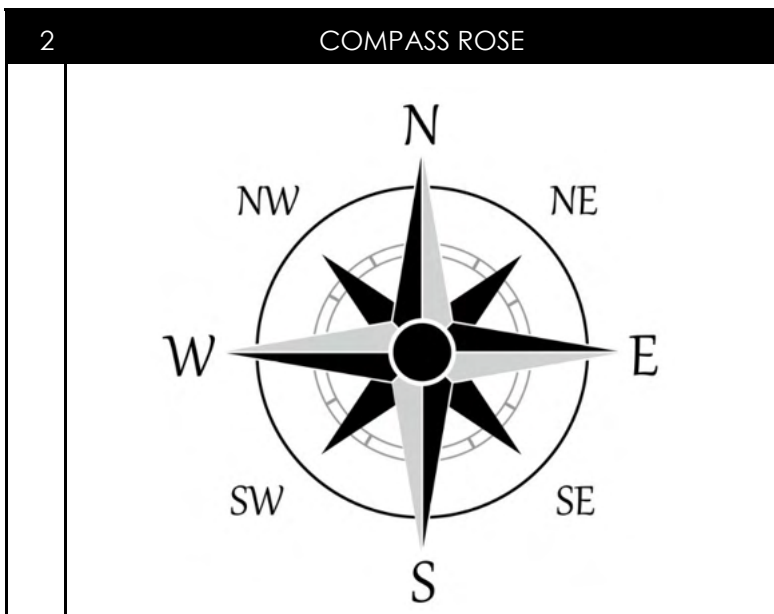
Metaphors help a writer create powerful images by comparing 2 ideas or objects we would not usually place side by side. Metaphors help the writer to compare personal or imaginary experiences in terms that most readers will be able to relate to. By thinking about each item/idea separately we are then able to place them side by side and consider what qualities they share and how they are connected. The writer is making us see the world or a concept in a unique, new or surprising way. Let's look at an example from the novel.



When Joana writes that she is hunted by guilt, she means that guilt is with her always, and although she does her best to escape it, she cannot. Although Joana managed to escape her native Lithuania and repatriate to Germany, many of her relatives remained behind, and were captured or killed by the Soviet army. Joana feels it was unfair that she was lucky enough to survive and escape, while her loved ones could not. She also feels responsible for her family's capture, though these details are only revealed later in the novel.



1 KEY VOCABULARY		
	Geography	The study of places and the relationships between people and their environments.
	Physical Geography	What our planet is like
	Human Geography	How and where we live
	Environmental Geography	How we affect our surroundings
	Local	Within your immediate area e.g. city
	National	Within your country
	Global	Across the whole world



4 MAP SCALE	
	<p>All maps have scales so that you can work out how big things in the real world. For example on a map with the scale 1cm:2km, one centimetre on the map is used to represent two kilometres in the real world.</p> <p>As a ratio: 1:200,000</p> <p>Ratios are often displayed as scale bars so you can work out how big 1cm on the map is in reality. See the examples below.</p>
	<div> <div>0 3km</div> </div> <div> <div>0 2km</div> </div>

5 LARGE AND SMALL SCALE MAPS	
	<p>Maps can be small or large scale</p> <p>The larger the second number of a scale ratio, the smaller the real world has been made to fit on to a map.</p> <p>The smaller the second number, the closer to the real size it is.</p> <p>E.g.</p> <p>1:16,000 for a local map of Coventry</p> <p>1:190,000,000 for a world map</p>

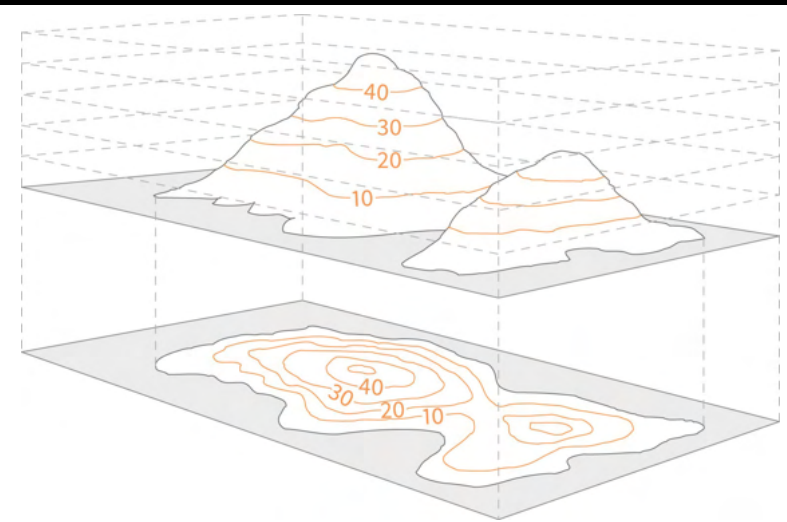
6 OS MAP SYMBOLS

	CAMPSITE
	MOTORWAY
	RAILWAY
	RAILWAY STATION
	RIVER
Sch	SCHOOL
	PLACE OF WORSHIP
P	POST OFFICE
	WOODLAND

7 FOUR AND SIX FIGURE GRID REFERENCES

A	
B	
<p>Grid references divide maps into smaller square section. Each square section has a reference e.g. the I in box A is in four figure grid square (47,33) Because 47 is the line to the left and 33 is the line underneath.</p> <p>6 figure grid references use the original four figure, but add extra numbers to be more specific about its location in the square. E.g. box B, the I is now (476,334).</p>	

8 CONTOUR LINES



Contour lines show the elevation of land on a map. They join areas of the same height. They are usually an orange or brown colour. Some contour lines have their height above or below sea level written on them. It is possible to use them to see the shape of the land - if contour lines are close together the slope is steep, if they are far apart the slope is gentle.

9 KEY VOCABULARY

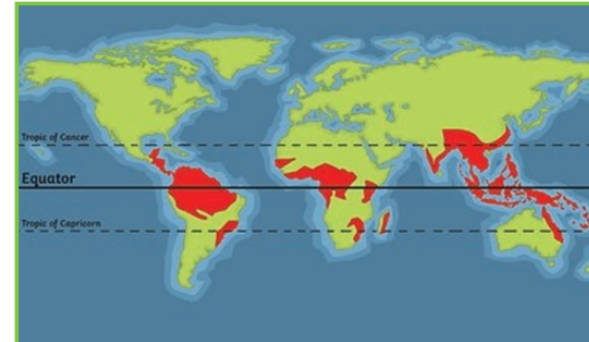
Hypothesis	An assumption used to focus a geographical enquiry that is to be proven or disproved
Scale	A map scale is the size of an object compared to the size of the object's smaller representative on a map

### 1. KEY VOCABULARY

Emergent Layer	The tallest layer - over 40 metres. The trees here have small, waxy leaves to prevent them drying out.
Canopy	The second highest layer (35-40m). This layer blocks out the sun to other layers and contains the most plant species.
Understory	Low light conditions (2-15%). Contains small shrubs and plants.
Forest Floor	Very little light reaches the forest floor (2%) - so plants grow slowly.
Adaptation	The adjustment of organisms to their environment in order to improve their chances at survival in that environment
Deforestation	The removal of trees
Sustainable	The practice of using natural resources responsibly
Ecosystem	includes all the living organisms in an area. It is an area where plants and animals interact with each other and the non living elements in an area e.g. the soil, climate and water.

### 2. GLOBAL DISTRIBUTION OF TROPICAL RAINFORESTS

Most of the world's tropical rainforests lie between the Tropic of Cancer and the Tropic of Capricorn. Tropical rainforests are found on either side of the equator in South America, Central Africa, South East Asia and Northern Australia.. The world's largest tropical rainforest (the Amazon) is found in South America.



### 3. PHYSICAL CHARACTERISTICS OF A TROPICAL RAINFOREST

<ul style="list-style-type: none"> <li>- Hot all year round (20-28°C)</li> <li>- Equatorial climate</li> <li>- Very wet (2000mm average rainfall per year)</li> </ul>	<ul style="list-style-type: none"> <li>- Rain is intercepted (caught) by the canopy</li> <li>- Continual growing season</li> <li>- Absorb CO<sub>2</sub> and release oxygen</li> </ul>	<ul style="list-style-type: none"> <li>- Hundreds of plants and animal species including snakes and monkeys</li> </ul>	<ul style="list-style-type: none"> <li>- Epiphytes (plants that feed off other plants and take moisture from the air) for example: ferns</li> <li>- Conventional rainfall</li> <li>- The soil is not very fertile due to nutrients being taken by the trees</li> </ul>
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### 4. HOW PLANTS AND ANIMALS ADAPT TO THE TROPICAL RAINFOREST

<u>Trees</u>	<u>Animals</u>
<ul style="list-style-type: none"> <li>- Large buttress roots to absorb nutrients</li> <li>- Have thick waxy leaves to repel water</li> <li>- Have thin bark to keep cool</li> </ul>	<ul style="list-style-type: none"> <li>- Many animals live in the canopy where there is lots of food</li> <li>- Strong limbs to swing and jump between trees</li> <li>- Camouflaged to hide from predators</li> </ul>



## 5. DEFORESTATION AND ITS ECONOMIC AND ENVIRONMENTAL IMPACTS

### Causes of Deforestation in the Amazon

Ranching, logging and small-scale farming

Large-scale farming, e.g. Brazil is the world's second largest soya bean producer.

Road building opens up the rainforest to further development.

Dam building to produce HEP, e.g. Belo Monte dam complex is under construction and will be the world's fourth largest HEP dam complex.

Mining, e.g. the Carajas complex in Brazil is the world's largest iron ore mine. It produces 109 million tonnes of iron ore a year.

### Economic Impacts

Farming significantly contributes to the economy, e.g. ranching earns Brazil over \$6.9 billion a year.

Logging contributes to the economy, however, it is estimated that 80 per cent of Brazilian hardwood is from illegal logging.

Mining provides many jobs, e.g. the Carajas complex provides up to 3000 jobs.

Indigenous people lose their traditional farming and hunting lands.

### Environmental Impacts

Deforestation of the Amazon could release 100 billion tonnes of carbon, resulting in increased atmospheric CO<sub>2</sub> and global warming.

Deforestation means there are fewer trees to absorb CO<sub>2</sub> from the atmosphere, resulting in global warming.

Mining releases dangerous toxins into the soil and rivers.

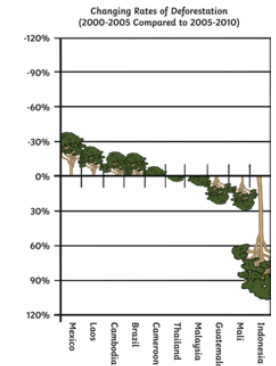
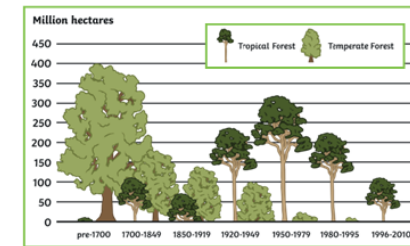
80 per cent of land animals live in tropical rainforest ecosystems, so deforestation will reduce earth's biodiversity.

Removing tree cover will leave soil exposed to heavy rainfall causing soil erosion. Soya bean farming alone is responsible for the loss of 55 million tonnes of topsoil each year in Brazil.

Deforestation could affect the water cycle, causing changes to weather patterns.

## 6. RATES OF DEFORESTATION

Deforestation of tropical rainforests has been an issue for over 50 years and is still occurring. However, the overall rate of global deforestation in the tropical rainforests is slowing down (e.g. Brazil's rate of deforestation decreased by 21% in 2005-2010 compared to 2000-2005). Unfortunately, some countries still have an increasing rate of deforestation (e.g. Indonesia's rate of deforestation increased by 107% in 2005-2010 compared to 2000-2005).



## 7. SUSTAINABLE MANAGEMENT OF THE TROPICAL RAINFOREST

### - Education

Indigenous people can be made more aware of the impacts of deforestation and encouraged to alter their activities.

### - Afforestation (replanting trees)

Logging companies must replant two trees for each tree cut down.

### - Reducing Debt

Peru's national debt was reduced by \$25 million for their promise to conserve the rainforest.

### - Forest reserves

Biodiversity and indigenous people's territories are protected against deforestation in areas designated as forest reserves by the Government.

### - International Agreements

International agreements to try and reduce illegal logging and encourage sustainable management. For example the Forest Stewardship Council identify timber which has come from sustainably managed forests.

### - Selective Logging

Logging companies should select and only cut down certain trees (for example: Mahogany) and leave the other trees standing.

Companies also use 'horse logging' or 'helicopter logging'. This is where they use horses or helicopter to remove the trees which have been cut down. This reduces the amount of damage to the rainforest.

