



# ALL SAINTS'

CATHOLIC VOLUNTARY ACADEMY

## Year 7 Absolutes



Opportunity . Achievement . Success



# Term 2

NAME:

FORM:



Weeks 1-2

"How to hold your pencil"  
by Paul Priestley

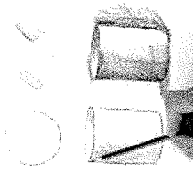
<https://www.youtube.com/watch?v=OezMaVbqWXc>



# Art & Design Knowledge Organiser - 1

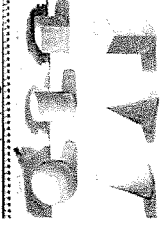
## The Key Knowledge You Need To Know After This Video:

1. How to hold your pencil like an artist- PRACTICE THIS!
2. How to draw different types of **line** - PRACTICE THIS!
3. How to draw different **shapes** - PRACTICE THIS!
4. How holding your pencil effects your **shading** - PRACTICE THIS!
5. Shading to create **edges** to eliminate **artlines** - PRACTICE THIS!



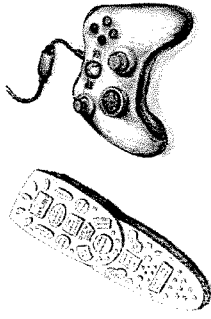
## Practice & Develop Your Skills Further:

Look around your house and your bedroom, look carefully can you find and draw 10 different shapes?  
Can you push yourself and try making some of the shapes look more three dimensional by trying to shade them?



## Challenge Yourself:

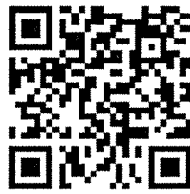
Can you draw a TV remote control including all the different shaped buttons OR what about a games console controller and all of it's buttons?



Weeks 3-4

"How to shade with a pencil for beginners"  
by RapidFireArt

<https://www.youtube.com/watch?v=-WR-FYUQc6I>



## The Key Knowledge You Need To Know After This Video:

1. What happens when you add **light** and **shadows** to your drawings?  
You can make your subject come to life by creating the illusion of **form** and **depth** - PRACTICE THIS!
2. What three things will you need to practice to be able to shade better?  
**Pressure**, control, how to shade **smoothly** and understand how light behaves - PRACTICE THIS!
3. What happens when you press down hard on the pencil?  
The darker the **strokes** - PRACTICE THIS!
4. What do you need to eliminate in order to shade smoothly?  
Big messy gaps - Stokes close together - PRACTICE THIS!
5. Does how you hold your pencil make a difference to how well you can shade?  
Wear the pencil down, use the side of the lead to draw. Avoid using your writing grip. - PRACTICE THIS!
6. What are the two types of light that will effect an objects **shadows**?  
**Direct** and **reflected** light.
7. What is an **Occlusion** shadow?  
A tight space where two objects meet.
8. What is a **cast** shadow?  
This appears when a form blocks the light.
9. What is the brightest part on an object?  
The **highlight**.



## Practice & Develop Your Skills Further:

Place a piece of plain white paper down on a table and then grab a table spoon. Place it on top of the paper in the middle. Use your mobile phone light and shine it onto the spoon so it casts a shadow onto the paper. Then try moving the light source around look carefully and notice what happens to the shadows and the highlights. Can you Draw the spoon, shade it to show its shadows and its highlights?



## Challenge Yourself:

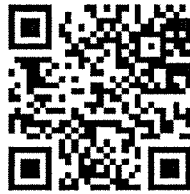
Can you teach someone else how to shade? Be the teacher show off your skills and pass on your knowledge to ANY ONE in your family? Remember a good teacher thinks about what problems and mistakes someone might make first and then helps them by passing tips and advice - What are your tips?



Weeks 5-6

"Who was Vincent van Gogh?"  
by Van Gogh Museum

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



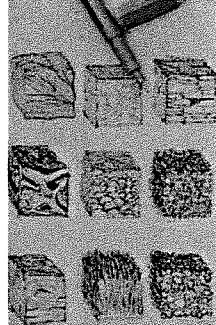
## The Key Knowledge You Need To Know After This Video:

1. What age did he grow up in? & What did this mean he could do?  
The Age of the steam train, meaning he could travel to different countries.
2. What did he enjoy to draw and paint the most?  
Everyday and real life people.
3. Why didn't people like his painting **The Potato Eaters**?  
The woman's nose.
5. Where did he go to live? & What happened when he lived there?  
Paris. He learnt a lot from other artist. Bright colours.
6. Why did he move and where to next? What happened to his **painting style** as a result?  
Paris became too busy and nobody wanted to buy his paintings. Moved to Arles in the south of France. Painted the **colours** of the sun, night and the sea.
7. How did he want to paint life?  
They way he saw it and felt it.
8. Why was he unhappy?  
Arguments about art work, became ill and confused. Cut off his ear. Went to hospital. Moved to the countryside near Paris once better but still wasn't happy and his troubles came back.



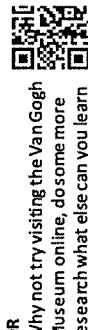
## Practice & Develop Your Skills Further:

Look around your house and your bedroom, look carefully can you find and draw 3 different textures? You can try out different materials: Pencils, Biro's, Felt Tips, Pencil Crayons what ever you have.



## Challenge Yourself:

Have you got a bit of pocket money this week? Saved some Birthday money? Why not treat yourself to some art materials and start to build up your own selection of materials for home. BUY YOURSELF some of pastels and have a go at creating something with them.



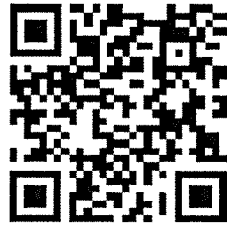
OR  
Why not try visiting the Van Gogh Museum online, do some more research what else can you learn about him and his art work?  
<https://www.vangoghmuseum.nl/n>

Weeks 7-8

“Colour Theory Basics”

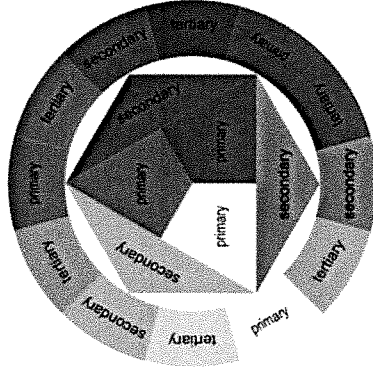
by Simple Art Tips

[https://www.youtube.com/watch?v=L1CK9bE3H\\_s](https://www.youtube.com/watch?v=L1CK9bE3H_s)



The Key Knowledge You Need To Know After This Video:

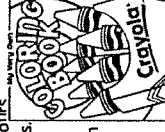
1. What is a **hue**?  
The name of a colour.
2. What is **value**?  
The lightness or darkness of a colour.
3. What is a **shade**?  
A value created by adding black.
4. What is a **tint**?  
A value created by adding white.
5. What is a **tone**?  
A hue created by adding grey.
6. What are the **warm** colours? What **effects** do they have on the **mood** of a painting?  
Reds, Oranges and Yellows – Happy or Warm.
7. What are the **cool** colours? What effect do they have on the mood of the painting?  
Blues, Purples and Green – Sad, Dark, Depressed and Cold.
8. What are **complementary** colours?  
They are colours that sit opposite each other on the colour wheel.



Practice & Develop Your Skills Further:

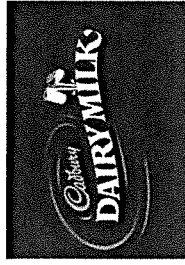
Have you got a bit of pocket money? Why not treat yourself to some art materials and start to build up your own selection of materials for home. **BUY YOURSELF** a set of cheap paints and have a go at creating something with them. You could try painting a page from a colouring book and practice your painting skills:

- Mixing up different colours.
- Painting inside the lines.
- Blending different colours together.
- Control and application of the paint.
- Keeping a tidy pallet, washing up.

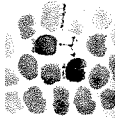


Challenge Yourself:

Can you make the Cadbury's purple?



I'm sure you don't need an excuse to gobble some chocolate, but get a wrapper in front of you from a dairy milk bar. Try and mix and make that **PURPLE**. Make sure you log all your different attempts on a scrap piece of paper – This is called a **swatch**.

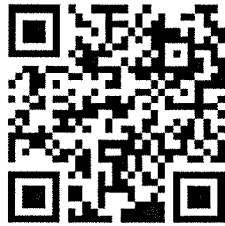


Weeks 9-10

“Composition Explained”

by Art with Flo

<https://www.youtube.com/watch?v=VwUZ3PivD6I>



The Key Knowledge You Need To Know After This Video:

1. What is **composition**?
- The way the **visual elements** within art work are **arranged**.
2. What can composition help to do?  
Tells a story, Give a message, Add excitement alter the mood.
3. What makes a good composition?  
A pleasing arrangement of **shapes, colours, and values**.
4. What is the **focal point**?
- The **main subject** of your piece art, the **point** that the **viewer** looks at first
5. What happens to the mood when their is an **unbalanced** composition?  
Cause a sense of tension.
6. What three things do you use to direct the viewers eyes to your compositions focal point?  
**Contrast**, faces and **guiding lines**.
7. What can happen if you use too many focal points in piece of art work?  
Loose **impact**, and confuse the viewer.