## YEAR 7 GEOGRAPHY - TROPICAL RAINFOREST AND CLIMATE CHANGE

### 8. KEY VOCABULARY

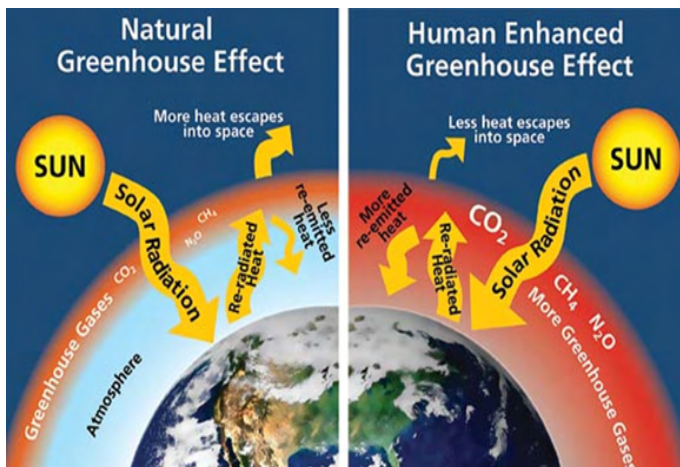
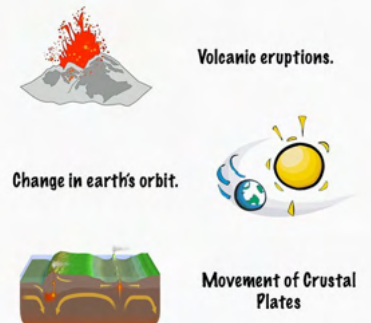
Climate	The average weather conditions over a long period of time .
Climate change	A change in global or regional climate patterns
Global warming	The gradual increase in the overall temperature of the earth's atmosphere
Fossil fuels	A natural fuel such as coal or gas formed from the remains of organisms that lived long ago
Greenhouse gases	Gases in the air that trap energy from the sun e.g. carbon dioxide and methane
Greenhouse effect	Warming of the earth caused by the trapping of the sun's energy by greenhouse gases creating a blanket around the Earth
Atmosphere	The mixture of gases that surrounds the earth

### 9. NATURAL CAUSES OF CLIMATE

Solar Output	A sunspot is dark patch on the sun that appears from time to time. Every 11 years the number of sunspots changes from very few to lots to very few again. Lots of sunspots = warmer Very few sunspots = cooler
Volcanic Activity	Violent volcanic eruptions blast lots of ash, gases (e.g. sulphur dioxide) and liquids into the atmosphere. Major volcanic eruptions lead to a brief period of global cooling. This is because the ash, gases and liquids can block out the sun's rays, reducing the temperature. Pinatubo 1991 eruption = world temperatures fell by 0.5°C for a year.
Orbital Change	Orbital change means how the earth moves round the sun. It affects how close the earth is to the sun and therefore how much energy we get from the sun. When the earth is very close to the sun, it is warmer. When the earth is further away from the sun, it is cooler. • Eccentricity: how the earth orbits the sun. Every 100,000 years the orbit changes from circular to elliptical (egg-shaped).

### 10. EFFECTS OF CLIMATE CHANGE

- Sea level rise leading to increased coastal flooding
- Increased extreme weather
- Habitats lost due to extreme weather
- Drought leading to issues producing crops
- Increased desertification due to dryer weather. (arid land turning into desert).



### 11. HOW DO HUMANS CAUSE CLIMATE CHANGE

Methane Humans are to blame because....	Cows produce a methane when they fart, belch and poo. Methane is a greenhouse gas that traps longwave radiation in the earth's atmosphere. The world's population is rising and countries are becoming more developed = rising demand for meat = more animals farmed = more methane produced.
Carbon dioxide Humans are to blame because...	carbon dioxide is the greenhouse gas that people are most worried about, as it is the one we are adding to the atmosphere fastest. Fossil fuels are burnt to make energy = carbon dioxide is released into the atmosphere. Humans drive cars, which release fossil fuels into the atmosphere. Rising population and more developed countries = increased demand for electricity = more carbon dioxide produced.



## Section 2: The 3 contenders for the throne in 1066

Name	Strengths of claim
<b>Harold Godwinson</b>  	<ul style="list-style-type: none"> <li>• Earl of Wessex, one of the most powerful men in England.</li> <li>• His sister was married to Edward.</li> <li>• He had support of the Witan.</li> <li>• English monks wrote 'on his deathbed that wise King promised the kingdom to Harold.'</li> </ul>
<b>Harald Hardrada</b>  	<ul style="list-style-type: none"> <li>• The most feared warrior in Europe. Tough, ruthless and he enjoyed watching his enemies suffer.</li> <li>• A Viking called Canute had once been King of England 30 years earlier</li> <li>• Had support from Tostig, Harold's brother.</li> </ul>
<b>William of Normandy</b>  	<ul style="list-style-type: none"> <li>• Was promised the throne in 1051. He had helped Edward become King of England by giving him some soldiers.</li> <li>• Duke of Normandy, the strongest part of France.</li> <li>• Harold had visited him in 1064 to tell him Edward's news and also promised to support his claim to the throne of England.</li> <li>• Edward had lived in Normandy and the two men were close.</li> <li>• Had been ruling his kingdom since the age of seven and was used to having to fight to keep his lands.</li> </ul>

## Section 3: Timeline of key events

<b>5th January 1066</b>	Edward the Confessor died. He died without an heir but it is claimed he made Harold Godwinson his successor on his deathbed.
<b>6th January 1066</b>	Harold Godwinson crowned King
<b>8th September</b>	8th September Harold sent his army home. Harold had expected to invade during the summer months when the weather was good. When the invasion didn't arrive. Harold's men went home to harvest the crops from the fields.
<b>20th September 1066 Viking invade</b>	Harald Hardrada and Tostig invaded, with more than 10,000 men in 200 longships. Anglo-Saxon Earls Edwin and Morcar were defeated at Battle of Fulford.
<b>25th September 1066 Battle of Stanford Bridge</b>	Harold Godwinson travelled north to fight Harald Hadrada. In four days he marched 180 miles to surprise Hardrada and Tostig, east of York. Godwinson defeated Hardrada but his army was tired and badly reduced in size.
<b>28th September William lands</b>	William arrived at Pevensey with 8000 men and horses in flat bottom boats. He even brought 'flat pack' castles to protect his men! He also had the Papal Banner from the Pope, making this a holy war.
<b>6th October Harold arrives back in London</b>	Harold raced his army down the old Roman road of Ermine Street, stopping on the way at his foundation of Waltham Abbey, to pray for victory. By 12th October, he was back in London and gathering what forces he could to face William. By the 14th, he was on the way to Hastings.
<b>14 October 1066 Positioning for the Battle</b>	Harold drew up his army on Senlac Ridge, a hill overlooking battlefield. He had 5,000 Saxon Housecarls, against a Norman force of infantry, archers and cavalry. Harold had no choice but to fight a defensive battle. He was forced to rely on the English shield-wall, behind which his men could stand and let the Normans attack. Normans began at the bottom of Senlac hill. This was a problem because they would get tired from charging uphill.



## Section 4: What happened at the battle?

<b>9 am The First attack</b>	Norman archers fired arrows but these went over heads of the Anglo-Saxons. Norman infantry attack but were blocked by Harold's shield wall. The battle raged for hours.
<b>Rumours... William has been killed!?</b>	Rumours spread that William had been killed. Normans began to worry and fearing William's death, began to run away. Anglo-Saxons, broke formation, left the shield wall and ran after the Normans. Suddenly, Norman knight tore off his helmet and cried "it is me, William" to prove he was not dead. Normans rallied around the Duke and using their cavalry, tore apart the Saxons.
<b>Feigned retreat</b>	When some Normans ran away from their line and the Anglo-Saxons ran after them, the Normans turned and slaughtered them. This was used as a tactic and drained the shield wall of Anglo-Saxon soldiers.
<b>Midday</b>	A break in the fighting allowed both sides to remove their dead and wounded. William used a new tactic. He moved archers so their arrows hit the Anglo-Saxons instead of going over their heads. This caught them out.
<b>Cavalry charge</b>	William ordered a cavalry charge. Harold's men stayed in formation but William used feigned retreat again. Heavy losses on both sides. William ordered knights to fight on foot, archers to fire arrows and infantry charged Harold's lines.
<b>The King is dead</b>	By 4pm Anglo-Saxon shield wall began to break and Normans began break through the wall. Remaining housecarls in a defensive position. According to legend, a stray arrow struck Harold Godwinson in the eye and the Saxon king fell down dead. The Saxon army was without a leader. The last Saxon Housecarls were killed protecting the body of the King.
<b>Saxons defeated</b>	The battle of Hastings ended in a Norman victory. As the Saxon lords had all been killed there were no Saxon leaders to fight after Hastings.
<b>25th December 1066</b>	William of Normandy, now William the Conqueror, was crowned king of England on Christmas day at Westminster Abbey, 1066.

## Section 6: How did Harold die? Evaluating the evidence

*Source 1: an image from The Bayeux Tapestry, produced on the orders of Bishop Odo, William's half brother in the 1070s*



Harold fell, his brain pierced by an arrow. One of the soldiers with a sword gashed his thigh as he lay on the ground.

*Section 3: Written by Guy of Amiens, a medieval writer from France in 1067*

With the point of his lance the first knight pierced Harold's chest, drenching the ground with blood. With his sword the second knight cut off his head. The third disembowelled him with his javelin. The fourth hacked off his leg.

1. What does each source suggest about Harold's death?
2. Look at the NOP for each source. Does this affect any of the sources' reliability?
3. Based on the evidence of the 3 sources, explain who you think Harold died. Use the evidence from the source in your answer.

## Section 5: Why did William win the battle?

Harold's mistakes

Luck

William's superior tactics

King Harold hurried to face William; he could have waited for between 20-30,000 extra troops, but he chose to go straight to Hastings.

Harold chose to fight on foot rather than horseback, so it was difficult for him to **communicate** with his troops or to give orders once the battle began.

William gained the **Papal Banner** so his soldiers believed they had God's blessing to fight.

William's troops were highly organised and trained, professional soldiers.

William delayed his invasion which demoralised Harold's troops as they had to wait so long.

William took his time invading; he ensured that he had made all the preparations necessary.

William had gathered a force of 7000 trained **mercenaries**. He also had knights on horses that were trained to bite and kick.

William fought on horseback. This allowed him to have an overview of battle and direct his men.

William used the tactic of the feigned retreat. This tricked the Saxons into chasing them down the hill causing the shield wall to break up.

Hardrada and William launched their attacks at the same time

The double invasion occurred during the harvest season, which led to desertions in Harold's **fyrð**.

William had time to rest his army and train them on the battle ground while Harold was in the north

### SECTION 1 - KEYWORDS

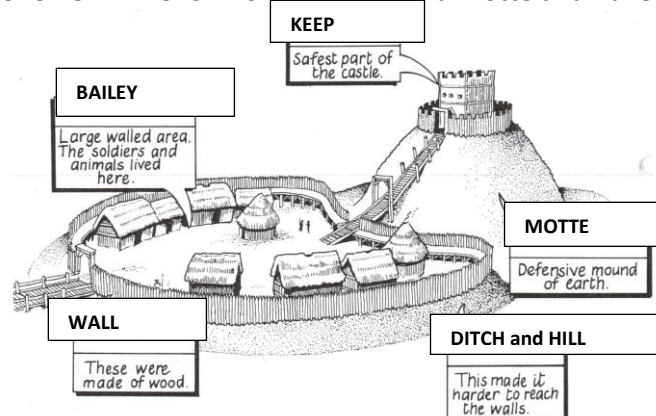
Norman	Someone of French, Norman background who came with William to fight the battle.
Anglo-Saxon	The 'English' people who were already living in England before 1066.
Feudal system	The system introduced by William where land was given or 'rented' to someone less wealthy in exchange for military service or goods. It ensured loyalty.
Barons	Important Normans who helped William to stay King.
Knights	Those who fought on horseback and were skilled warriors. They were trained from a young age in the household of another Knight or a Baron.
Villeins	The poor Anglo-Saxons who usually farmed for a living on the land of a Norman Knight.
Motte and Bailey Castle	The quick-to-build castle made from wood and built on a hill. This was a Norman invention dated from 1066-1100s
Square stone-keep castle	Made with thick stone walls and a well-defended living area (the keep). Built from around the 1100/1200s

### SECTION 2 – THE BAYEUX TAPESTRY



- It was **made by the Normans** (commissioned by Bishop Odo – William's half brother)
- It was made **AFTER the Battle of Hastings**
- It tells the **story** of the run up and during the Battle of Hastings
- It is the **Norman** version of events – it therefore leaves out things that might make Harold Godwinson seem a credible leader (The Battle of Stamford Bridge) and emphasises events that make him seem a bad or dishonourable leader (the oath over holy relics that William would be the next King – shown above)

### SECTION 4 – CASTLES – A picture of a Motte and Bailey



### SECTION 3 – HOW TO ANSWER A 'HOW USEFUL IS THIS SOURCE' QUESTION.

Paragraph 1 Describe one key thing in the source

Use your *knowledge* to say how this is useful.

Paragraph 2 Describe another key thing in the source.

Use your *knowledge* to say how this is also useful.

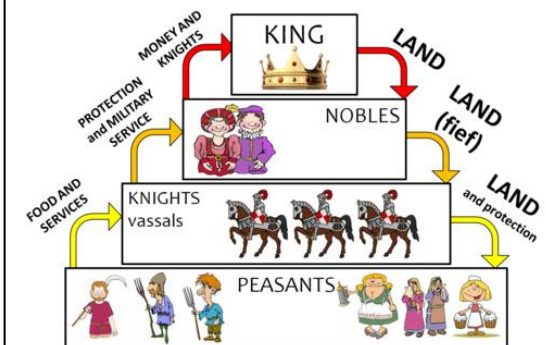
Paragraph 3 – Explain *how reliable* the source is – who made it and why? Did they have any reasons to exaggerate or not tell the whole story? Is it trustworthy and does that make it *more or less useful overall*?

**DESCRIBE = SAY WHAT YOU SEE**

**KNOWLEDGE = SOMETHING THAT ISN'T IN THE SOURCE BUT IN YOUR HEAD**

**RELIABLE = TRUSTWORTHY**

### SECTION 5 – THE FEUDAL SYSTEM DIAGRAM

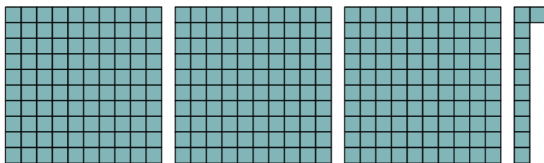


# Maths, Y7 - Place Value

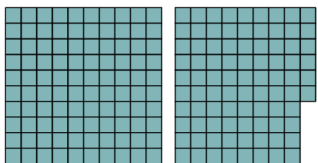
## 1. Ordering Whole Numbers

Which is greater 311 or 186?

Here is 3 1 1



Here is 1 8 6



When comparing numbers, always look at the hundreds first to see which number is biggest.

311 is much greater.

The 3 hundreds are more important.

## 4. Multiplying by powers of 10

What is  $5 \times 10$ ?

When 5 is multiplied by 10, it moves one place value column to the left.

We must remember to put a zero into the ones column to fill the gap.

$$5 \times 10 = 50$$

What is  $4 \times 100$ ?

When 4 is multiplied by 100, it moves two place value columns to the left.

We must remember to put one zero into the tens column and one zero into the ones column to fill the gaps.

$$4 \times 100 = 400$$

## 2. Addition

What is  $168 + 257$ ?

$$\begin{array}{r} 168 \\ + 257 \\ \hline 425 \end{array}$$

$$168 + 257 = 425$$

## 3. Subtraction

What is  $854 - 465$ ?

$$\begin{array}{r} 854 \\ - 465 \\ \hline 389 \end{array}$$

$$854 - 465 = 389$$

## 5. Dividing by powers of 10

What is  $590 \div 10$ ?

Dividing is the inverse of multiplying.

When we divide by 10, the digits move one place value column to the right.

$$590 \div 10 = 59$$

What is  $600 \div 100$ ?

When we divide by 100, the digits move two place value columns to the right.

$$600 \div 100 = 6$$

## 7. Long Multiplication

What is  $87 \times 25$ ?

To multiply by 25, multiply by 5, then by 20 and add the answers.

$$\begin{array}{r} 87 \\ \times 25 \\ \hline 435 \\ 1740 \\ \hline 2175 \end{array}$$

Multiplying by 5:

$$5 \times 7 = 35$$

$$5 \times 8 = 40 \quad 40 + 3 = 43$$

To multiply by 20, put the 0 in the units column, then multiply by 2:

$$2 \times 7 = 14$$

$$2 \times 8 = 16 \quad 16 + 1 = 17$$

Then add,  $435 + 1740 = 2175$

## 6. Inequalities

> greater than

$$147 > 132$$

147 is greater than 132

< less than

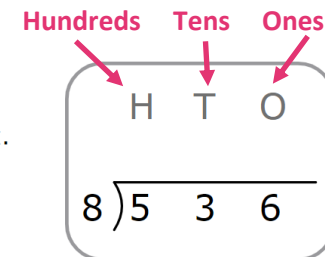
$$132 < 147$$

132 is less than 147

## 8. Long Division

What is  $536 \div 8$ ?

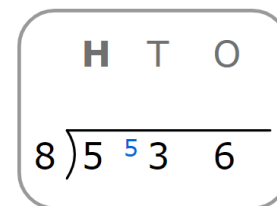
Place the numbers in a division box.



First divide the number in the hundreds column.

5 divided by 8 is not possible!

Let's carry the 5 to the tens column.

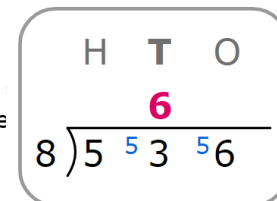


We can either leave the answer space in the hundreds column empty, or we could put a 0 in there to remind us that nothing is there.

We now divide the number in the tens column.

53 divided by 8 is 6 remainder 5.

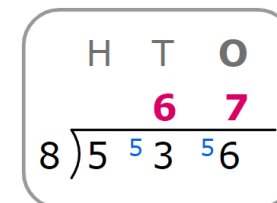
Place the 6 above the line and carry the 5 to the ones column.



We now divide the number in the ones column.

56 divided by 8 is 7 with no remainder.

Place the 7 above the line.



So,  $536 \div 8 = 67$



# Year 7 - Place Value, Decimals

## 1. Adding and subtracting decimals

What is  $13.4 + 24.8$ ?

Set up columns for tens, ones and tenths.

Line up 13.4 and 24.8 in columns.

Now add as usual.

T	O	.	$\frac{1}{10}$
1	3	.	4
2	4	.	8
3	8	.	2
			1

What is  $8.5 - 4.63$ ?

Set the subtraction out in columns. Make sure both values have the same number of decimal places by filing in the zero.

Now subtract as usual.

O	.	$\frac{1}{10}$	$\frac{1}{100}$
7	.	8	5
4	.	6	3
3	.	8	7

## 4. Rounding

when the next digit is 1, 2, 3 or 4 we round **down**.

When the next digit is 5, 6, 7, 8, 9 we round **up**.

£26.57 to the nearest pound is **£27**

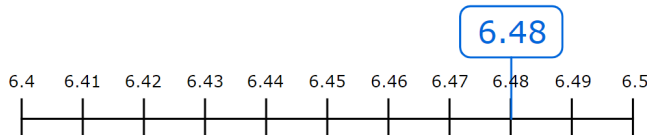
£26.57 to the nearest ten pounds is **£30**

£26.57 to the nearest ten pence is **£26.60**

## 5. Rounding to decimal places

Round 6.48 to 1 decimal place.

It lies between 6.4 and 6.5 on the number line.



It is closer to 6.5. So, 6.48 is **6.5 to 1 d.p.**

## 2. Multiplying decimals

How do you work out  $0.5 \times 0.8$ ?

We know that  $5 \times 8 = 40$

**But this is not the final answer!**

Here, we multiplied both decimals by 10 to make them into whole numbers. Now we have to undo **both** of these actions to find the final answer.

So we must divide 40 by 10 **twice**.

$$40 \div 10 = 4, \quad 4 \div 10 = 0.4$$

So,  **$0.5 \times 0.8 = 0.4$**

## 3. Dividing decimals

How do you work out  $1.21 \div 2.2$ ?

We could write the division as a fraction.

$$1.21 \div 2.2 = \frac{1.21}{2.2}$$

Multiply the top and bottom by 100.

$$\frac{1.21}{2.2} = \frac{121}{220}$$

$$\frac{121}{220} = \frac{11}{20}$$

$$\frac{11}{20} = \frac{1.1}{2}$$

$$\frac{1.1}{2} = 0.55$$

We can simplify the fraction until we reach a calculation we can do mentally.

Look for common factors of 121 and 220

$$11 \times 11 = 121 \text{ and } 11 \times 20 = 220$$

We could divide top and bottom by 10.

$$\frac{1.1}{2} = 0.55$$

## 6. Rounding to significant figures

A. Large numbers

A multi-millionaire has savings of

**£6,725,000**

A newspaper wants to do an article on the woman.

They don't have enough space in the headline so they want to use an **approximate** amount instead.

What figure would they use?

What is the most **significant** figure in this amount? Which digit tells us the most about the size of the number?



**£6,725,000**

Her savings are closer to **£7,000,000**

**£7,000,000 (1 s.f.)**

We say that £6,725,000 rounded to **1 significant figure** is £7,000,000.

Significant figures can be abbreviated to s.f. or sig. fig.

B. Numbers less than 1

Round this number to 4 significant figures.

**0.00024357**

**Leading zeros** (zeros at the beginning of a number) do not count as being significant. The first significant figure always has to be a non-zero digit.

**2** is the first significant figure.

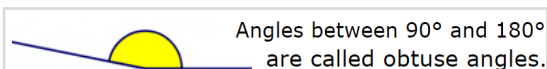
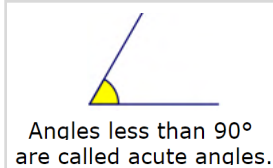
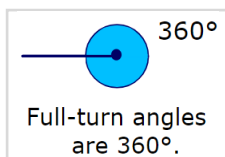
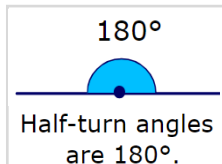
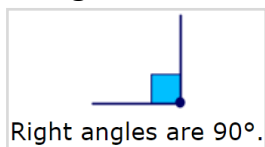
Place the arrow over the 4th most significant figure.

Is this number closer to 0.0002435 or 0.0002436?

**0.00024357**

**0.0002436 (4.s.f.)**

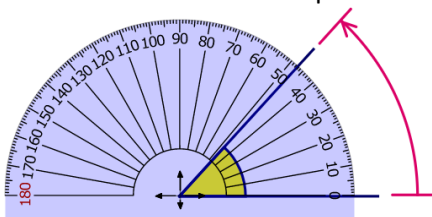
## 1. Angle facts



# Year 7 - Angles

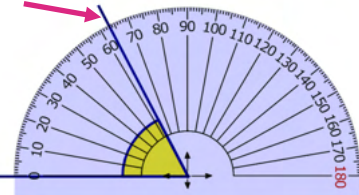
## 3. Measuring angles

To measure angles we use a protractor.  
Move the centre of the protractor to where the two lines meet. The zero line needs to line up with one of the lines.  
We read the scale where the top line crosses



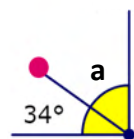
This angle is facing the opposite direction to the last one.

This time we are measuring from here to here.



So we use the zero on the other side.

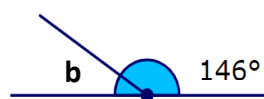
## 2. Applying angle facts



$$a = 90^\circ - 34^\circ$$

$$a = 56^\circ$$

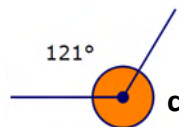
Angles in a right angle always add up to  $90^\circ$ .



$$b = 180^\circ - 146^\circ$$

$$b = 34^\circ$$

Angles on a straight line always add up to  $180^\circ$ .



$$c = 360^\circ - 121^\circ$$

$$c = 239^\circ$$

Angles around a point always add up to  $360^\circ$ .

## 4. Angles in a triangle



Angles in a triangle add to  $180^\circ$

### A. Sum of angles on polygons

Here is a pentagon. To find the sum of its interior angles we choose one of its vertices and join it to every other vertex as shown



The pentagon is formed of three triangles.

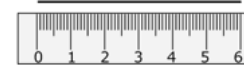
$$\text{Sum of interior angles} = 180^\circ \times 3 = 540^\circ$$

The sum of interior angles of a shape with  $n$  sides is  $180^\circ \times (n - 2)$

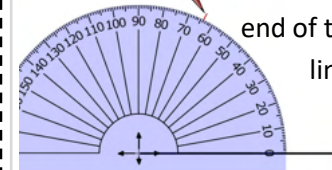
## 4. Constructing shapes using a ruler and protractor

Draw a triangle with sides 6cm and 5cm, with an angle of  $64^\circ$  in between.

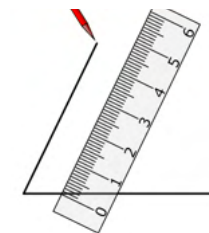
Step 1 - Draw a 6cm line.



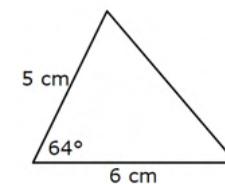
Step 2 - Measure an angle of  $64^\circ$  from one end of the line.



Step 3 - Draw a 5cm line which passes through the red mark.



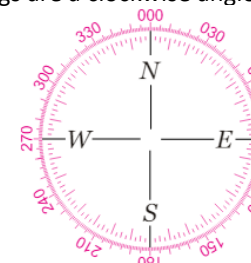
Step 4 - Draw the line which connects to make the triangle.



## 5. Bearings

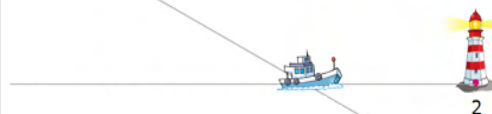
To describe directions accurately we use **bearings**.

Bearings are a clockwise angle from North.



The bearing from lighthouse 1 is  $117^\circ$

If we know the bearing of an object from two locations, we can use those bearings to find the position of the object.



The bearing from lighthouse 2 is  $270^\circ$

Bearings are always written using 3 figures, so  $1^\circ$  is written 001°

## 6. Angles in a polygon

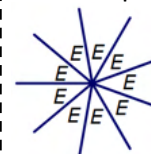
### B. Interior and exterior angles

Every polygon has **interior angles** and **exterior angles**.

The **exterior angle** can be found by reducing the size of the polygon down to a point.

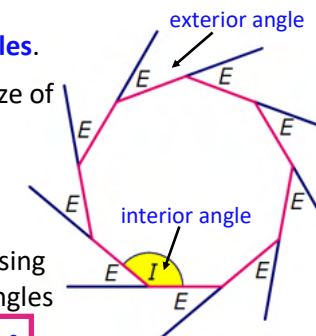
This nonagon has been reduced to 9 equal angles around a point.

$$360^\circ \div 9 = 40^\circ$$



The **interior angle** can be found by using the exterior angle and considering angles on a straight line.

$$180^\circ - 40^\circ = 140^\circ$$







**Bonjour!** (Hello!)

**Salut!** (Hi!)



**Ça va?** (How are you?)

**Ça va très bien, merci.** (I am very well, thank you)

**Ça va bien.** (I am well)

**Comme ci, comme ça.** (So so)

**Bof! Pas mal.** (Not bad)

**Ça ne va pas très bien.** (I am not doing very well)

**Ça ne va pas.** (I am not doing well)

**Et toi?** (And you?)

**Au revoir** (Goodbye)



**Comment t'appelles -tu?** (What is your name?)

**Je m'appelle...**

(My name is...)

**Apolline**

**Antoine**

**Céleste**

**Benoît**

**Mon frère s'appelle...**

(My brother is called)

**Clémence**

**Gaspard**

**Héloïse**

**Maxime**

**Ma soeur s'appelle...**

(My sister is called...)

**Margot**

**Thomas**

**Isabelle**

**Victor**

**Quel âge as-tu?** (How old are you?)

**J'ai** (I am/ have)

**un an** (1 year)

**huit ans** (8 years)

**Mon frère a**

(My brother is/has)

**deux ans** (2 years)

**neuf ans** (9 years)

**trois ans** (3 years)

**dix ans** (10 years)

**quatre ans** (4 years)

**onze ans** (11 years)

**cinq ans** (5 years)

**douze ans** (12 years)

**six ans** (6 years)

**sept ans** (7 years)

**Ma soeur a**

(My sister is/has)

**Les saisons**

**(au) printemps** (in) Spring

**(en) été** (in) Summer

**(en) automne** (in) Autumn

**(en) hiver** (in) Winter

**Les jours de la semaine**

**lundi** Monday

**mardi** Tuesday

**mercredi** Wednesday

**jeudi** Thursday

**vendredi** Friday

**samedi** Saturday

**dimanche** Sunday

Greetings

<https://quizlet.com/bo3tkg?x=1qqt&i=1ks2gk>



Days of the week and seasons

<https://quizlet.com/gb/705619881/y7-half-term-1-les-saisons-et-les-jours-de-la-semaine-flash-cards/>



Numbers 1-12

<https://quizlet.com/bo3x0g?x=1qqt&i=1ks2gk>



## Quelle est la date de ton anniversaire? (When is your birthday?)

Mon anniversaire, c'est le ... (my birthday is the ...)