Practice & Develop Your Skills Further:

- Place a piece of plain white paper down on a table and then grab five different small toys from your bedroom. Place and **arrange** them on top of the paper in the middle. Try drawing your arrangement from different angles:
- Sitting down facing the **“still life.”**  
This is the name artists give to a group of objects that are in front of them that they wish to draw and do not move and stay still.
  - Try standing up and looking at the still life from above like a bird would flying over it – **Bird's eye view**.
  - Rest your chin on the table and try to drawing from this **angle – Worm's eye view**.

Challenge Yourself:

Research on the internet and try and find some famous painting that you like where the artist has use the following composition techniques:

- Rule of thirds**,
- golden ratio**,
- centred composition**,
- Symmetry**,
- golden triangle**,

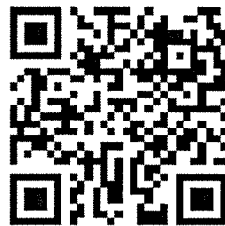
You could put together a power point on each painting and try and find out as much as possible about the artist that painted it.



Weeks 11-12

The Formal Elements by: School of Yule

<https://www.youtube.com/watch?v=PZV-EdfIoWs>



The Key Knowledge You Need To Know After This Video:

1. **Colour**: The various ways **light reflects** of things and can be **interpreted** by the eye.
2. **Pattern**: A **repeated design**, it can be **man made** or **natural**.
3. **Line**: Is the path left by a moving point.
4. **Texture**: The way something feels or looks like it **feels**.
5. **Tone**: The change from light to dark it can be used to reveal form.
6. **Shape**: An area enclosed by a line.
7. **Form**: A **three dimensional** shape.

Practice & Develop Your Skills Further:

Make a revision flash card on the formal elements because **EVERY** artist **MUST** **KNOW** what each formal element is and **WHY** it is important. Get your family and friends to test you.

<https://www.youtube.com/watch?v=VGYQ98aACU4>

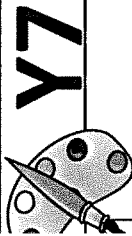
“Make your own flash cards” by Paula Humanatomy



Challenge Yourself:

Get a member of your family to tell you which their favoured piece of art is from all time. Then google it. Research it find out all about it, then print off a picture of it and stick it down in the middle of a piece of plain white paper. Can you label all the different **FORMAL ELEMENTS** in the piece of art work? Can you explain how the artist has used them? Go back and show your family what you found out about the art work and explain the formal elements to them.

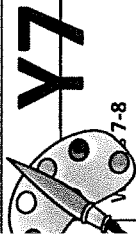
**IMPRESS THEM** with all your Art knowledge



# Art & Design Knowledge Organiser - 3

<p><b>Weeks 7-8</b></p> <p>“Leonardo da Vinci for Children: Biography for Kids” by FreeSchool</p> <p><a href="https://www.youtube.com/watch?v=Rm0asZPJnc8">https://www.youtube.com/watch?v=Rm0asZPJnc8</a></p>		<p><b>The Key Knowledge You Need To Know After This Video:</b></p> <ol style="list-style-type: none"> <li>1. Who was he born? 1452.</li> <li>2. Apart from being a painter what is he also known as a scientist / Mathematician / Engineer / Inventor / Sculpture / Architect / Botanist / Musician / Writer</li> <li>3. What <b>art movement</b> did he live and <b>The Renaissance</b>.</li> <li>4. What did he spend along time studying? The human body.</li> <li>5. What did he want to be able to do throughout all his life? For a person to be able to fly.</li> <li>6. When was his famous painting <b>The Last Supper</b> painted? 1494.-98</li> <li>7. When did he paint <b>The Mona Lisa</b>? 1503-14.</li> </ol> 	<p><b>Practice &amp; Develop Your Skills Further:</b> De Vinci was not just an artist he was an <b>inventor</b>. Can you invent a new crazy wacky futuristic machine? Time to get creative, first make some <b>“antique”</b> looking old paper. <a href="https://www.youtube.com/watch?v=7-kz-c8W0fIk">https://www.youtube.com/watch?v=7-kz-c8W0fIk</a></p> <p>“How to Tea Stain Paper - Easy DIY Tutorial” by Beckys crafts and goodies</p>  <p>Then you can draw your invention on top and pretend it's a long lost De Vinci don't forget to add labels and notes to explain your ideas further.</p>	<p><b>Challenge Yourself:</b> What is an Art Movement? Can you find out? What was The Renaissance? Can you find out? What is your favourite type of Art or Art movement? Can you find out more about it? <a href="https://www.youtube.com/watch?v=dx11nolNA">https://www.youtube.com/watch?v=dx11nolNA</a></p> <p>Art Periods and Art Movements   Little Art Talks by Little Art Talks</p> 
<p><b>Weeks 9-10</b></p> <p>“How to Draw like Leonardo da Vinci: The Warrior” by Circle Line Art school</p> <p><a href="https://www.youtube.com/watch?v=DCRveDixbrs">https://www.youtube.com/watch?v=DCRveDixbrs</a></p>		<p>Follow The Key Steps And Instructions in The video:</p> <p>Watch. Pause. Practice and do. REWIND. Watch again. Pause. Check and Refine. Practice and do.</p> 	<p><b>Practice &amp; Develop Your Skills Further:</b> Copying the work of another artist is something ALL art students do in order to practice and improve, just like an Olympic or sports champion, they didn't become the best by just doing something once, or one hour a week, they put the time effort and practice in. What do you need to practice in order to be a better artist? We would have discussed these in lessons, can you set aside 10mins every other day for two weeks to <b>PRACTICE</b>? <b>Keep a record of your practice and progress, it will help both YOU and OTHERS see how your skills are developing.</b></p>	<p><b>Challenge Yourself:</b> Is there an art <b>technique</b> or skill that you have always wanted to try out and have a go at? What has been stopping you? Why not You Tube and watch a “how to Video” all about it and then have a go! Trying out new things: even making mistakes is also a <b>VERY IMPORTANT</b> part of being a better artist, so just have a go. <a href="http://www.bbc.co.uk/programmes/articles/1nDZ2DqHj2n5Y0Bxw7fHRX/seven-simple-ways-to-boost-your-creativity">www.bbc.co.uk/programmes/articles/1nDZ2DqHj2n5Y0Bxw7fHRX/seven-simple-ways-to-boost-your-creativity</a></p> 
<p><b>Weeks 11-12</b></p> <p>Writing your thoughts and opinions about a painting by Leonardo De Vinci</p> <p>1.VLE 2.Art and Design 3.Y7 4.De Vinci Shaded penal shells Term 2a 5.De Vinci thoughts and opinions</p>		<p><b>Vocab bank to help you talk about his work:</b></p> <p><b>COLOR:</b> blend / soft / tint / translucent / transparent <b>LINE:</b> sweeping/ bold/ confident/ faint/ fluent/ free/strong/ curved/ weight/ contour <b>TEXTURE:</b> crosshatching/ fine/ dashed/ realistic <b>COMPOSITION:</b> positive space/ negative space/ background/ foreground/ layout/ arranged// focal point <b>TYPE OF ART:</b> figurative/ portrait/ religious/ naturalistic/ scientific <b>MEDIUM:</b> drawing/ etching/ sketch/ plan/ idea/ painting/ oil paints <b>FEELING:</b> alive/ atmospheric/ delicate/ disturbing/ sensitive/ enquiring/ disturbing/ dynamic/ inspired</p>	<p><b>Challenge Yourself:</b> Why not try visiting the Leonardo De Vinci <b>Museum</b> online, do some more research what else can you learn about him and his art work? <a href="http://www.museoleonardiano.it/">http://www.museoleonardiano.it/</a></p> 	