<b>premier</b> (1st)	<b>onze</b> (11)	<b>vingt-deux</b> (22)	<b>janvier</b> (January)	<b>juillet</b> (July)
<b>deux</b> (2)	<b>douze</b> (12)	<b>vingt-trois</b> (23)	<b>février</b> (February)	<b>août</b> (August)
<b>trois</b> (3)	<b>treize</b> (13)	<b>vingt-quatre</b> (24)	<b>mars</b> (March)	<b>septembre</b> (September)
<b>quatre</b> (4)	<b>quatorze</b> (14)	<b>vingt-cinq</b> (25)	<b>avril</b> (April)	<b>octobre</b> (October)
<b>cinq</b> (5)	<b>quinze</b> (15)	<b>vingt-six</b> (26)	<b>mai</b> (May)	<b>novembre</b> (November)
<b>six</b> (6)	<b>seize</b> (16)	<b>vingt-sept</b> (27)	<b>juin</b> (June)	<b>décembre</b> (December)
<b>sept</b> (7)	<b>dix-sept</b> (17)	<b>vingt-huit</b> (28)		
<b>huit</b> (8)	<b>dix-huit</b> (18)	<b>vingt-neuf</b> (29)		
<b>neuf</b> (9)	<b>dix-neuf</b> (19)	<b>trente</b> (30)		
<b>dix</b> (10)	<b>vingt</b> (20)	<b>trente et un</b> (31)		
	<b>vingt et un</b> (21)			

## Les couleurs

**bleu**  
**vert**  
**noir**  
**gris**  
**blanc** (white)  
**violet**  
**rouge**  
**jaune**  
**rose**  
**orange**

**Grammaire** p. 170

**Saying dates**  
To say dates, use:  
C'est + le + number + month:  
C'est le quatre octobre.  
The first day of the month is different.  
You have to use *premier* (first):  
C'est le premier janvier.

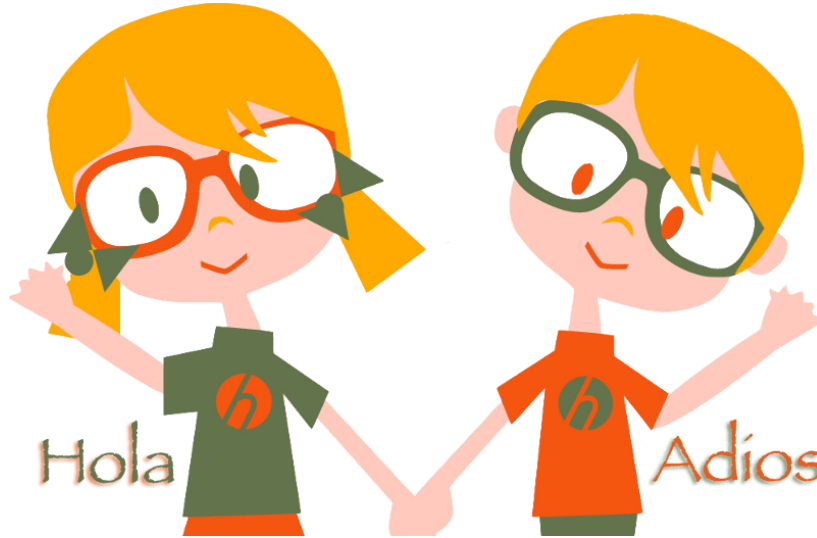
Numbers 0-31  
<https://quizlet.com/gb/499860072/y7-half-term-1-numbers-0-31-flash-cards/>



## Tu es comment? (What do you look like?/What sort of person are you?) Et ton frère? (And your brother?) Et ta sœur? (And your sister?)

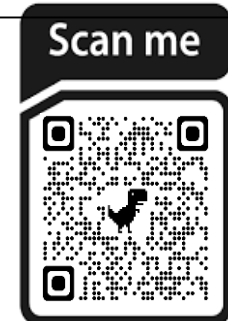
<b>J'ai</b> (I have) <b>Il a</b> (He has) <b>Elle a</b> (She has)	<b>les yeux</b> (the eyes)	<b>verts</b> (green) <b>bleus</b> (blue) <b>noisette</b> (hazel) <b>marron</b> (brown) <b>gris</b> (grey)	Descriptions <a href="https://quizlet.com/gb/542763338/y7-half-term-1-descriptions-flash-cards/">https://quizlet.com/gb/542763338/y7-half-term-1-descriptions-flash-cards/</a> 		
	<b>les cheveux</b> (the hair)	<b>blonds</b> (blond) <b>bruns</b> (brown) <b>gris</b> (grey) <b>noirs</b> (black) <b>roux</b> (red, ginger) <b>frisés</b> (curly) <b>châtains</b> (light brown) <b>mi-longs</b> (medium length) <b>raides</b> (straight) <b>longs</b> (long) <b>bouclés</b> (wavy) <b>nattés</b> (braided) <b>courts</b> (short)			



Hola Buenos días Buenas tardes evening	Hello Good morning Good afternoon / evening	<u>1</u>	¿Cómo estás? ¿Qué tal? ¿Cómo te llamas? ¿Cómo se llama?	How are you? How are you? What is your name? What is he / she called?	<u>5</u>	estoy... I am (feeling)	<u>7</u>	
¿De dónde eres? ¿De dónde es?	Where are you from? Where is he / she from?	<u>2</u>	Me llamo Se llama	I am called He / she is called	<u>6</u>	bien mal regular fenomenal fantastico/a fatal	good bad so-so great fantastic awful	<u>8</u>
Soy de Él es de Ella es de	I am from He is from She is from	<u>3</u>				¿y tú?	And you?	
Inglaterra Irlanda Galles Francia España Estados Unidos Las islas Filipinas Perú Argentina Chile	England Ireland Wales France Spain United States Philippines Peru Argentina Chile	<u>4</u>				capital destino famoso/a hispanohablante histórico/a mapa monumento mundo país	Capital Destination Famous Spanish Spk Historic Map Monument World Country	<u>9</u>

Scan me

Scan me



OR

<https://quizlet.com/gb/499409904/me-presento-11-year-7-unit-1-claro-1-flash-cards/><https://quizlet.com/gb/499411598/me-presento-12-year-7-unit-1-claro-1-flash-cards/>





Hola	<i>Hello</i>	<b>10</b>	uno	<i>one</i>	once	11	año(s)	<i>year(s)</i>	<b>18</b>
Buenos días	<i>Good morning</i>		dos	2	doce	12	¡Adiós! <i>Bye!</i>		
Buenas tardes	<i>Good afternoon / evening</i>		tres	3	trece	13			
¿Cuántos años tienes?	<i>How old are you?</i>	<b>11</b>	cuatro	4	catorce	14	¡Hasta luego! ¡Hasta la vista! <i>See you later!</i>		
¿Cuántos años tiene?	<i>How old is he/she?</i>		cinco	5	quince	15			
¿Cuándo es tu cumpleaños?	<i>When is your birthday?</i>		seis	6	dieciséis	16			
Tengo...	<i>I am (have)</i>	<b>12</b>	siete	7	diecisiete	17			
Tiene...	<i>He/she is (has)</i>		ocho	8	dieciocho	18			
			nueve	9	diecinueve	19			
Mi cumple es el	<i>My birthday is the</i>	<b>13</b>	diez	10	veinte	20			
				<b>15</b>		<b>16</b>			



**Adiós!**

Scan me



Scan me



**Aa Gramática**

**Age and tener**

tener	to have
tengo	I have
tienes	you have
tiene	he/she has

When saying someone's age in Spanish, you use the verb *tener*.

*Tengo once años* I am 11 years old. (Literally, I 'have' 11 years)

De enero	<i>of January</i>
De febrero	<i>of February</i>
De marzo	<i>of March</i>
De abril	<i>of April</i>
De mayo	<i>of May</i>
De junio	<i>of June</i>
De julio	<i>of July</i>
De agosto	<i>of August</i>
De septiembre	<i>of September</i>
De octubre	<i>of October</i>
De noviembre	<i>of November</i>
De diciembre	<i>of December</i>

**14**

veintiuno	21
veintidós	22
veintitrés	23
veinticuatro	24
veinticinco	25
veintiseis	26
veintisiete	27
veintiocho	28
veintinueve	29
treinta	30

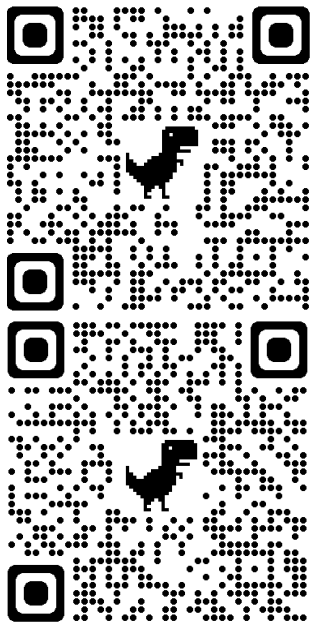
**17**

<https://quizlet.com/gb/499413061/me-presento-13-year-7-unit-1-claro-1-flash-cards/>

<https://quizlet.com/gb/499579450/me-presento-14-year-7-unit-1-claro-1-flash-cards/>

Mi color favorito es...	My favourite colour is...
Amarillo/a	Yellow
Azul	Blue
Blanco/a	White
Claro/a	Light
Gris	Grey
Marrón	Brown
Morado/a	Purple
Naranja	Orange
Negro/a	Black
Oscuro/a	Dark
Rojo/a	Red
Rosa	Pink
Verde	Green

En mi estuche tengo...	In my pencil case I have...
Un bolígrafo	Pen
Un cuaderno	Exercise book
Una goma	Rubber
Una hoja de papel	Piece of paper
Un lápiz	Pencil
Un libro	Book
Una regla	Ruler
Un sacapuntas	Penicil sharpen-
Unas tijeras	Scissors



Detesto	I detest	Además	Furthermore
Me encanta(n)	I love	o	Or
Me gusta(n)	I like	Pero	But
No me gusta(n)	I don't like	Sin embargo	However
Odio	I hate	También	Also
Prefiero	I prefer	y	and

**Masculine, feminine and plural nouns**

In Spanish, 'a' is either *un* (masculine) or *una* (feminine).

<i>un</i> bolígrafo	a pen
<i>una</i> regla	a ruler

For plural nouns, replace *un* or *una* with the number and add *-s* to the noun if it ends in a vowel, or *-es* if not.

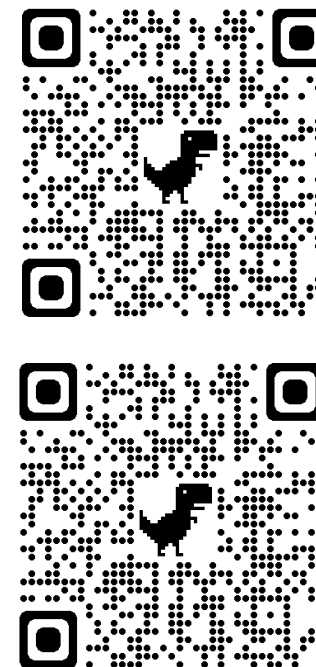
<i>dos</i> estuches	two pencil cases
<i>tres</i> libros	three books

Note: *lápices*

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<https://quizlet.com/gb/499580459/me-presento-16-year-7-unit-1-claro-1-flash-cards/>

Treinta y dos	32	<b>1</b>
Cuarenta y tres	43	
Cincuenta y cuatro	54	
Sesenta y cinco	65	
Setenta y seis	76	
Ochenta y siete	87	
Noventa y ocho	98	
Cien	100	
El centímetro	Centimetre	
El kilómetro	Kilometre	
El largo	Length	
Medir	To measure	
Metro	Metre	
Numero de teléfono	Phone number	

En mi familia hay...	In my family there is...	<b>2</b>
Mi abuela	My grandma	
Mi abuelo	My grandad	
Mis abuelos	My grandparents	
Mis gemelos/as	My twins	
Mi hermana	My sister	
Mi hermano	My brother	
Mi hermanastra	My stepsister	
Mi hermanastro	My stepbrother	
Mis hermanos	My brothers	
Mi madre	My mum	
Mi padrastro	My step dad	
Mi padre	My father	
Mi prima	My cousin (f)	
Mi primo	My cousin (m)	
Mi tía	My aunt	
Mi tío	My uncle	



### Forming Spanish numbers

Remember that **veinte** becomes **veinti-** to form numbers 21-29:

21 – veintiuno  
22 – veintidós  
29 – veintinueve

For 30-99, use **y**:

36 – treinta y seis  
49 – cuarenta y nueve  
72 – setenta y dos

Be careful with numbers 60 and 70; they are easily confused!

*sesenta*      *setenta*



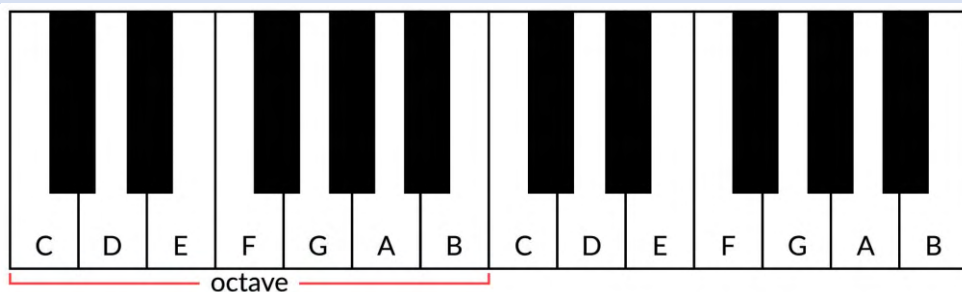
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<https://quizlet.com/gb/499591741/mi-burbuja-22-year-7-unit-2-claro-1-flash-cards/>



# KEYBOARD SKILLS

## A. Layout of a Keyboard/Piano



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

## D. Keyboard Functions



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



## Exploring Treble Clef Reading and Notation

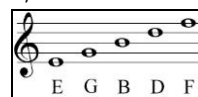


## B. Treble Clef & Treble Clef Notation

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



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



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



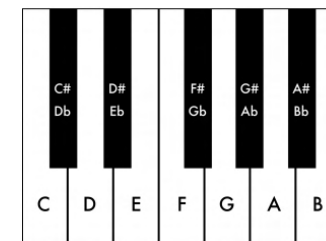
## C. Keyboard Chords



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

## F. Black Keys and Sharps and Flats

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



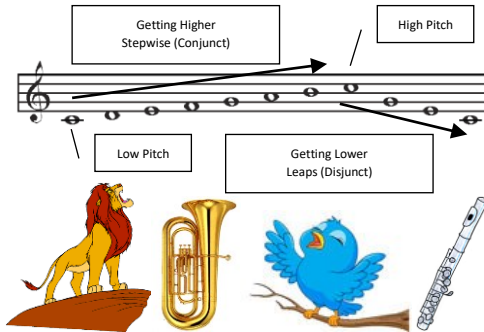
# BUILDING BRICKS

## Exploring the Elements of Music



### A. Pitch

The **highness** or **lowness** of a sound.