# Art & Design Knowledge Organiser - 4

<p><b>Y7</b> 1-7-8</p> <p>"Lui Ferreyra - Synthesis   Recorded in HD" by Procreate <a href="https://www.youtube.com/watch?v=y2kI7Ovfk&amp;list=PL22NIIEc10ci95TBuZM">https://www.youtube.com/watch?v=y2kI7Ovfk&amp;list=PL22NIIEc10ci95TBuZM</a> Y231blU6t-PpP4</p> <p>Writing your thoughts and opinions about a drawing by Lui Ferreyra</p> <ol style="list-style-type: none"> <li>1. VLE</li> <li>2. Art and Design</li> <li>3. Y7</li> <li>4. Lui Ferreyra pencil crayon shell term 2b</li> <li>5. Lui Ferreyra thoughts and opinions</li> </ol>		<p>Vocab bank to help you talk about his work:</p> <p><b>COLOUR:</b> Bright/ Glowing/ Intense/ Luminous/ Deep/ Pale/ Pastel/ Pure/ Soft/ Vibrant/ Warm</p> <p><b>LINE:</b> Angular/ Broken/ Curved/ Weight/ Straight/ Angular/ Bold/ Strong/ Curved/ Crosshatching/ Glaze/ Shiny/ Smooth/ Soft/ Dashed/ Layered</p> <p><b>COMPOSITION:</b> Focus/ Form/ Near/ Perspective/ Plane/ Proportion/ Scale/ Shape/ Near</p> <p><b>TYPE OF ART:</b> Copied/ Abstract/ Exaggerated/ Portrait/ Modern/ Contemporary</p> <p><b>MEDIUM:</b> Drawing/ Sketch/ Line only/ Cross Hatched/ Layered.</p> <p><b>FEELING:</b> Alive/ Atmospheric/ Delicate/ Exciting/ Expressive/ Fresh</p>	<p><b>Practice &amp; Develop Your Skills Further:</b> Lui Ferreyra is a <u>portrait</u> artist. Have a go at drawing a face. Watch this video and follow the Alien's instructions: <a href="https://www.youtube.com/watch?v=311kcVtF0w">https://www.youtube.com/watch?v=311kcVtF0w</a></p> <p>"Learn how to draw portraits - How to draw a face step-by-step - Easy tutorial for kids" by Smile and Learn - English</p>	<p><b>Challenge Yourself:</b> After watch the basic tutorial how about having a go at a more advanced tutorial? <a href="https://www.youtube.com/watch?v=MEBSjYaAY">https://www.youtube.com/watch?v=MEBSjYaAY</a></p> <p>"How to Draw Faces" By RapidFireArt</p>
<p><b>Weeks 9-10</b></p> <p>"How to use coloured pencils! Layering, blending, &amp; more!" by Pencil Stash</p> <p><a href="https://www.youtube.com/watch?v=FBZa4RdBe08">https://www.youtube.com/watch?v=FBZa4RdBe08</a></p>		<p><b>The Key Knowledge You Need To Know After This Video and PRACTICING:</b></p> <ol style="list-style-type: none"> <li>1. What are the 6 things you need to practice in order to use pencil crayons well? Pressure/ Stroke/ Layering/ Blending/ Highlight/ Shadow.</li> <li>2. What kind of coverage do you get with light pressure? Minimal, meaning it leaves lots of white space/gaps.</li> <li>3. What does high pressure/hardest pressure limit you in doing? Layer or blend other colours on top of it.</li> <li>4. How can you hide the strokes? Keeping consistent pressure.</li> <li>5. What are circular strokes useful for? Getting into tight spaces. Interesting texture.</li> <li>6. How can you make colours that you don't have? Layer two colours lightly on top of each other.</li> <li>7. When adding highlights and shadows what is the first thing you decide where your light source is coming from.</li> <li>8. What colours can you add to the darkest shadows? Brown's and black.</li> <li>9. What effects the length of the shadow? The angle of the light.</li> </ol>	<p><b>Practice &amp; Develop Your Skills Further:</b> <b>GO BACK AND LOOK AT THE WORK YOU DID ON TONE FOR WEEKS 1 &amp; 2.</b> Look around your house and your bedroom, look carefully can you find and draw 10 different shapes? Can you push yourself and try making some of the shapes look more three dimensional by trying to shade them? <b>BUT THIS TIME TRY IT USING PENCIL CRAYONS!</b></p>	<p><b>Challenge Yourself:</b> Have you got a bit of pocket money his week? Saved some Birthday money? Why not treat yourself to some art materials and start to build up your own selection of materials for home. <b>BUY YOURSELF some water colour pencil crayons</b> and have a go at creating something with them. <a href="https://www.youtube.com/watch?v=HoHVA9DJ4VA">https://www.youtube.com/watch?v=HoHVA9DJ4VA</a></p> <p>"How To Use Watercolour Pencils   TIPS FOR BEGINNERS   How To For Beginners" by HulloAlice</p>
<p><b>Weeks 11-12</b></p> <p>Practice using pencil crayons homework task.</p> <ol style="list-style-type: none"> <li>1. VLE</li> <li>2. Art and Design</li> <li>3. Y7</li> <li>4. Lui Freya pencil crayon shell term 2b</li> <li>5. Practice using pencil crayons.</li> </ol>		<p><b>Practice &amp; Develop Your Skills Further:</b> Can you not only draw out BUT ALSO colour in making a <b>three-dimensional realistic observational drawing</b> of a can of beans? PRACTICE and put YOUR pencil crayon skills to the test. <a href="https://www.youtube.com/watch?v=Bmb3aZInqLU">https://www.youtube.com/watch?v=Bmb3aZInqLU</a></p> <p>"How I drew a can of beans" By Marcello Barengi</p>	<p><b>Challenge Yourself:</b> Can you teach someone else how to shade using pencil crayons? Be the teacher show off your skills and pass on your knowledge to ANY ONE in your family? Remember a good teacher thinks about what problems and mistakes someone might make first and the helps them by passing tips and advice – What are your tips?</p>	<p><b>Challenge Yourself:</b> After watch the basic tutorial how about having a go at a more advanced tutorial? <a href="https://www.youtube.com/watch?v=MEBSjYaAY">https://www.youtube.com/watch?v=MEBSjYaAY</a></p> <p>"How to Draw Faces" By RapidFireArt</p>

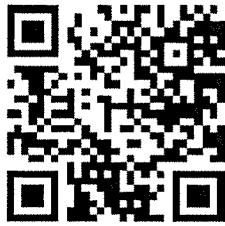
### Weeks 7-8

"Françoise Nielly talks about inspiration, street art & Barack Obama"

by Crannetvart

[https://www.youtube.com/watch?v=6hT\\_13](https://www.youtube.com/watch?v=6hT_13)

XvKo8



### The Key Knowledge You Need To Know After This Video:

1. What did her farther do?  
**Architect.**
2. Why did he **influence** her?  
Taught her about the **function (use)** of **volume** (3d shape).
3. How does she describe the way she paints?  
**Energetic.** Painting is her spine it keeps her upright and alive.
4. Why does she put all her energy into colour?  
She thinks there is something about life that is too hard and too sad.
5. What **effect** does the use of **illuminous** colours give to her paintings?  
Uses them to give **structure** (architecture) to her paintings.
6. What has been another big **influence** on her **style** of art work?  
**Street Art (graffiti).**



**Practice & Develop Your Skills Further:**  
Delve a little bit deeper... What is an Architect? Find out about how you train to become one and how much money you can earn as one.  
There are so many different careers in art and design... look into at least 3 more art related jobs using this website. Write down and record the information.

<https://www.prospects.ac.uk/job-profiles/browse-sector/creative-a-its-and-design>



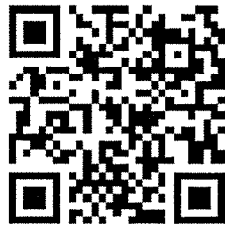
### Weeks 9-10

"How to Create a Françoise Nielly Inspired Portrait"

by Mont Marte Art

<https://www.youtube.com/watch?v=Aptq9V>

Zm8t8



### JUST WATCH And Learn OR You Can Use Any Paints You Have At Home And Follow The Key Steps And Instructions In The video:

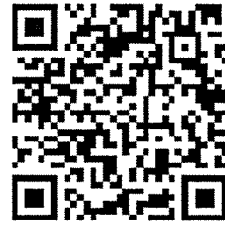


- Watch.
- Pause.
- Practice and do.
- REWIND.
- Watch again.
- Pause.
- Check and Refine.
- Practice and do.

### Weeks 11-12

Writing your thoughts and opinions about a painting by Françoise Nielly

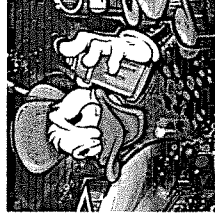
1. VLE
2. Art and Design
3. Y7
4. Françoise Nielly Painted shells term 2a
5. Françoise Nielly thoughts and opinion



### Challenge Yourself:

**Graffiti** – Is it Art or Vandalism? What do you think? Perhaps you can research into the history of Graffiti.

Put together a paragraph which is either for OR against graffiti giving a reasoned argument backed up by the facts and information you have gathered.



### Challenge Yourself:

Can you teach someone else how to paint like Françoise Nielly? Be the teacher show o your skills and pass on your knowledge to ANY ONE in your family? Remember a good teacher thinks about what problems and mistakes someone might make first and the helps them by passing tips and advice – Wh are your tips?

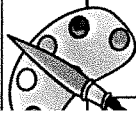


### Challenge Yourself:

Why not try visiting Françoise Nielly's online gallery, do some more research what else can you learn about her and his art work? There is even a section where you can CONTACT HER – Could you write to her and ask her a question about her work?

<https://www.galleries-bartoux.com/en/artist/francoise-nielly/>





# Y7

# Art & Design Knowledge Organiser - 6

**Weeks 7-8**

"Art Techniques:  
Anatol Knotek"

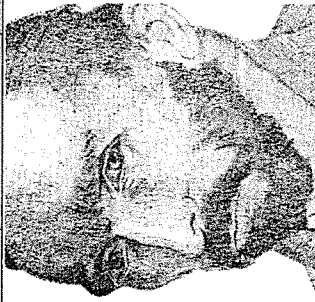
By Outward Academy  
Ormesby

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



NOW visit his website:

[http://www.anatol.cc/anatol\\_en.html#X6\\_EKvpxeUk](http://www.anatol.cc/anatol_en.html#X6_EKvpxeUk)



Do you recognise me?

**Practice & Develop Your Skills Further:**

After visiting his website put together a fact file of information about him on a PowerPoint slide.

- Include:
- When was he born?
- Where is he from?
- Add one example of his textobjects
- Add one example of his textpictures
- Add one example of his concrete poetry
- AND ANY OTHER interesting information you can find out about him.

ONOHW

**Challenge Yourself:**

[http://www.anatol.cc/contact.html#X6\\_HIpxeUk](http://www.anatol.cc/contact.html#X6_HIpxeUk)



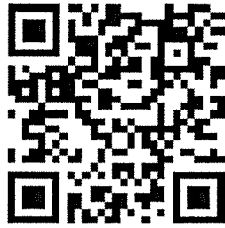
Why not contact him and ask him a question about his art work?

**Weeks 9-10**

"What is  
Crosshatching? - Pen  
and ink drawing for  
beginners"

by Shoo Raynor

<https://www.youtube.com/watch?v=huD94n20iBY>



The Key Knowledge You Need To Know After This Video:

1. What is **hatching**?

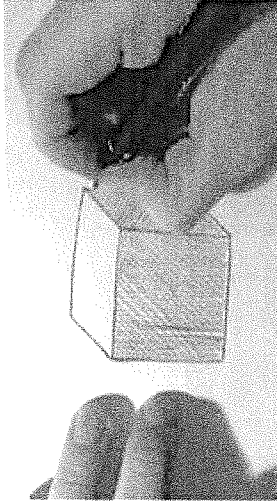
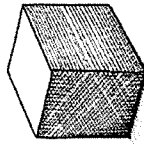
Using lines to trick the eye into seeing tone.

2. What is **cross hatching**?

Adding more layers of lines in different directions

3. What does this do?

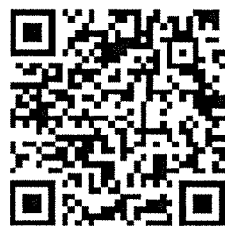
Increases the **tonal value** - making it darker.



**Weeks 11-12**

Writing your thoughts and  
opinions about a painting  
by Anatol Knotek

1. VLE
2. Art and Design
3. Y7
4. Anatol Knotek ink shells term 3b
5. Anatol Knotek thoughts and opinions



Vocab bank to help you talk about his work:

**COLOUR:** bold/ monochrome/ graphic/ primary/highlight/ shadow/ tonal/ value

**LINE:** delicate/ weighty/ loose/ dynamic/ scribbly/ continuous/ dribbles/ controlled/ uncontrolled/ scratchy

**TEXTURE:** dense / value/ layered/ drips/ scratchy/ unfinished/ rough

**COMPOSITION:** focal point/ snap-shot/ close up/ balanced/ layers

**TYPE OF ART:** figurative/ portrait/ graffiti/ modern/ spontaneous

**MEDIUM:** drawing/ sketch/ pen/ text/ ink

**FEELING:** alive / atmospheric/ dynamic/ disturbing/ youthful/ urban/ abstract/ different/ clever/ interesting

**Practice & Develop Your Skills Further:**

Everybody is different. Someone looks at something and interprets it IN THEIR OWN way. That's what's so exciting about talking and looking at different artwork, because not everyone's opinion will be the same, and because everybody likes different things, ART can be a really interesting point of **debate**.

Fold a piece of lined paper in half, on one side write all the positive things (things people LIKE) about Knotek's art BUT on the other side write all the negative things (things people DON'T LIKE), perhaps ask your friends and family to help you add their opinions to your lists too.



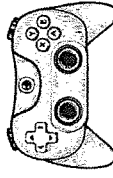
**Practice & Develop Your Skills Further:**

**GO BACK AND LOOK AT THE WORK YOU DID ON TONE FOR WEEKS 1 & 2/ 9 & 10.**

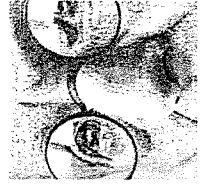
Look around your house and your bedroom, look carefully can you find and draw 10 different shapes?

Can you push yourself and try making some of the shapes look more three dimensional by trying to shade them? **BUT THIS TIME TRY IT USING A BLACK PEN AND CROSS HATCHING!**

**Challenge Yourself:**  
**GO BACK AND LOOK AT THE WORK YOU DID ON TONE FOR WEEKS 1 & 2.**  
Can you draw a TV remote control including all the different shaped buttons OR what about a games console controller and all of it's buttons?  
Can you push yourself and try making them look more three dimensional by trying to shade them?  
**BUT THIS TIME TRY IT USING A BLACK PEN AND CROSS HATCHING!**



**Challenge Yourself:**  
**GO BACK AND LOOK AT THE WORK YOU DID ON PORTRAIT FOR WEEKS 7 & 8.**  
Can you push yourself and try making a portrait of someone in the style of Anatol Knotek? Perhaps you could even incorporate and use words and text that help explain their personality?



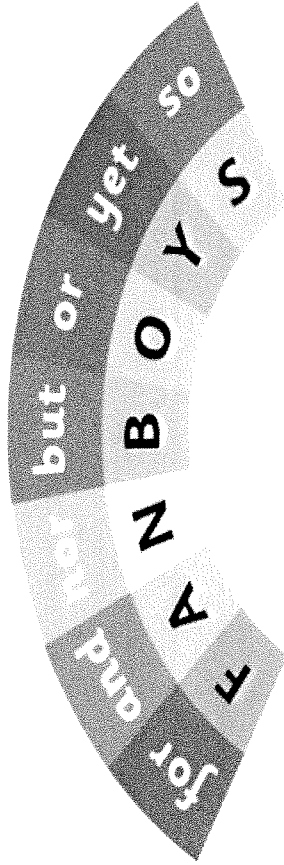
## SPAG Absolute

Word Classes		Punctuation
<b>Proper noun</b>	A naming word - Chris, East Anglia, Nimbus3000 - needs a capital initial letter.	An upper case letter used after a full stop to begin a sentence or to indicate a proper noun.
<b>Concrete Noun</b>	A thing you can see -you can put 'the' or 'a' before a noun e.g. 'the table'.	. Used to mark the end of a sentence.
<b>Abstract Noun</b>	The name of something you can't see e.g. hate/love/creativity/passion. Again, can put 'the' or 'a' in front: The love I feel...	- lists e.g: I bought several things from the shop: books, pens and pencils. - before a <b>FANBOYS conjunction to join two independent clauses in a compound sentence.</b> The cat sat on the mat and the dog barked. - sentences which start with a <b>fronted adverbial (SPACED) starts</b> because it was raining, we ran for cover. - <b>embedded clauses where the clause could be removed</b> The boy, who I disliked intensely, pulled my hair.
<b>Adjective</b>	A word that is used to describe a noun e.g. 'The tall teacher talked to the class.'	: Used to precede lists, expansions or explanations e.g: I bought several things from the shop: books, pens and pencils.
<b>Verb</b>	A word used to describe an action, state or occurrence. What is being done? E.g: hit/jump/feel/believe	; Used to join two related independent clauses e.g: I ate too much pizza; I felt very sick. Also to separate longer items in a list.
<b>Modal verb</b>	Verbs used to express possibility or certainty (may/might/must/will/shall).	Used after an independent clause or parenthetically, instead of commas for an embedded clause. Used to emphasise the clause after the dash. You are late – this is the third time!
<b>Adverb</b>	A word that is used to modify a verb e.g. 'He ran quickly.'	() Used to indicate an afterthought/sarcasm in a lower tone, like an 'aside' to the reader which can be taken out to leave a grammatically complete sentence. The old man (who smelled like cheese) sat next to me on the bus.
<b>Pronoun</b>	A word that can replace a noun: I, you, he, she, it, they, them, we.	! Used at the end of an exclamatory sentence to show strong emotion.
<b>Preposition</b>	A preposition is a word that tells you where or when something is in relation to something else. (at, in, on, after, before, under, inside and outside).	? Used to indicate an interrogative sentence or rhetorical question.
<b>Determiner</b>	A determiner comes before a noun and helps to define it. E.g. a boy (a, an/the/those/these)	' Used to show ownership (Sam's bag) or missing letters 'They're late'.
		... Can be used to create suspense e.g: I couldn't believe my eyes... or to show the trailing off of a sentence e.g: 'I wonder...' she said.
<b>Sentences</b>		
<b>Main clause</b>	A clause that can stand alone as a sentence. Contains a subject (the person or thing doing the action) and a verb (the action). e.g. 'The cat sat on the mat'.	
<b>Subordinate clause</b>	A clause that depends on an independent clause to make sense e.g. 'The cat sat on the mat without turning around'. Often uses a subordinating <b>ISAWAWABUB</b> conjunction (if, since, as, when, although, while, after, before, until and because.)	
<b>Fronted subordinate clause</b>	As above – but the subordinate clause comes at the front of the sentence: e.g. Without turning around, the cat sat on the mat.' Also can be called a 'fronted adverbial'.	
<b>Relative clause</b>	Relative clauses use a relative pronoun or relative adverb to give us more information, usually about a specific word or phrase (that, which, who, whom, whose when, where, why). Relative clauses that contain non essential information need parenthetical commas and can also be called embedded clauses: e.g. The boy, who I disliked intensely, pulled my hair. The sentence should make sense if the clause was removed and the meaning should be intact.	
<b>Simple sentence</b>	Contains just one main clause. Makes complete sense.	
<b>Compound sentence</b>	Two main clauses joined together with a co-ordinating <b>FANBOYS</b> conjunction (for/and/nor/but/or/yet/so). The cat sat on the mat and the dog barked.	
<b>Complex sentence</b>	A main clause plus a subordinate clause. The subordinate clause ay come after the main clause or before (when it would be a fronted subordinate clause). 'The cat sat on the mat without turning around'.	
<b>Fronted adverbial</b>	Words, phrases or fronted subordinate clauses at the start of sentences which tell us when, where or how something is done (they describe the verb) Can remember them using <b>(SPACED)</b> . E.g: Because it was raining, we ran for cover.	
<b>Expanded noun phrases</b>	A phrase that contains a determiner (the/a) and a noun (table – e.g the table) and one or more adjectives (the black table). Can also contain a prepositional phrase e.g: The black table with wonky legs.	