### B. Tempo

The **speed** of a sound or piece of music.

**FAST:** *Allegro, Vivace, Presto*  
**SLOW:** *Andante, Adagio, Lento*  
**GETTING FASTER –**  
*Accelerando (accel.)*  
**GETTING SLOWER –**  
*Ritardando (rit.) or Rallentando (rall.)*



### C. Dynamics

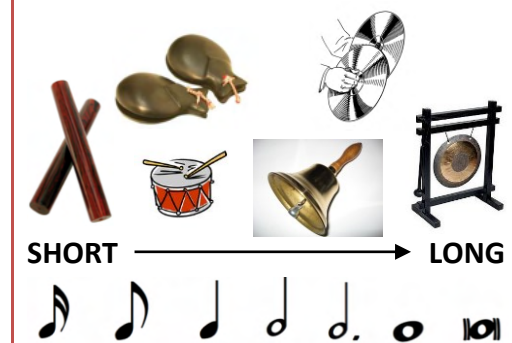
The **volume** of a sound or piece of music.

**VERY LOUD:** *Fortissimo (ff)*  
**LOUD:** *Forte (f)*  
**QUITE LOUD:** *Mezzo Forte (mf)*  
**QUITE SOFT:** *Mezzo Piano (mp)*  
**SOFT:** *Piano (p)*  
**VERY SOFT:** *Pianissimo (pp)*  
**GETTING LOUDER:** *Crescendo (cresc.)*  
**GETTING SOFTER:** *Diminuendo (dim.)*



### D. Duration

The **length** of a sound.



### E. Texture

How much sound we hear.

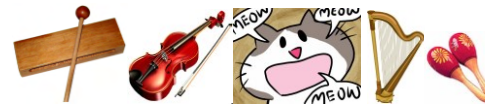
**THIN TEXTURE:** (*sparse/solo*) – small amount of instruments or melodies.



**THICK TEXTURE:** (*dense/layered*) – lots of instruments or melodies.

### F. Timbre or Sonority

Describes the **unique sound or tone quality** of different instruments voices or sounds.



*Velvety, Screechy, Throaty, Rattling, Mellow, Chirpy, Brassy, Sharp, Heavy, Buzzing, Crisp, Metallic, Wooden etc.*

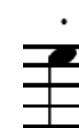
### G. Articulation

How individual notes or sounds are **played/techniques**.

**LEGATO** – playing notes in a long, smooth way shown by a **SLUR**.



**STACCATO** – playing notes in a short, detached, spiky way shown by a **DOT**.



### H. Silence

The opposite or absence of sound, **no sound**. In music these are **RESTS**.



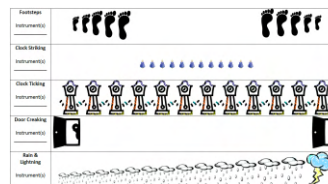
### I. Notation

How music is **written** down.

**STAFF NOTATION** – music written on a **STAVE** (5 lines and spaces)



**GRAPHIC NOTATION/SCORE** – music written down using shapes and symbols to represent sounds.



### J. How Music Works

Music can create an **atmosphere** or **ambience** e.g., *supermarkets and restaurants*.

Music can create an **image** e.g., *in response to art, a story, a poem, a character, a situation* – this is called **PROGRAMME MUSIC**.

Music can be **calming** e.g., *end of an evening in clubs and bars*.

Music can be used for **spiritual reasons** e.g., *worship, meditation, reflection, hymns and chants, yoga, and spiritual reflection*.

Music can be used for **commercial** purposes e.g., *advertising, TV themes*.

# Badminton Y7

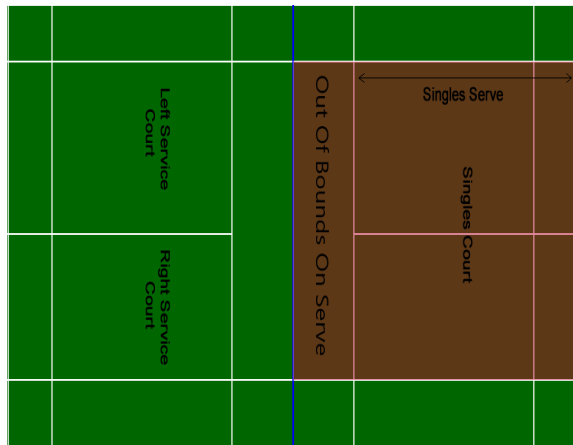
## Knowledge Organiser



### 1. Scoring System-

Every time you win a rally, you get a point. Starting from zero, the first person to reach 21 points wins the game. You have to win the game by at least two points. If the score reaches 20-20, then 21 points are no longer enough to win the game. When the server's score is an even number, he serves from the right service court. When his score is an odd number, he serves from the left service court. You have to win the game by at least two points. If the score reaches 20-20, then 21 points are no longer enough.

### 3. Badminton Court - SINGLES



### 6. Components of Fitness

**Agility** - the ability to move and change direction quickly whilst maintaining control.

**Flexibility** - the range of movement possible at a joint

### 4. Rules:

1. The player/pair winning a rally adds a point to its score.
2. The player/pair winning a game serves first in the next game.
3. A point is scored when the shuttlecock lands inside the opponent's court or if a returned shuttlecock hits the net or lands outside of the court the player will lose the point.
4. At the start of the rally, the server and receiver stand in diagonally opposite service courts.
5. The rules do not allow second serves.
6. A player is not able to touch the net with any part of their body or racket.

### 7. Key Words

**Backhand** - For a right-handed player, the stroke used in returning the shuttle from the left side of the body is a backhand stroke

**Forehand** - For a right-handed player, the stroke used in returning the shuttle from the right side of the body is called a forehand

**Baseline** - The baseline runs parallel to the net and marks the outer boundary line at the back of each court half.

**Shuttlecock (Shuttle)** - Object hit by players during the game of badminton

### 2. Skills & Techniques

**Grip and ready position:** To be able to demonstrate & use the correct grip and ready position.  
**forehand clear:** The forehand clear shot enables players to move their opponent to the back of the court. This will create space in the mid and front court to exploit and provide time for the player to return to their base position.

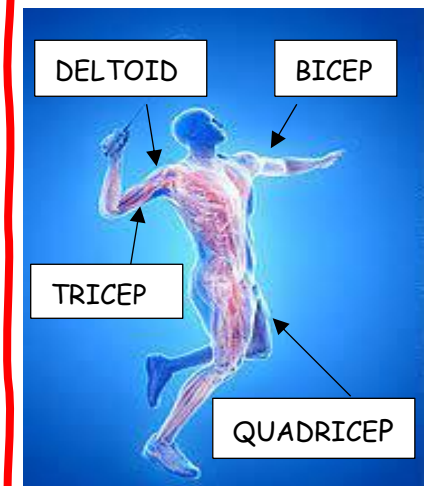
**forehand drive:** The forehand drive is an attacking shot that is usually played from the sides of the court when the shuttlecock has fallen too low for it to be returned with a smash.

**Forehand Drop shot:** To be able to outwit opponents using simple drop shot. Teaching points; deception, low over net & use of angles.

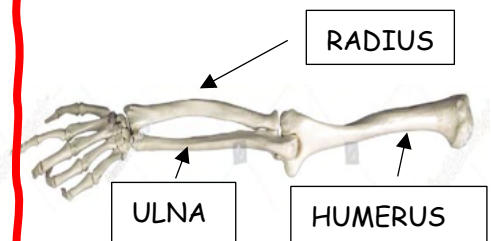
**Forehand Smash:** To understand the importance of movement and preparation for an effective smash. Teaching points; Shuttle in front of head, Snap wrist, Aim towards ground

**Basic Serve:** The badminton serve is the shot selected to begin the point. The serve must be hit from behind the service line and travel diagonally from one side of the court into the opposite service box.

### 5. Muscles Used in Badminton



### 8. Bones Used in Badminton





# YEAR 7 HANDBALL KNOWLEDGE ORGANISER

1.

**Passing & Receiving – How do we throw and catch the ball effectively in handball?**

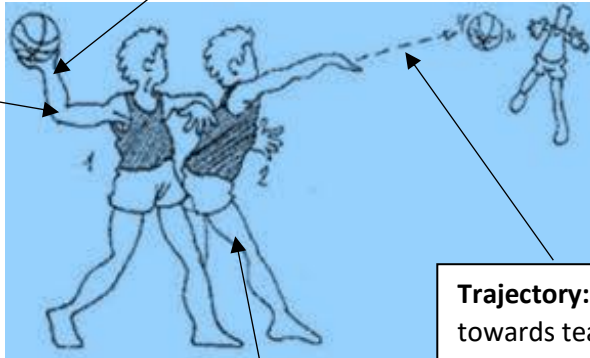
- A) Shoulder Pass
- B) Bounce Pass

A)

**Shoulder pass:**

**Hands:** one handed throw to use the shoulder for more power

**Elbow:** up at shoulder height and behind to prevent opponent having access to the ball



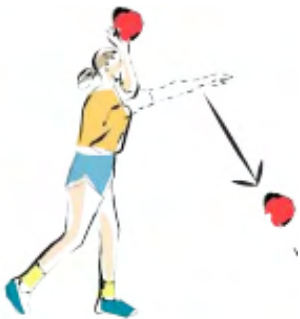
**Legs:** step into pass for more power

**Trajectory:** straight aiming towards team mate's head height



**Receiving:** hands in 'W' shape so ball doesn't go in between them

B)



**Bounce pass:** used when opponent is close up to you.

- Bring ball from head height down to throw into ground
- Away from opponents feet
- Step into pass
- Pass to bounce underneath and to the side of opponent

2.

**Moving with the ball – How can we move effectively with the ball?**

**3 steps allowed whilst holding the ball to:**

- Move past an opponent
- Move towards a teammate
- Move out of a congested area
- Move closer to the goal



3.

**What fitness components are important in handball?**

## Components of Fitness

**Agility** - To change direction quickly whilst using the three steps

**Speed** - to move the legs quickly to move past an opponent

**Coordination** – ability to move arms to pass whilst using eyes to look for the target

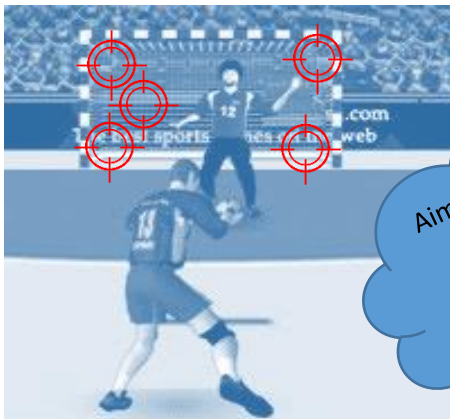
**Power** – to ensure that shooting is performed explosively to make it harder for the goalkeeper to save

## 4. Shooting – How can we effectively shoot in handball?



**Shots cannot be made inside the goalkeeper's area known as the 'D'**

- Receive ball on the move
- Raise the ball above shoulder alike to when performing the shoulder pass
- Use the three steps to move into the shot to produce more power
- Transfer body weight from back to front



Aim to corner areas / where the goalkeeper is not covering

## 5. Tackling – how can we defend effectively in handball?

Meet the opponent with the opposite arm to their shooting arm

Ensure arm is up there where the ball is

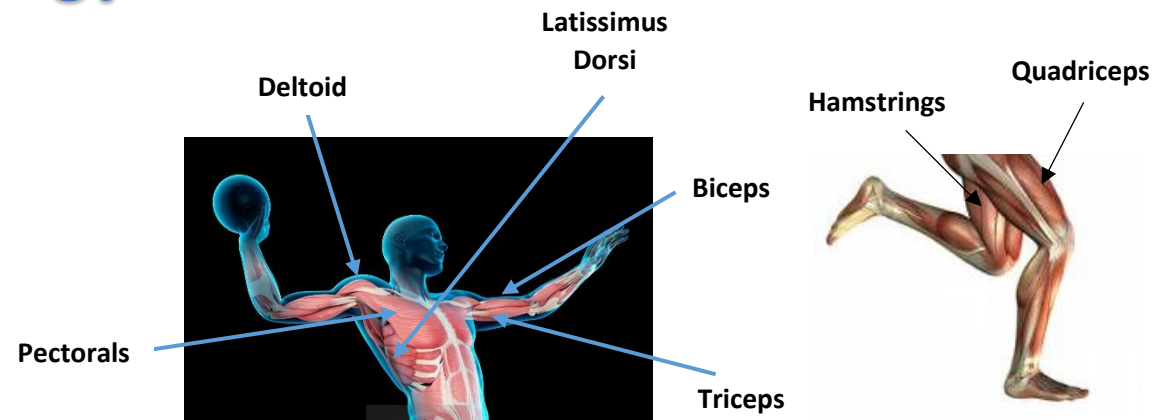
Other arm to be by the opponent's hip to restrict their movement



Attempt to replicate opponent's movements

Opposite foot to opponent's shooting arm to be in front for stability

## 6. What muscles are used in handball?



### 1. Rules

**Game:** 4 x 15 min quarters

**Players:** 7 players in a team

**Contact:** You cannot touch or push any player during the game. This will result in a penalty pass, or penalty shot if you are in the circle, to the opposition.