## Co-ordinating and subordinating conjunctions

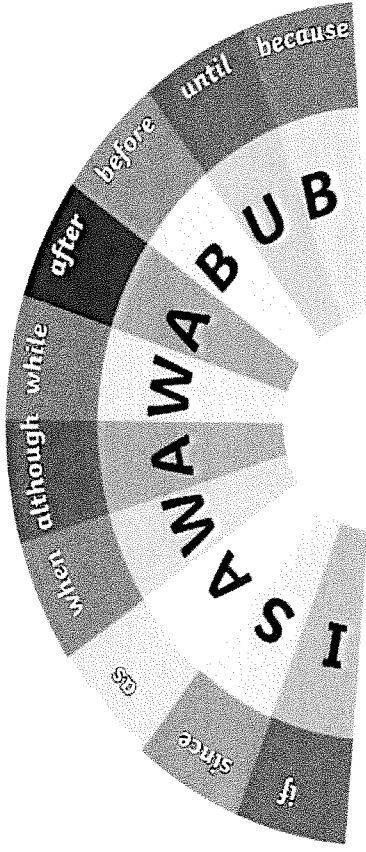
### Co-ordinating Conjunctions

There are seven co-ordinating conjunctions. They give equal importance to the words or sentences they connect



### Subordinating Conjunctions

There are 10 subordinating conjunctions. They are used at the beginning of a subordinating clause which is a clause that doesn't make sense on its own.



**Their/They're/There**

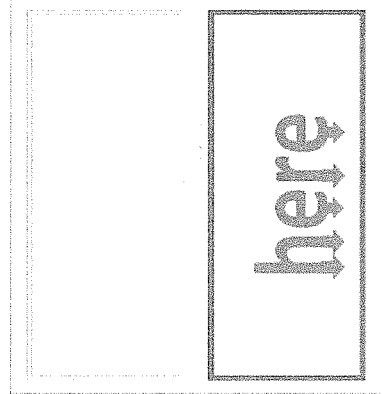
**Hear/Here**

**Your/You're**

**Was/Were**

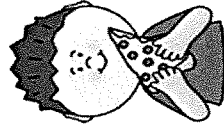
Ask yourself these two simple questions:

- Does the word after it belong to 'them'? → **their**
- Is it short for 'they are'? → **they're**
- For everything else, it's **there**



**Your**  
pizza

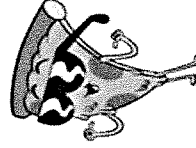
You're = you own it



It is yours.

**You're**  
pizza

You're = you are



You are pizza!

'WAS' is used if you are talking about ONE person or thing (I, he/she/it):

'WERE' is used if you are talking about TWO OR MORE people/things (we/they/you):

'You' is always 'were',

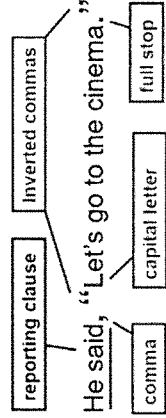
## Punctuating Direct Speech



## Reporting clause before the direct speech

The reporting clause of direct speech is the short clause that indicates who is talking. It is the clause that is outside of the inverted commas. It is therefore **not** the words being spoken.

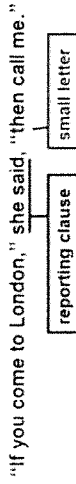
We can write the reporting clause either **before** or **after** the direct speech. If the reporting clause is **before** the direct speech, we write it as follows:



Grammar rules - If the reporting clause is before the direct speech:

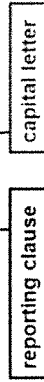
- We write a comma (,) before the direct speech.
- We write the exact words inside the inverted commas.
- The first letter is a capital letter.
- We write a full stop (.) before the closing inverted commas.
- We might also use a ? Or a ! Before the closing inverted commas.

Sometimes we break up the direct speech into 2 parts:



The second part of the direct speech starts with a small letter if it is the same sentence as the first part of the direct speech.

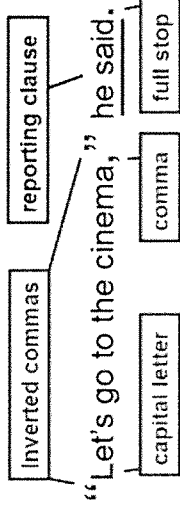
"I'm tired," she said, "Let's stay at home."



The second part of the direct speech starts with a capital letter if it is a new sentence.

Notice that the first part still ends with a , (unless you need a ? Or a !)

## Reporting clause after the direct speech



If the reporting clause is after the direct speech:

- We write the exact words inside the inverted commas.
- The first letter is a capital letter.
- We write a comma (,) before the closing inverted commas. We might also use ? or !
- We write a full stop (.) at the end of the reporting clause.

## New speaker, new line

**If someone else speaks, we start a new line.**

"Your book is over there," said the teacher.

"Thanks!" replied Johnny.

## Using Fronted Adverbial openings - ISPACED

I

S

P

A

C

E

Ing words	Similes	Prepositions		Adverbs		Conjunctions	Ed words
		Over	On top of	Hastily	Quickly		
Walking	Like a mouse		On top of		Quickly	First	Excited
Skipping	Like a cheetah	Above	On	Calmly	Slowly	Later on	Delighted
Running	Like a statue	Beneath	Underneath	Casually	Gently	Suddenly	Pleased
Crawling	Like a tree	Below	Under	Cautiously	Shyly	Immediately	Amazed
Creeping	Like a predator	Through	Between	Softly	Nervously	Finally	Astonished
Jumping	Like a monster	Inside	Beside	Neatly	Messily	After that	Shocked
Leaping	Like a villain	By	Across	Angrily	Busily	Before long	Scared
Escaping	As quiet as a	Before	After	Spitefully	Loudly	Since	Puzzled
Bursting	As loud as a	During	At	Ominously	Honestly	Whereas	Dazed
Grasping	As still as a	In	Off	Foolishly	Crazily	As	Surprised
Grabbing	As fast as a	By	To	Moodily	Readily	Next	Worried
Seizing	As timid as a	About		Amazingly		Whenever	Petrified
Clutching	A bright as a			Expectantly		Despite	Horrified
Picking	As slowly as a			Generously		Until	Exhausted
Shaking	As noisy as a			Chaotically		So	
Hiding	As calmly as a			Unexpectedly		Eventually	
Sleeping	As angry as a			Intelligently			

Remember to use a comma before the main clause: Creeping through the forest, I trembled with fear.

## Year 7 A Midsummer Night's Dream Absolute

### Features of Comedy

- Slapstick/Physical humour;
- Wordplay/Puns;
- Funny names;
- Music and dance;
- Ridiculous / exaggerated behaviour;
- Chaos;
- Incongruity; (*The \_\_\_ is incongruous (out of place) with the \_\_\_*)
- Disguises/ costumes/ impersonating different genders;
- Timing;
- Foolish characters;
- Characters who think they possess talent when they don't.

### Key ages / concepts

Concept	Definition
The Renaissance	A period of time where people started to become more interested in <b>philosophy, art, science and politics, and interested in looking back and revising ancient Greek and Roman literature.</b>
The Age of Enlightenment	<b>Science</b> became more understood as people learned more about how the world works. People became more interested in using <b>reason</b> and the evidence of the senses.
The Inkhorn Controversy	In the 1500s-1600s, the <b>borrowing of Greek and Latin words</b> by writers really <b>annoyed</b> some people, who said that writers doing this were <b>'diluting' or 'polluting' the English language</b> with these foreign words, which they called <b>'inkhorn terms'</b> .
Patriarchy (noun)	A system where <b>men hold the power</b> – A patriarchy existed in Shakespearean times.
Patriarchal (adjective)	<i>A Midsummer Night's Dream</i> is set in a patriarchal society.

### Key Vocabulary

Word	Definition	Use in a sentence
Convention (noun)	A way of doing things that is accepted and followed.	The <b>conventions</b> of most Disney animations include songs, talking animals and a happy ending.
Incongruity (noun) Incongruous (adjective)	If something is incongruous, it appears strange or wrong in a particular situation.	The elephant was <b>incongruous</b> in the classroom.
Amateur	Someone who is not a professional at doing something – usually does it unpaid.	I am an <b>amateur</b> tennis player.
Tragedy play	A genre of play based on human suffering, where terrible events befall the protagonist.	I cried a lot when I watched the <b>tragedy play</b> .
Highlight	To draw attention to.	My teacher <b>highlighted</b> my excellent homework to the class.
Establish	To set up/ introduce	Shakespeare <b>establishes</b> the Mechanicals as comic characters.
Criticise	To judge something, often by picking out the faults.	My teacher <b>criticised</b> my homework.

Key Techniques/forms/word classes

Word	Definition	Use in a sentence
<b>Literal language</b>	The actual meaning of the words without over exaggeration or saying something as something else (metaphor)	<b>Literally</b> , 'My teacher is a dragon' would mean that you had an actual fire breathing dragon for a teacher.
<b>Figurative language</b>	Language that does NOT use the word's literal meaning but instead uses language creatively. Techniques such as simile, metaphor, hyperbole and personification are all examples of figurative language.	<b>Figuratively</b> , 'My teacher is a dragon' would be a metaphor to suggest that your human teacher is terrifying like a dragon is.
<b>Metaphor</b>	Describing something as something else in order to suggest a similarity between the two.	My teacher is a dragon. The classroom was an oven.
<b>Idiom</b>	A common saying that uses metaphor – the meaning of the saying is hard to understand by the words alone, but we all accept what it means.	"It's raining cats and dogs" "You're driving me round the bend"
<b>Slapstick comedy</b>	A style of humour involving exaggerated physical comedy.	The pantomime was full of <b>slapstick comedy</b> .
<b>Pun</b>	A humorous use of a word or phrase that has several meanings that sounds like another word.	My favourite pun is in the joke: "Why didn't the skeleton go to the dance? He had <b>no body</b> to go with!"
<b>Hyperbole</b>	Over exaggeration for effect.	I am starving – I've waited a million hours for dinner.
<b>Oxymoron</b>	When two contradictory words are placed together in the same phrase	That movie was <b>bittersweet</b> . That was <b>seriously funny!</b> It was <b>awfully good</b> .
<b>Imperative verb</b>	A 'bossy' verb that issues a command.	e.g. "Come here" "Let me go" "Put that down"
<b>Pronoun</b>	Used instead of a noun.	'I, me, we, you'
<b>Superlative adjective</b>	Adjectives that are used to indicate that a word is the most extreme it can be. This is created through the superlative adjective 'most' or the addition of 'est' to the end of the word.	This is the <b>most</b> difficult task. She was the <b>prettiest</b> cat. He was the <b>smallest</b> man.
<b>Parody</b>	To imitate with deliberate exaggeration for comic effect.	The <b>Mechanicals'</b> play is a <b>parody</b> of other actors and writers' plays at the time.
<b>Personification</b>	Describing something non-human as if it has human characteristics, or is alive in some way.	The chairs <b>sat quietly</b> in the classroom. The books <b>danced</b> in the flames.

## Year 7 Sawbones

### Concepts

#### Sin

An act that goes against the teachings of the Bible.



#### Patriarchy

A system in which men hold power and women are excluded from it.



#### Injustice

When a result is viewed as being unfair. It may be based in bias and prejudice.



#### Morality

Principles around how we distinguish between right and wrong, or good and bad behaviour.



### Terminology

#### Figurative Language

Techniques such as similes, metaphors, personification, and allusion



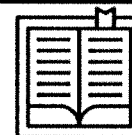
#### Connotation

An idea or feeling which a word invokes in addition to its literal meaning.



#### Genre

A style or category or art, literature, or music.



#### The Gothic

A genre of literature that combines elements of the uncanny and romance.



#### Conventions

The 'ingredients' that are typically found within a genre.



#### Voice

The perspective a story or poem is told from.



### Vocabulary

- **Discrimination:** the unjust or prejudicial treatment of different categories of people, especially on the grounds of ethnicity, age, sex, or disability.
- **Forbidden:** not allowed; banned.
- **Protagonist:** the main figure or one of the most prominent figures in a situation.
- **Obscure:** not clearly expressed or easily understood.
- **Barbaric:** savagely cruel.
- **Patriarchy:** a system in which men hold power over women.
- **Foreboding:** a feeling that something bad will happen; fearful apprehension.
- **Duplicious:** deceitful.
- **Acumen:** the ability to make good judgements and take quick decisions.
- **Malign:** evil in nature or effect.
- **Unconventional:** Not based on or conforming to what is generally done or believed.
- **Apathetic:** not having or showing much emotion or interest in something or someone.
- **Dependent:** requiring someone or something for financial or other support.
- **Monstrous:** inhumanely or outrageously evil or corrupt.
- **Nemesis:** a longstanding rival or arch-enemy.
- **Allusion:** an expression designed to call something to mind without directly referencing it.

### Further Knowledge

- The term 'gothic' comes from the Germanic tribe 'the Goths', who played a part in the fall of the Roman Empire. The Goths are sometimes called barbarians. The word barbarian comes from the Latin (and modern French!) for beard.
- Figures from **The Age of Enlightenment (C18-19)** believed that scientific progress was the only way to advance society. They tried to rid Europe of superstition and ignorance by promoting reason and logic.
- A group of poets, artists and thinkers called the Romantics challenged this because they believed that not everything can be explained by science; too much reason rids the world of beauty and mystery.
- The gothic genre first emerged from the **Romantic movement**. It used art and ideas from the Dark Ages, wild emotion and nature to contrast modern ideas about science and logic.
- Gothic writing transformed into the popular **Victorian ghost story**.
- Gothic writers are preoccupied with the supernatural as they believe that not everything has a scientific explanation.
- They believed that nature is 'sublime': it has the power to simultaneously inspire awe and terror.
- They challenged society's ideas about propriety and emotion. Showing wild emotion was 'uncouth', but not to the gothic writers, who often depicted passion and rage.
- The role of the female characters was explored: often in gothic texts, there are powerful female roles, which contrasted the contemporary society.
- They were very interested in the psychological exploration of characters, particularly in relation to themes of madness.



# Sawbones Crib Sheet

Setting	Gothic Genre features	Mystery/Darkness
1. Wild landscapes	1. Death and darkness	1. Links with light and dark stem from Genesis where God created light.
2. Medieval style castles, churches or abbeys	2. Supernatural (magic, ghosts, monsters, curses)	2. Darkness and the night are associated with the Devil, misery, ignorance, and evil.
3. Gloomy, decayed and ruined environments	3. Focus on body parts	3. Gothic buildings, with their abundant carvings, crevices, and shadows, can conjure an aura of mystery and darkness and often served as appropriate settings.
4. Remote, uninhabited places (older gothic) or monsters intermingling in everyday life (newer gothic)	4. Depiction of madness and hyperbolic emotion, including psychological episodes	
5. Volatile and threatening weather (symbolism)	5. Mystery, terror and suspense	

## Characters

**Ezra McAdam:** our protagonist who is a formerly enslaved person. His dream is to become a surgeon like his master.

**Loveday Finch:** a young woman who used to assist her father with his magic act. She is determined to find out what happened to her father.

**Mr William McAdam:** Ezra's master who freed him from slavery and gave him an apprenticeship. He is known for being an excellent surgeon.

**Mr Charles Finch:** a now dead, magician who has died in mysterious circumstances.

**Mr Lashley:** another surgeon who is known for being a not very effective surgeon.

**Dr James McAdam:** the nephew of Mr McAdam who does not seem to like Ezra and the choices Mr McAdam has made.

**Prince Mahmoud:** an Ottoman prince who was kept as a captive before fleeing to London.

## Key plot information

In 18th century London, 16-year-old Ezra is working as apprentice to a highly respected surgeon, William McAdam. He knows that his impressive knowledge of anatomy and skill at the dissection table will ensure he has a trade for life. Yet whilst he is grateful to his master, who rescued him from a life of slavery, Ezra is eager for independence and to be his own man.

A strange series of events then changes everything. Now, McAdam is dead, and Ezra is alone - except for the unconventional Miss Loveday Finch, daughter of a magician, who is looking for answers about her father's death. Soon, the pair find themselves tangled in an adventure featuring grave-robbing, body-switching and political intrigue, which takes them a journey across London from the Operating Theatre at St Bart's, to the vaults of Newgate Prison, to the shadowy Ottoman Embassy.

## Connections

### Religious Imagery

- Temptation
- Science versus Religion
- Sin and Transgression
- Light and Dark
- Heaven and Hell
- Envy
- Truth

### Inner Conflict

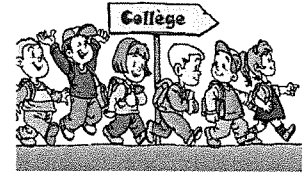
- Morality
- Deception and Truth
- Power and Control
- Temptation
- Envy
- Desire
- Regret
- Sin and transgression

### Light and Dark

- Symbolic of Fear
- Literal Light and Darkness in setting
- Heaven and Hell
- Good and Evil
- Duplicity of Man
- Guidance
- Truth and Lies

## Half-term 3 – talking about school

## Vocab book pages 7-8



### Quiz 3.1– School subjects and timetable

At school, I have Maths and English.	Au collège j'ai les maths et l'anglais.
I have a lesson of art with Mrs Harris.	J'ai un cours de dessin avec Madame Harris.
At 9 o'clock, I have music.	À neuf heures, j'ai la musique.
At 10 o'clock, it's <b>break time</b> .	A dix heures, c'est <b>la récré</b> .
I have science with Mr Hall.	J'ai les sciences avec Monsieur Hall.
We have <b>lots of</b> subjects.	Nous avons <b>beaucoup de</b> matières.

### Quiz 3.2 – Giving and justifying opinions on subjects

I like History <b>because</b> it's great.	J'aime l'histoire <b>parce que</b> c'est génial.
I love Science <b>because</b> it's interesting and practical.	J'aime les sciences <b>parce que</b> c'est intéressant et pratique.
I hate Technology <b>because</b> it's <b>quite</b> boring.	Je déteste la technologie <b>car</b> c'est <b>assez</b> barbant.
My favourite subject is music.	Ma matière préférée, c'est la musique.
I don't like PE <b>because</b> it's <b>very</b> difficult.	Je n'aime pas le sport car c'est <b>très</b> difficile.
I like History <b>because</b> it's great.	J'aime l'histoire <b>parce que</b> c'est génial.