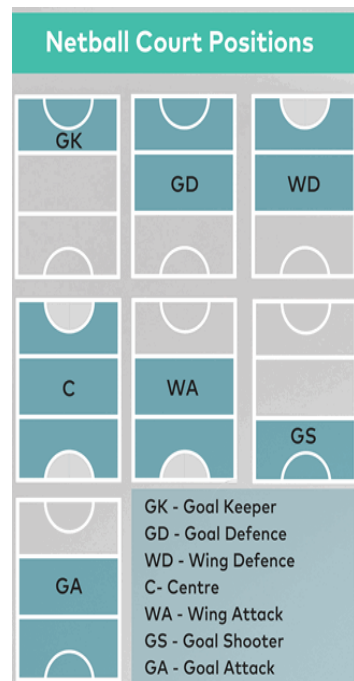
**Footwork:** If the player moves their landing foot or takes steps with the ball, the opposition get a free pass.

**Obstruction:** You must be at least 1 metre away from the player holding the ball before you mark or defend the ball. This will result in a penalty pass, or penalty shot if you are in the circle, to the opposition.

**Held Ball:** You can only hold the ball for 3 seconds before you pass or shoot the ball, and picks it back up again, the opposition get a free pass.

**Scoring:** Goal shooter or goal attack gets the ball in the net.

### 5. Positions



**GS** – to score goals and to work in and around the circle with the GA.

**GA** – to feed and work with the GS and to score goals.

**WA** – To feed the circle players, giving them opportunities to shoot.

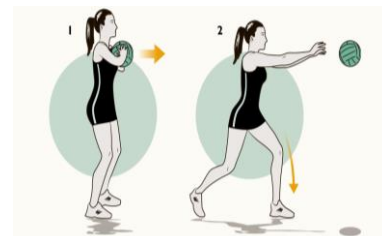
**C** – To take the centre pass, and to link the defence and the attack.

**WD** – To look for interceptions and prevent the opposition's WA from feeding the circle.

**GD** – To win the ball to get the ball out of the danger area and reduce the effectiveness of the opposition's GA.

**GK** – To work with the GD and to prevent the opposition's GA/GS from scoring goals.

### 2. Chest Pass



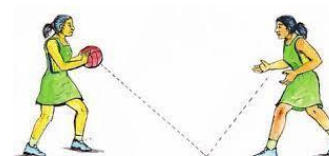
1. Thumbs and index fingers form a W shape. The remaining fingers should be spread behind the ball to push it away.
2. Elbows should be kept low and close to the body. Feet should be shoulder width apart.
3. Keep the ball close to your chest.
4. Fingers facing forward, push the ball towards to the chest of the receiver to create a flat, strong pass.
5. As you push the ball forward, step forward with one foot.

### 3. Shoulder Pass



1. Control the ball with both hands, placing it above your shoulder, then remove the supporting hand.
2. Fingers should be spread behind the ball.
3. Feet should be shoulder width apart.
4. Bring the ball back, bending your elbow.
5. Bring the arm forward, following the ball through until your arm and fingers are in front of you, in the direction you want the ball to travel.
6. As you bring your arm forward, step forward with the opposite foot to the arm you are holding the ball in.

### 4. Bounce Pass



1. Keep the ball in both hands
2. Feet should be shoulder width apart.
3. Bounce the ball 2/3 of the way to the receiver
4. Aim for the ball to go no higher than the recipient's waist.

### 6. Key Words

**Chest pass:** This pass is used when the receiving player is close in distance to the person throwing the ball. It travels from one player's chest straight to the other player's chest.

**Shoulder pass:** This pass is used when the receiving player is further away in distance to the person throwing the ball.

**Bounce pass:** This pass is used when the receiving player is being marked by a tall player, or used to get the ball into the circle to a shooter.

**Dodging:** Dodging in netball terms relates to moving from side to side to confuse the opponent before sprinting off to catch the ball.

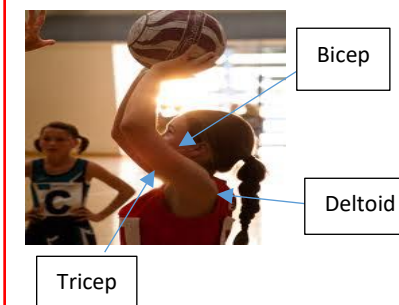
**Footwork:** When in position of the ball, you must not move the foot you landed on when you first received the ball.

#### Components of Fitness

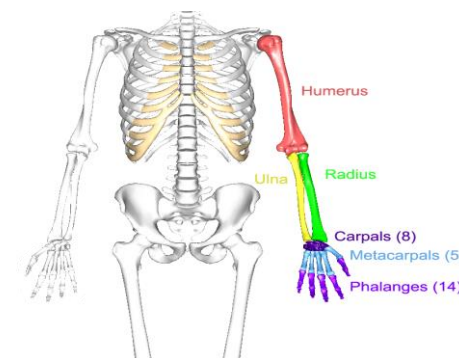
- Agility – The ability to move quickly or change direction without losing balance
- Ability to maintain our centre of mass over our base of support

### 7. Key muscles and bones

#### Muscles



#### Bones

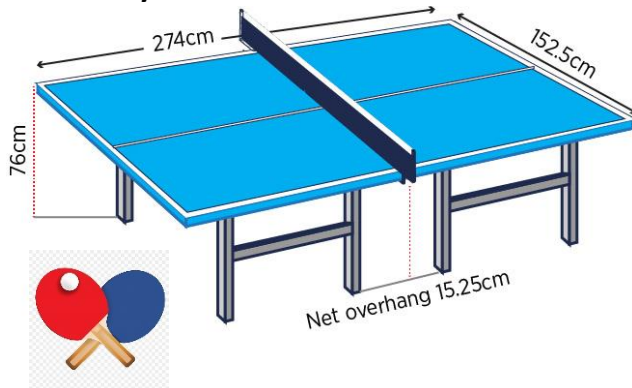




# TABLE TENNIS - YEAR 7

**1. Aim of the game:** hit the ball over the net onto your opponent's side. A point is won by you if your opponent is unable to return the ball to your side of the table (e.g. they miss the ball, they hit the ball but it misses your side of the table or the ball hits the net) or if they hit the ball before it bounces on their side of the table.

## 2. Table layout:



**3. Scoring:** The winner of a game is the first to 11 points. There must be a gap of at least two points between opponents at the end of the game though, so if the score is 10-10, the game goes into extra play until one of the players has gained a lead of 2 points. The point goes to the player who successfully ends a rally, regardless of who has served.

**4. Rules:** A player takes two serves before the ball switches to the opponent to serve, except during periods of extra play where it changes each time. Service can be diagonal or in a straight line in singles. For service, the ball should first bounce in one's court, then in the opponent's court. If the ball touches the net before touching the opponent's court it is a 'let' and service is retaken. A player is not allowed to strike the ball in volley. A player may not touch the table with their non-paddle hand.

## 5. Keywords:

**SERVE** - The first shot, done by the server.

**RALLY** - The period in which the ball is in play.

**LET** - Service ball hitting the net or a distraction that causes the point played over.

**STROKE** - Any shot used in the game, including the serve.

**VOLLEY** - To strike the ball before it touches the table.

## 6. Skills/ techniques:

**GRIP** - The grip favoured by most players is known as the 'shake hands' grip, although there are alternatives (e.g. penhold)

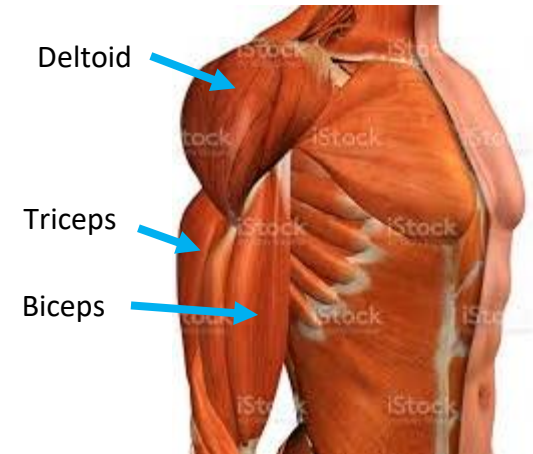
**SERVE** - A stroke which starts every rally. Service can be regarded as the most important stroke in Table Tennis since it provides the only situation in which the player has total control over how and where to play the ball.

**BACKHAND PUSH** - To keep the ball safe from the opponent attacking the ball. To increase the opportunity to attack.

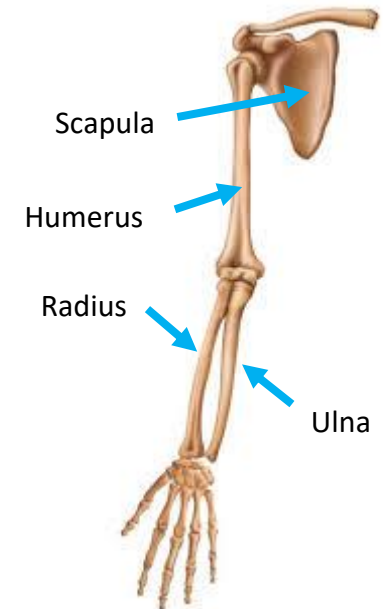
**FOREHAND DRIVE** - To decrease the amount of time available to the opponent.

**SMASH** - A put-away shot. Ball is hit with enough speed so the opponent cannot make a return.

## 7. Muscles:



## 8. Bones:



## 9. Components of fitness:

**CO-ORDINATION** - The ability to use different (two or more) parts of the body together smoothly and efficiently

**REACTION TIME** - The time taken to initiate a response to a stimulus

# 7.1 New Beginnings Knowledge Organiser



## Key words:

1. Benedictine	A type (or "Order") of religious community, dedicated to God as Monks
2. Convict	A person who has been found guilty and imprisoned for a crime
3. Evangelization	Spreading the faith in Jesus as the Son of God
4. Worship	Different ways in which people communicate, praise and thank God
5. Compassion	An action or feeling that shows love, to help someone who is in need
6. Religious Experience	Different ways in which people gain an understanding of who God is
7. Identity	The specific characteristics we have that make us unique individuals
8. Co operation	When two or more people work together for a common goal

## 9. Mission Statement

See Keyword #7 #5

Our Mission is to be an **active Christian community of love and service**,

Where **all** feel they **belong** and are **valued**.

We will **help each other** to recognise the **gifts of God** within us,

To **search for excellence** and to foster the development of our **true self**.



**11. School Motto**  
Soli Dei- "For God Alone"

## 12. Parable of the lost sheep –



A shepherd leaves his 99 sheep to look for the one who is lost.

God will always go out searching for us no matter how big our mistakes are. We will search and look out for each other in our community

See Keyword #5

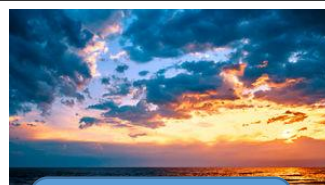
## 13. Ullathorne's early life

Ullathorne grew up in Yorkshire before joining the Merchant Navy instead of joining the family business.



## 14. Numinous

Ullathorne was inspired by the beauty of creation, and lead him to reflect on a power greater than himself



See Keyword #4

## 15. Conversion

Ullathorne entered a church in Riga where he felt God Calling him to faith.



See Keyword #6

## 10. School Prayer

God has created me to do Him some **definite service**.

He has committed some work to me, which He has not committed to another.

**I am a link in a chain**, a bond of connection between people.

He has **not created me for nothing**.

**I shall do good**.

I shall do His work.

God our Father,

Give us the strength and courage to be our true self.

We make this prayer through Christ our Lord.

AMEN

See Keyword #8

**16. 1 Timothy 4:12** tells us: "Don't let people look down on you because you are young, but be an example to them in your speech, conduct, faith and love."

## 17. Religious Order



Ullathorne joins the Benedictine Order of Monks at Downside Abbey, where he also becomes a priest

See Keyword #1

## 18. Ullathorne in Australia

Ullathorne expands the Church in Australia, building New churches and defending the rights of the most Vulnerable, including prisoners.



See Keyword #3

## 19. Norfolk Island



Inspired by the Parable of the Sheep and Goats, Ullathorne Regularly visits, says Mass and hears prisoners confessions

See Keyword #2 #5

## 20. Ullathorne in Coventry

Ullathorne works with Margaret Hallahan to set up orphanages and hospitals. He also works with Pugin to build St Osburgs in Coventry.



See Keyword #8 #5

Previously it had been illegal to practice being a Catholic so there were not many in Coventry at the time

## 21. Birmingham Diocese

Ullathorne became the first Bishop of Birmingham and worked Closely with John Henry Newman to establish the Catholic Community here.



## 23. TAKE IT FURTHER...

Ullathorne experienced God through nature; how can creation teach us about/ help us to experience God?

The Benedictines believe in the right use of language; How can we put that into practice at school/ online?

Ullathorne served those most despised by society; what can this teach us about the Lost sheep and how we act towards those in our community?

Ullathorne defended the rights of women and native Australians; how can that teach us to defend the rights of others?

## 22. Prayer

See Keyword #4

Ullathorne's prayer life was very different to ours and he thought the use of art and music should only be used when it helps us pray to God

## 24. Think About...

How do our building, mission statement and Ullathorne way link?  
What can we learn from William Ullathorne?  
Can you see our values in how he lived?  
Why is our community so unique and important?



You should be aiming for these **skills** on every assessment **page**

Knowledge and understanding skills	S	Show <b>Knowledge</b> and <b>understanding</b> of facts/ information/ points of view through detailed explanations and development
	K	
	I	<b>Influence</b> on actions or belief
	L	Lots of <b>Language</b> that is topic specialist and/ or religious in nature
	S	<b>Sources</b> of wisdom/ authority
Evaluative skills	P	<b>Points of view</b> and alternative reasons
	A	<b>Analysis</b> (detailed explanation of features and key points of arguments)
	G	Good <b>Judgements</b> made on what the answer to the question is
	E	<b>Evaluation</b> of which points are more convincing







CREATION AND COVENANT

Knowledge organiser

Key vocabulary	
God	The one supreme being, who creates and sustains everything.
revelation	The way in which God is made known to humans, which Catholics believe is most perfectly done through Jesus.
literal sense	The meaning of the text as the author intended it to be; this is different to reading a passage literally which means accepting it as word-for-word truth.
literary form	The style of writing used, for example a letter or a poem.
creation	The act of bringing something into existence; or the universe and everything in it (which Catholics believe God created).
creationism	The belief that the Bible accounts of creation are literally true.
scientism	The belief that science can provide all of the answers in life.
prayer	The way in which humans communicate with God.
stewardship	The duty to care for something. Catholics believe that God gave them the duty to care for the earth and everything in it.

OPTIONS	
Ethical	<b>Sustainable development</b> is trying to live in a way which prevents harm to the environment and prevents the earth's resources running out. Catholics support sustainable development because caring for the environment is part of their duty as stewards of creation.
Lived religion	<b>Sister Dorothy Stang</b> worked to protect the Amazon rainforest and help bring settler farmers together to give them greater power in challenging deforestation. She did this because she believed that God gave all humans the duty to be stewards of creation.
Artistic expression	Art is often used in religion to express complicated beliefs. For example, <b>Donald Jackson's Genesis Frontispiece</b> , from the St John's Bible, shows the first creation story. Each column in the artwork illustrates one day of creation.

The Bible	
<b>The Bible</b> is the holy book for Christians. It contains God's Word.	
<ul style="list-style-type: none"><li><b>The Old Testament</b> is the part of the Bible written before Jesus' life, and contains the history and faith of the Jewish people..</li></ul>	 <ul style="list-style-type: none"><li><b>The New Testament</b> is the part of the Bible written after Jesus' life, and contains accounts of the life, death and resurrection of Jesus and the early history and faith of the Church.</li></ul>
<ul style="list-style-type: none"><li>For Christians, the Bible is a form of <b>revelation</b> as they believe it is how God speaks to them.</li><li>Catholics believe the Bible is <b>inspired</b>, meaning the Holy Spirit guided human writers to write down the truth from God.</li><li>Most Catholics do not read the Bible literally. Instead they aim to understand the <b>literal sense</b> of the Bible (the message that God wanted to communicate to them).</li></ul>	

Stories from Genesis	
Catholics believe that <b>God created all life</b> and everything that is created comes from God alone.	
<ul style="list-style-type: none"><li>In the <b>first creation story</b> God creates the universe and everything in it over six days; God creates using spoken word; God creates <i>ex nihilo</i> (out of nothing).</li><li>This story teaches that <b>God is eternal</b> (exists beyond time and has no beginning or end); <b>transcendent</b> (outside of space and time); and <b>omnipotent</b> (all powerful).</li><li>It teaches that <b>creation is good</b>.</li><li>It teaches that <b>humans are created imago Dei</b>; they have a responsibility to be <b>stewards</b> of creation; they have been <b>created good</b>.</li><li>Catholics interpret this as a symbolic story to help answer the questions '<i>Where did the world and everything in it come from?</i>' and '<i>Why are we here?</i>'</li></ul>	 <ul style="list-style-type: none"><li>In the <b>second creation story</b> God orders chaos and creates harmony; man is created by God from the earth and God breathes life into him; woman is created by God from man's rib.</li><li>This story teaches that <b>God is immanent</b> (close to humans and acting in the world).</li><li>It teaches that <b>creation is lovingly made for humans</b> to live together in a relationship with the world and with each other.</li><li>It teaches that humans have a responsibility to be <b>stewards</b> of creation.</li><li>Catholics interpret this as a symbolic story to help answer the question '<i>What is our purpose?</i>'</li></ul>

Scientific theories about creation	
<ul style="list-style-type: none"><li>The <b>Big Bang theory</b> says that the universe began around 15 billion years ago from a hot, dense point of energy.</li></ul>	<ul style="list-style-type: none"><li>The <b>theory of evolution</b> suggests that all living things change over many generations to suit their environment, and that this happens because of natural selection.</li></ul>
Most Catholics are not creationists. Instead they believe there is no conflict between science and religion since <b>science tells us how</b> life exists and <b>religion tells us why</b> life exists.	

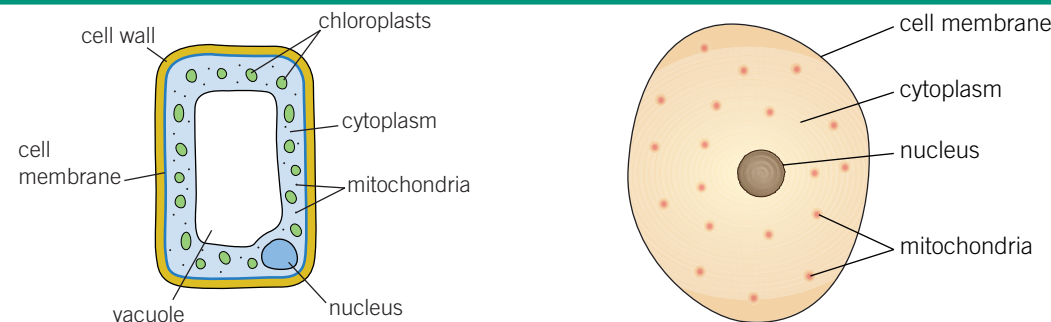
How do teachings about God's role in creation impact Catholics today?	
<ul style="list-style-type: none"><li>The Catholic Church teaches that we should try to reduce human suffering and increase cooperation and friendship between all people (<b>Catholic Social Teaching</b>).</li><li>The four core principles of Catholic Social Teaching are: the dignity of the human person, the common good, subsidiarity, and solidarity.</li></ul>	
<ul style="list-style-type: none"><li>Catholics believe they have a duty to care for the world and everything in it (<b>stewardship</b>).</li><li>Pope Francis describes stewardship as responding to 'the cry of the earth and the cry of the poor' (<i>Laudato si'</i>).</li></ul>	
<ul style="list-style-type: none"><li><b>Prayer</b> is the way in which people communicate with God. It is a response to God's <b>revelation</b>.</li><li>When Catholics pray, they lift their hearts and minds to God. It is a way of walking with God throughout their lives.</li></ul>	



All living things (organisms), are made of **cells**. Some are only made of a single cell, for example, bacteria. A person is made up of millions of cells joined together.

### Plant and animal cells

Cells have smaller structures inside them, called components, that each have an important function.



### Specialised cells

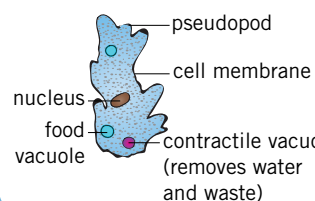
Specialised cells have special features that allow them to do a specific job or function:

	Cell type	Function	Special features	Diagram
plant cells	root hair cell	absorb water and nutrients from soil	<ul style="list-style-type: none"> <li>root hair creates a large surface area</li> <li>no chloroplasts as no light underground</li> </ul>	
	leaf cell (palisade cell)	carry out photosynthesis	<ul style="list-style-type: none"> <li>found at the top surface of leaves</li> <li>packed with chloroplasts</li> <li>thin with a large surface area to absorb more light</li> </ul>	
animal cells	red blood cell	transport oxygen around the body	<ul style="list-style-type: none"> <li>contain haemoglobin which joins to oxygen</li> <li>no nucleus</li> <li>disc shaped to increase surface area</li> </ul>	
	nerve cell (neurone)	carry electrical impulses around the body	<ul style="list-style-type: none"> <li>long and thin with connections at each end</li> </ul>	
	sperm cell	carry male genetic material	<ul style="list-style-type: none"> <li>streamlined head and a long tail</li> <li>lots of mitochondria to transfer energy</li> </ul>	

### Unicellular organisms

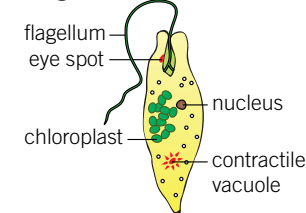
A **unicellular** organism only consists of one cell. They have no fixed shape and are adapted to carry out many different functions.

#### Amoeba



- nucleus controls growth and reproduction
- move by moving part of their body and the rest follows slowly in the same direction
- eat bacteria, algae, and plant cells by engulfing them
- reproduce by splitting in half (binary fission)

#### Euglena



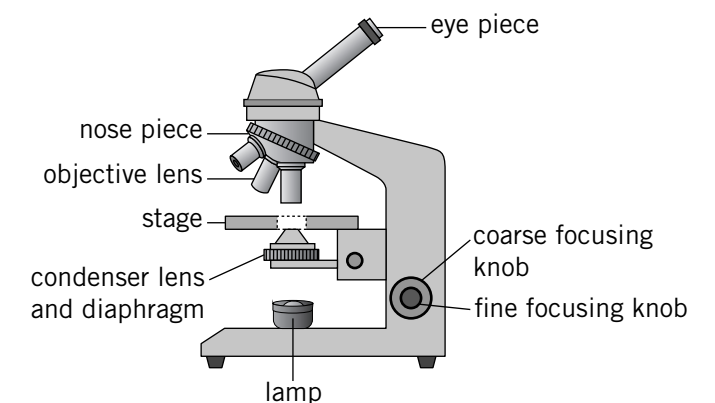
- microscopic organism found in fresh water
- contain chloroplasts and make their own food by photosynthesis
- eye spot that detects light
- flagellum allows the *Euglena* to move towards the light to make more food

### Microscopes

Cells can only be seen under a microscope. A microscope magnifies an object using lenses.

#### Remember that:

- the specimen needs to be thin so light can pass through
- a dye can be added to make the object easier to see.



#### Using a microscope

- 1 Move the stage to its lowest position.
- 2 Place the slide/object on the stage.
- 3 Choose the objective lens with the lowest magnification.
- 4 Look through the eyepiece and turn the coarse-focus knob slowly until you see the object.
- 5 Turn the fine focus knob until it comes into focus.
- 6 Repeat steps 1–5 using a higher magnification lens.

### Movement in and out of cells

Particles move in and out of cells by **diffusion**.

During diffusion, particles spread out from where they are in **high concentration** to where they are in **low** concentration.

Glucose and oxygen move from the blood **into** cells by diffusion.  
Carbon dioxide moves **out of** cells to the blood by diffusion.

### Key words

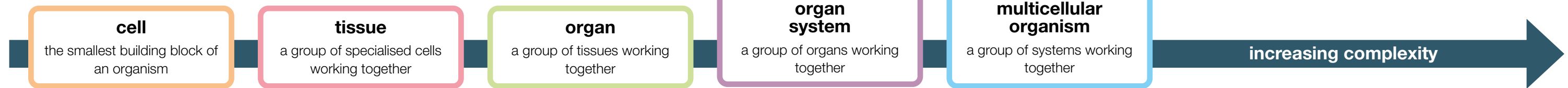
Make sure you can write a definition for these key terms.

amoeba binary fission cell cell membrane cell wall chloroplast concentration cytoplasm diffusion Euglena flagellum leaf cell microscope mitochondria nerve cell nucleus  
red blood cell root hair cell specialised cell sperm cell unicellular vacuole

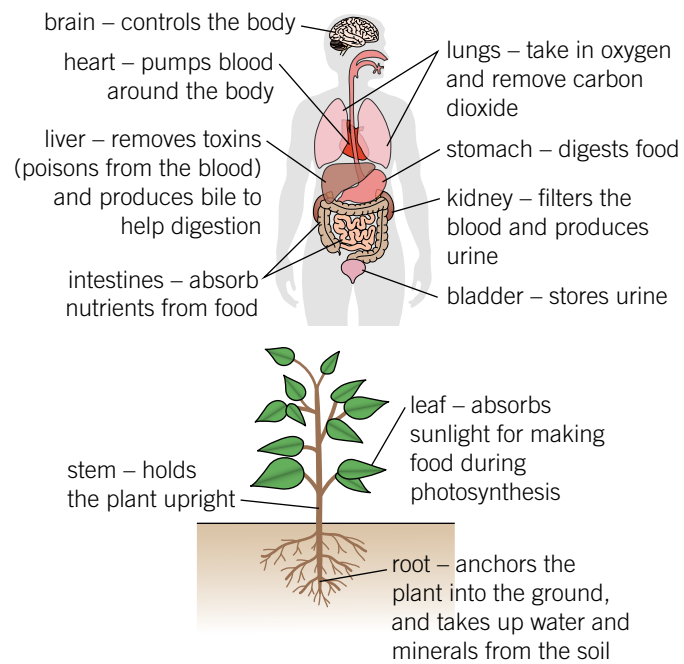
# B1 Chapter 2: Structure and function of body systems

## Knowledge organiser

**Multicellular** organisms are made up of many cells and have five levels of organisation:



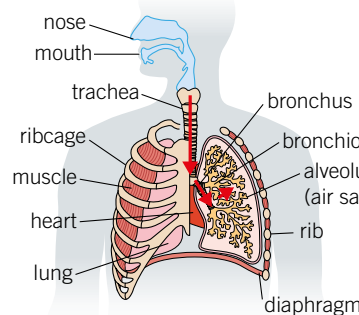
### Plant and animal organs



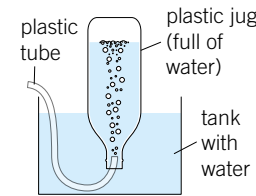
### Respiratory system

The respiratory system is involved in:

- breathing in oxygen (for **respiration**)
- breathing out waste carbon dioxide.



#### Measuring lung volume



When you breathe out fully into the plastic tube, air from your lungs pushes water out of the bottle.

**volume of air in the plastic bottle**

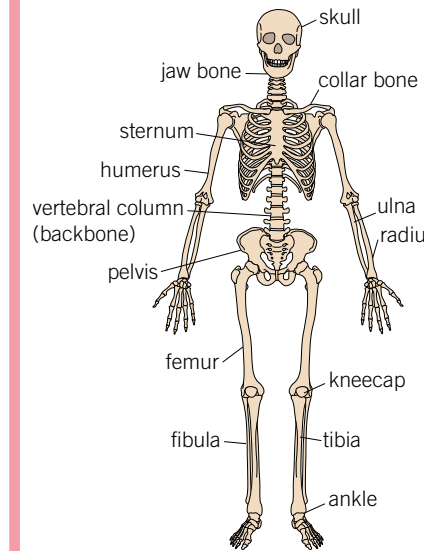
**=**  
**lung volume**

### Skeleton

All the bones in your body make up your skeleton.