### Quiz 3.3 – Talking about school uniform

At school I <b>wear</b> a uniform.	Au collge <b>je porte</b> un uniforme scolaire.
At school, I <b>wear</b> grey trousers.	Au collège <b>je porte</b> un pantalon gris.
On Mondays I wear a t-shirt for PE.	Le lundi, je porte un tee-shirt pour le sport.
I wear a white blouse and a red tie.	Je porte une chemise blanche et une cravate rouge.

### Quiz 3.4 – Describing your school

At school, <b>there is</b> a canteen.	Au collège <b>il y a</b> une cantine.
There are <b>also</b> a sports field and a pool.	Il y a <b>aussi</b> un terrain de sport et une piscine.
There are lots of classrooms.	Il y a beaucoup de salles de classe.
Unfortunately, I have lots of homework.	Malheureusement, j'ai beaucoup de devoirs.
<b>We have</b> strict teachers.	<b>Nous avons</b> des profs stricts.

End of half-term checklist			
I can...	☹	☺	😊
describe my timetable			
say what subjects I like and don't like			
explain my opinions on subjects			
describe my school uniform			
talk about my school day			
recall differences between French and English schools			

## Parallel texts

Vous écrivez un email à votre correspondant(e) français(e) au sujet du collège. Mentionnez:

- **votre emploi du temps.** *Your timetable.*
- **les matières que vous aimez et n'aimez pas.** *The subjects you like and don't like.*
- **votre uniforme.** *Your uniform*
- **une description de votre collège.** *A description of your school.*
- 

Écrivez **90 mots** en français (write **90 words** in French)

<p>At school, I have lots of subjects, including Maths, English and Science. On Monday at <b>9am</b> I have Maths with Mr Wan and at 10am I have English with Mrs Clifford. I have science in the afternoon.</p> <p><b>Let's be honest</b>, I like art <b>because</b> it's creative and fun and I love French <b>because</b> it's <b>very</b> interesting, however I don't like music <b>because</b> it's <b>too</b> difficult. My favourite subject is technology.</p> <p>At school, I wear a uniform and I don't like <b>that!</b> I wear grey trousers and a white blouse with a Red tie – it's horrible! I would like to wear jeans.</p> <p>At school, there is a canteen and a sports field. <b>In addition</b>, there is a library and lots of rooms of class. In my opinion, it's fantastic! <b>Unfortunately</b> there isn't a swimming pool or cinema. We have also homework and strict teachers.</p>	<p>Au collège, j'ai beaucoup de matières, y compris les maths, l'anglais et les sciences. Le lundi à <b>neuf heures</b>, j'ai les maths avec Monsieur Wan et à dix heures j'ai l'anglais avec Madame Clifford. J'ai les sciences l'après-midi.</p> <p><b>Soyons honnêtes</b>, j'aime le dessin <b>parce que</b> c'est créatif et amusant et j'adore le français <b>vu que</b> c'est <b>très</b> intéressant, cependant je n'aime pas la musique <b>car</b> c'est <b>trop</b> difficile. Ma matière préférée est la technologie.</p> <p>Au collège, je porte un uniforme et je n'aime pas <b>ça!</b> Je porte un pantalon gris et une chemise blanche avec une cravate rouge – c'est horrible! Je voudrais porter un jean.</p> <p>Au collège, il y a une cantine et un terrain de sport. <b>En plus</b>, il y a une bibliothèque et beaucoup de salles de classe. À mon avis, c'est fantastique! <b>Malheureusement</b>, il n'y a pas de piscine ou de cinéma. Nous avons aussi des devoirs et des profs stricts.</p>
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### Key skills

1. Confidently communicate opinions school subjects in speaking and writing
2. Justify opinions with 'because' connectives
3. Answer comprehension questions in English through listening and reading
4. Use a range of negatives
5. recall a wide range of cross-contextual vocabulary

**Half term 4 – Talking about hobbies**



**Quiz 4.1 – Hobbies and time phrases**

At the weekend, I play football.	Le weekend, je joue au foot.
In the morning, I listen to music.	Le matin, j'écoute de la musique.
In the evening, I watch TV.	Le soir, je regarde la télé.
In the afternoon, I do my homework.	L'après-midi, je fais mes devoirs.
I visit my friends every day.	Je visite mes copains tous les jours.

**Quiz 4.2 – Saying where you do your hobbies**

I play rugby at the park.	Je joue au rugby au parc.
I watch a film at the cinema.	Je regarde un film au cinema.
I would like to do shopping in town.	Je voudrais faire du shopping en ville.
Normally, I do my homework <b>at my house</b> .	Normalement, je fais mes devoirs <b>chez moi</b> .
In the afternoon, I do swimming at the pool.	L'après-midi, je fais de la natation à la piscine.

**Quiz 4.3 – Infinitives with hobbies**

I like to play football because it's fun.	J'aime jouer au foot car c'est amusant.
I don't like to do horse riding.	Je n'aime pas faire de l'équitation.
I love watching a film at my house because it's relaxing.	J'adore regarder un film chez moi car c'est relaxant.
I <b>can</b> listen to music with my friends.	<b>Je peux</b> écouter de la musique avec mes copains.
I <b>can't</b> eat a pizza in town.	<b>Je ne peux pas</b> manger une pizza en ville.

End of half-term checklist			
I can...	☹	☺	😊
Recall at least 10 different hobbies			
Give my opinions on hobbies			
Explain my opinions on hobbies			
Say where and when I do hobbies			

## Parallel texts

<p>At the weekend, I do lots of activities. On Saturday morning, I play tennis with my friends and I go into town where I do shopping. I love doing shopping because it's <b>extremely</b> fun.</p> <p>Normally, on Sundays, I go to the cinema and I watch a film with my family. I eat a pizza in a restaurant and it's great. In the evening, I chat with my friends on my phone and I listen to music because it's really relaxing <b>in my opinion</b>.</p> <p><b>After school</b>, I watch TV because it's interesting. However I don't like to do my homework because it's quite boring and rubbish.</p>	<p>Le weekend, je fais beaucoup d'activités. Le samedi matin, je joue au tennis avec mes copains et je vais en ville où je fais du shopping. J'adore faire du shopping car c'est <b>extrêmement</b> amusant.</p> <p>Normalement, le dimanche, je vais au cinéma et je regarde un film avec ma famille. Je mange une pizza et c'est genial. Le soir, je chatte avec mes copains sur mon portable et j'écoute de la musique car c'est vraiment relaxant <b>à mon avis</b>.</p> <p><b>Après le collège</b>, je regarde la télé car c'est intéressant. Cependant, je n'aime pas faire mes devoirs car c'est assez barbant et nul.</p>
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### Key skills

1. Confidently communicate about hobbies in speaking and writing
2. Justify opinions with 'because' connectives
3. Answer comprehension questions in English and French through listening and reading
4. Use infinitive constructions
5. recall a wide range of cross-contextual vocabulary



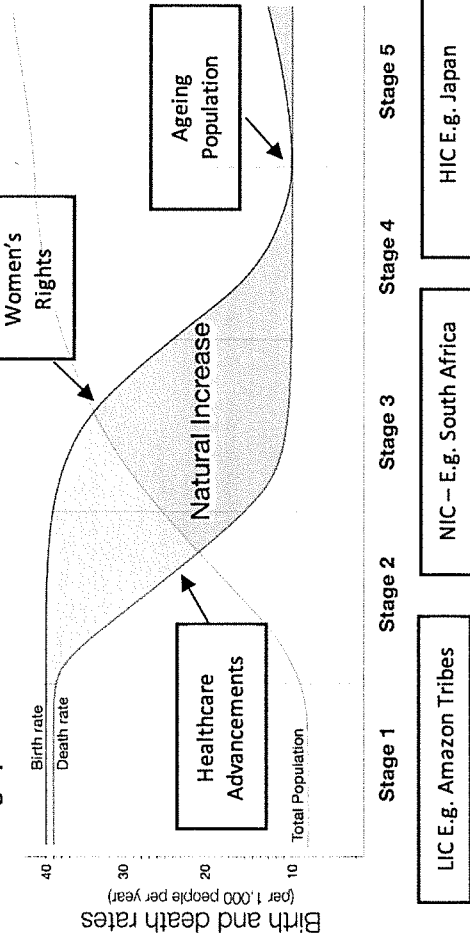


## Population - How and why are countries populations different?

### Population Introduction

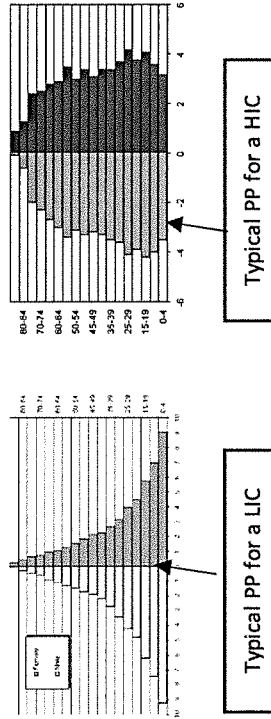
1. Population is uneven around the world; some countries have very large populations like China (1.4 billion) and India (1.3 billion). Whereas other countries have very small populations like the Vatican City (800) and Tuvalu (12,000). Globally population has increased over time. From 1050-1750 total global population was around 0.5 billion, since 1750 total global population has increased rapidly, up to the 8 billion we have on earth today. The vast majority of this growth is occurring in LIC's as the women can have unequal rights, being expected to stay at home raising children. Contraception is not widely available, and children can also work in some LIC's which earns the family money.