The four main functions of the **skeleton** are to:

- support the body
- help the body move
- make blood cells (in the **bone marrow**).
- protect vital organs



**Joints** occur between two or more bones. They allow the skeleton to bend.

Three types of joint are:

- Hinge joints**  
forwards/backwards movements only, e.g., knees
- Ball-and-socket joints**  
movement in all directions, e.g., shoulders
- Fixed joints**  
no movement allowed, e.g., the skull

In a joint:

- your bone is protected with **cartilage**
- the two bones are held together by **ligaments**.

### What happens when we breathe?

<b>When you breathe in (inhale)</b> <ul style="list-style-type: none"> <li>muscles between ribs contract</li> <li>ribs are pulled up and out</li> <li>diaphragm contracts and flattens</li> <li>volume of the chest increases</li> <li>pressure inside the chest decreases</li> <li>air rushes into the lungs</li> </ul>	<b>composition of inhaled air:</b> <ul style="list-style-type: none"> <li>oxygen, O<sub>2</sub>: 20.96%</li> <li>carbon dioxide, CO<sub>2</sub>: 0.04%</li> <li>nitrogen, N<sub>2</sub>: 79.00%</li> </ul>
<b>When you breathe out (exhale)</b> <ul style="list-style-type: none"> <li>muscles between ribs relax</li> <li>ribs are pulled in and down</li> <li>diaphragm relaxes and moves up</li> <li>volume in the chest decreases</li> <li>pressure inside the chest increases</li> <li>air is forced out of the lungs</li> </ul>	<b>composition of exhaled air:</b> <ul style="list-style-type: none"> <li>oxygen, O<sub>2</sub>: 16.00%</li> <li>carbon dioxide, CO<sub>2</sub>: 4.00%</li> <li>nitrogen, N<sub>2</sub>: 79.00%</li> </ul>

### Muscles

Muscles are a type of tissue – lots of muscle cells work together to cause movement.

Types of muscle include:

- cardiac (heart) muscle**
- smooth muscle**
- skeletal muscle**

Muscles are attached to bones by **tendons**.

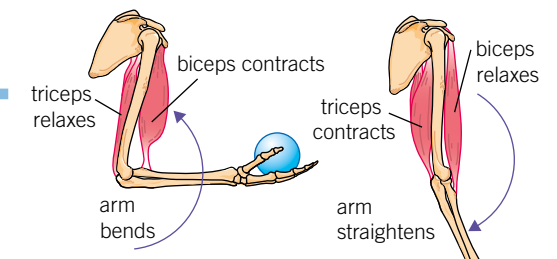
Muscles produce movement by **contracting** (getting shorter).

If a muscle contracts it pulls the bone, causing it to move.

#### Antagonistic muscles

Pairs of muscles that work together are called **antagonistic** muscles. When one contracts the other relaxes.

For example, *biceps* and *triceps* work together to bend and straighten the forearm.

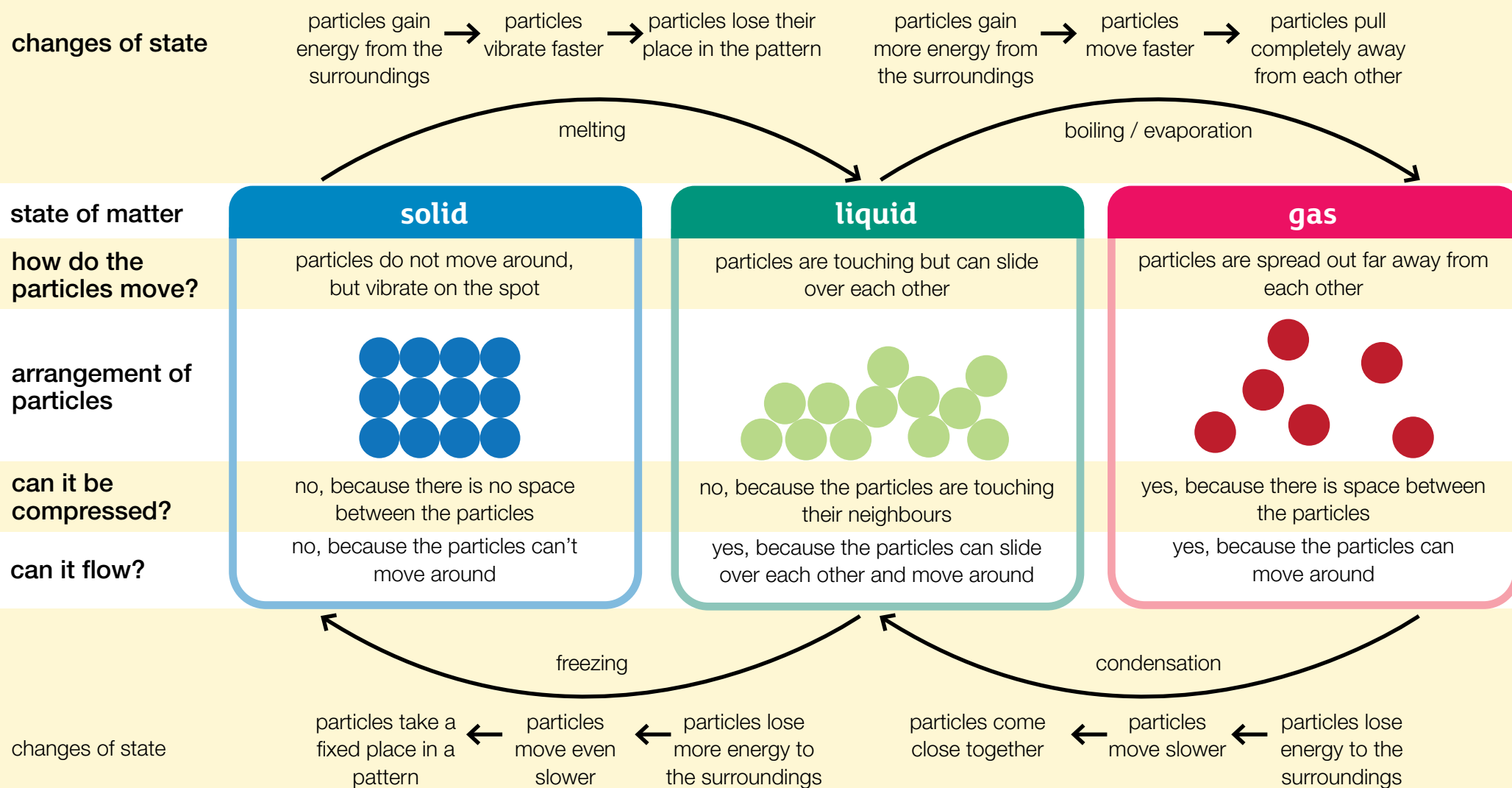


### Key words

Make sure you can write a definition for these key terms.

alveolus   antagonistic   bone   bone marrow   cell   contract   cartilage   diaphragm   exhale   inhale   joint   ligament   lung   multicellular   organ   organ system  
respiration   respiratory system   ribcage   skeleton   tendon   tissue   trachea   volume





### Sublimation

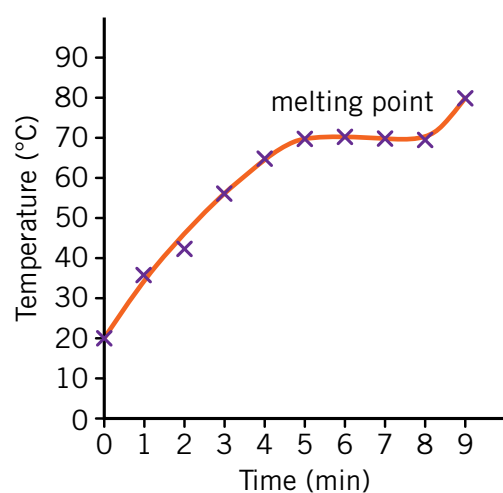
Some substances do not exist as liquids, but instead directly change state from solid to gas in a process called sublimation.

### Melting and boiling points

**Melting point** — the temperature at which a **substance** melts

**Boiling point** — the temperature at which a substance boils

If you heat a **solid** and plot a graph of temperature against time the melting point will appear as a flat line if the substance is **pure** (has only one type of particle).



### Diffusion

Particles move about randomly in liquids and gases and spread out through **mixtures**. This process is called diffusion. How quickly diffusion happens depends upon three variables:

Variable	Effect on diffusion
temperature	diffusion is faster at higher temperatures <i>because</i> particles move faster when hotter
particle size	diffusion is slower with larger, heavier particles
state of matter	diffusion is: <ul style="list-style-type: none"> <li>• fast in gases</li> <li>• slow in liquids</li> <li>• doesn't happen in solids</li> </ul>

### Gas pressure

#### Density

Density tells us how heavy something is for its size. You can calculate density using the formula:  $\text{density} = \text{mass} / \text{volume}$

Mass is the amount of 'stuff' an object is made of, measured in grams or kilograms.

Volume is the amount of space an object takes up, measured in  $\text{cm}^3$ .

Density of a substance depends on:

- the mass of the particles
- how closely together the particles are arranged.

A substance is most dense as a solid, as the particles are closely packed together, and least dense as a gas, as the particles are spread far apart.

#### Particle model and properties

The properties of a substance depend on:

- 1 the shape and size of its particles
- 2 the arrangement of its particles
- 3 how its particles move
- 4 how strong the forces between its particles are.

### Key words

Make sure you can write a definition for these key terms.

boiling   boiling point   change of state   condensation   diffusion   evaporation   freezing   gas   liquid   melting   mixture  
particle   solid   state of matter   sublimation   substance





# P1 Chapter 1: Forces

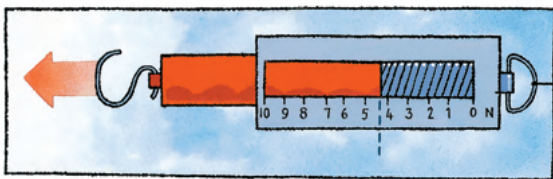
## Knowledge organiser

### What are forces?

A **force** can be a *push* or a *pull*.

Forces can be measured using a **newtonmeter**.

Forces are measured in **newtons (N)**.



**Contact forces** occur when objects are touching, for example:

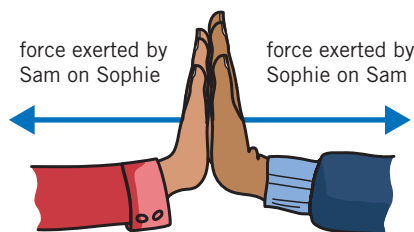
- **friction**
- **drag forces** (**air resistance** and **water resistance**)
- support forces (e.g., **reaction forces**)

**Non-contact forces** work at a distance, for example:

- **gravity**
- **magnetic force**
- **electrostatic force**

Forces always occur in pairs.

The pairs are called **interaction pairs**.



### Balanced and unbalanced forces

When the forces acting on an object are the same size, but act in opposite directions, we say that they are **balanced**.

The balanced forces cancel out, and the object is in **equilibrium**.



If the forces are not the same size, and do not cancel each other out, we say they are **unbalanced**.

The larger the difference between unbalanced forces, the quicker the object will change speed.



### Drag forces and friction

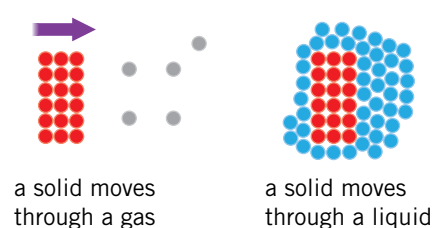
Friction is a contact force that occurs when two objects move against each other. It happens because all surfaces have some roughness – even ones that look smooth.

Friction can be reduced by adding **lubrication** (e.g., oil or grease).

Friction is often useful, for example:

- you need friction to walk across surfaces
- the brakes on a bike need friction to work.

A solid moving through a liquid or a gas has to push the liquid or gas particles out of the way. This produces a drag force on the solid object.



Water resistance and air resistance are drag forces.

Drag forces can be useful if we need to slow something down, for example, by using parachutes.

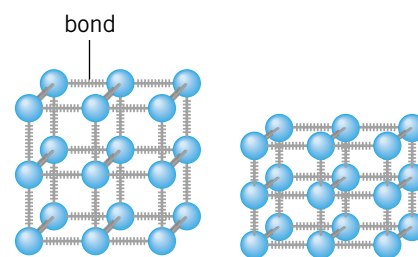
Making an object more **streamlined** will reduce the drag forces on it.

### Reaction forces

When you stand on the floor:

- your weight pushes the particles in the floor together
- the bonds between the particles are **compressed**
- the compressed particles push back and support you.

A support force that balances the weight of an object is called the reaction force or the normal force. **Upthrust** is another example of a support force.



### Fields and non-contact forces

In physics, a **field** is a special region where certain objects experience a non-contact force. For example, when

- a mass experiences a force in a gravitational field
- a magnetic material (like iron) experiences a force in a magnetic field
- a charged object experiences a force in an electrostatic field.

As you get further away from a mass, a magnet, or a charged object, the field gets weaker.

### Weight and mass

**Mass** is the amount of 'stuff' something is made of – it is measured in kilograms (kg).

**Weight** is a force so it is measured in newtons.

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

The **gravitational field strength** on Earth is about 10N/kg.

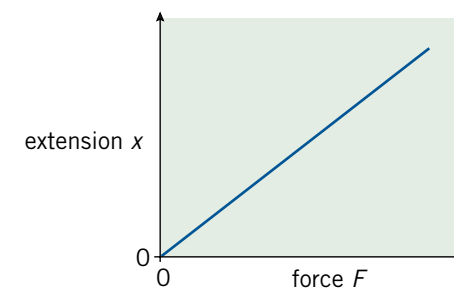
Your weight depends on the gravitational field strength but your mass is the same everywhere.

### Hooke's law

Some objects – like springs – can be **stretched** when pulled. The amount they stretch by is called the **extension**.

A force called **tension** makes a spring return to its original length (unless it has gone beyond its **elastic limit**).

**Hooke's law** states that the extension of a spring doubles when you double the force. This means there is a **linear** relationship between force and extension.



### Key words

Make sure you can write a definition for these key terms.

air resistance	balanced	compress	contact force	drag force	elastic limit	electrostatic force	equilibrium	extension	field	friction
gravitational field strength		gravity	Hooke's law	interaction pair	linear	lubrication	mass	newton	newtonmeter	non-contact force
reaction force	stretch	streamlined	tension	unbalanced	upthrust	water resistance	weight			