### 2. The Demographic Transition Model



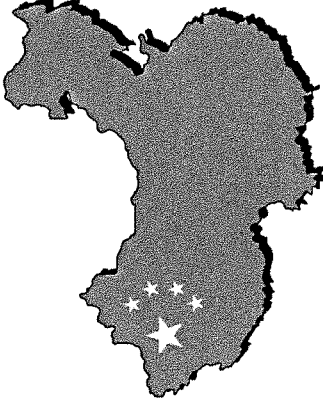
### 3. Population Pyramids

Show us a countries % of population a certain age and gender



### 4. Case Study - China's Population

China is a NIC located in East Asia. In the 1960's population growth was encouraged by the Chinese Government meaning on average each woman had 7 children. During 1970 China faced a famine and the Government realised something needed to be done as China was overpopulated.



In 1979 the Chinese Government introduced the 'One Child Policy' this meant that each couple in China could only have one child.

The one child policy was controlled with the following in order to make it a success:

- The Government issued hefty fines to people who did not follow the rule, meaning they then had little money to support themselves and their family.
- The Chinese Police were used to keep an eye out on the population. The Government however realised that the population was wary of the police and wouldn't tell them anything. This led to the Government hiring 'Granny Police' which were undercover police officers who acted like friendly elderly people in the population to try and seek information about who has had/is having a 2<sup>nd</sup> child.
- The Chinese Government promoted and gave out free contraception to be used in order for couples to avoid having children.
- The Chinese Government forced abortions on women who were pregnant with their 2<sup>nd</sup> child.

By 2008 each woman in China had on average 2 children meaning the One Child Policy was successful in what it set out to do, reduce population. In 2015 the One Child Policy ended.

## Population - How and why are countries populations different?

### 5. Migration

The reasons why people chose to migrate can be split up into push and pull factors. A push factor is something that encourages a person to leave a place. A pull factor is something that attracts a person to a place.

#### Push Factors



- few services
- lack of job opportunities
- unhappy life
- poor transport links
- natural disasters
- wars
- shortage of food

#### Pull Factors



- access to services
- better job opportunities
- more entertainment facilities
- better transport links
- improved living conditions
- hope for a better way of life
- family links

### 6. Densely and Sparsely populated

Physical Factors	Densely Populated	Sparsely Populated
1. <u>Relief</u>	Flat land e.g. Ganges Valley in India	Mountainous land e.g. Himalayas
2. <u>Resources</u>	Rich in natural resources (e.g. coal, oil, wood, fishing etc.) e.g. Western Europe	Few natural resources e.g. The Sahel
3. <u>Climate</u>	Mild climates as there is enough rain and heat to grow crops e.g. UK	Extreme climates e.g. the Sahara Desert
Human Factors	Densely Populated	Sparsely Populated
4. <u>Political</u>	Stable governments e.g. Singapore	Unstable Governments e.g. Afghanistan.
5. <u>Social</u>	A range of services and facilities e.g. USA	A lack of services and facilities e.g. Scandinavians
6. <u>Economic</u>	Good job opportunities E.g. New York	Limited job opportunities e.g. Amazon Rainforest

### Key terms:

- Population** – All the inhabitants of a particular place.  
**Population growth** – The increase in the number of people in a population  
**Birth Rate** – Number of live births every year per 1,000 of the population.  
**Death Rate** – Number of people who die every year per 1,000 of the population.  
**Natural Increase** – This is the birth rate minus the death rate.  
**Overpopulation** – When a country has too many people.  
**Migration** – the movement of people from one area to another.  
**Settlement** – A place where people live, this can be a large or a small settlement.  
**Megacity** – A Megacity is a City that has over 10 million inhabitants.  
**Densely populated** – an area of land that contains a large amount of people.  
**Sparsely populated** – An area of land that contains few people.  
**Uninhabitable**– An area of land that is not suitable for humans to live on.

### Test Yourself Questions:

1. Explain how global population has changed over time
2. Explain why population growth is the fastest in LIC's
3. Describe and explain the demographic transition model
4. Explain what issues China faced when it was overpopulated?
5. Explain the methods the Chinese Government put in place to reduce China's population
6. Evaluate the view that Chinas One Child Policy was a success
7. Describe the differences between push and pull factors
8. Give your own push and pull factors for leaving Mansfield in the future
9. List some places that are sparsely populated and explain why using both human and physical factors
10. List some places that are densely populated and explain why using both human and physical factors

## Geography – How should we manage fragile ecosystems?

<p><b>Brazil</b></p> <ol style="list-style-type: none"> <li><b>Where is Brazil?</b> Brazil is the largest country in South America, north of Argentina, east of Peru and has a coastline along the Atlantic Ocean.</li> <li><b>What type of country is Brazil and what do they export?</b> Brazil is an NIC (newly industrialised country) which is starting to become richer because it exports raw materials such as: soybeans, iron ore, crude petroleum and raw sugar.</li> <li><b>What is the Amazon Rainforest?</b> The world's largest rainforest found in Brazil, Colombia, Peru, Venezuela, Ecuador, Bolivia, Guyana and Suriname. There are thousands of rivers and it is famous for its biodiversity.</li> <li><b>What animals are found in the Amazon Rainforest?</b> 427 mammal species, 1,300 bird species, 378 reptile species, 400 amphibian species. Jaguars, sloths, river dolphins, macaws, anacondas, glass frogs and poison dart frogs. 1/10 species in the world lives in the Amazon Rainforest.</li> <li><b>How big is the Amazon rainforest?</b> 5.5 million km<sup>2</sup> (5,500,000 km<sup>2</sup>).</li> <li><b>How big is the Amazon river?</b> 7,000km long but covers 7,050,000 km<sup>2</sup>.</li> <li><b>Why are people a threat to the Amazon Rainforest?</b> Ranching and agriculture needs land clearing so rainforest trees are deforested. Commercial fishing in the Amazon River depletes the fish stocks which negatively impacts the ecosystem. Poaching of exotic or endangered animals. Damming rivers to create water supply or create hydroelectricity stops the wildlife migrating and the rainforest flooding naturally. Logging causes deforestation, destroying habitats and food sources.</li> <li><b>Why is the Amazon Rainforest dangerous for people?</b> Plants – some are poisonous, difficult to know which. Animals – Again, some are poisonous. Landscape – Heavy cover from canopy means navigation is very difficult. Weather – High temperatures and high humidity can lead to exhaustion. People – Tribes are protective of their territory so may attack intruders.</li> <li><b>Who lives in the Amazon Rainforest?</b> Tribes – Indigenous, or native, people have lived in the Amazon Rainforest for thousands of years. Now, some loggers and farmers also live on the edge of the forest.</li> <li><b>Why does the Amazon Rainforest need protection?</b> Rainforests produce high levels of oxygen and clean the air we breathe. Plants in the Amazon have also provided ¼ of medicines we use today. Plants in the Rainforest could be medicine for illnesses that have not evolved yet. The most biodiverse place in the world means the plant and animal species also need protecting.</li> </ol> <p><b>Adaptations</b></p> <ol style="list-style-type: none"> <li><b>How has the Rafflesia adapted to survive in the rainforest?</b> Steeps sides lined with downward pointing hairs so insects enter the flowers, lose their footing and are prevented from leaving.</li> <li><b>How does colour help animals, birds and insects?</b> They can help to attract a mate, help to camouflage an animal or can be used as a warning for predators.</li> <li><b>How have fungi adapted to survive on the shrub layer?</b> Fungi colonise plant roots which provide water and nutrients. The plant roots provide a stable environment and the fungi where they break down materials like fallen leaves.</li> <li><b>How have liana vines adapted?</b> Lianas have roots in the ground but grow tall and thin, they hold themselves up by latching onto a tree and wrapping around it for support.</li> <li><b>How have epiphytes adapted to survive?</b> Epiphytes do not have roots, they grow on the branches of large trees to access sunlight and use nutrients from the tree for survival.</li> </ol>	<p><b>Structure of the Tropical Rainforest</b></p> <ol style="list-style-type: none"> <li><b>What are the layers of the rainforest from top to bottom?</b> Emergent, canopy, under canopy, shrub layer.</li> <li><b>What flora and fauna would you find in the emergent layer?</b> The tallest trees that can withstand hot temperatures and strong winds. Birds like the crowned eagle, insects and butterflies.</li> <li><b>What flora and fauna would you find in the canopy layer?</b> Tall trees with broad leaves, epiphytes and orchids. Birds like the grey parrot and spider monkeys.</li> <li><b>What flora and fauna would you find in the under canopy layer?</b> Small trees (3m tall) which can grow in shade (only 5% of sunlight reaches the under canopy). Sloths, poison dart frogs and monkeys.</li> <li><b>What flora and fauna would you find in the shrub layer?</b> Only 2-3% sunlight means the main flora are fungi. Larger fauna like jaguars, snakes and alligators.</li> </ol>	<p><b>Rainforest Climate</b></p> <ol style="list-style-type: none"> <li><b>Where do you find rainforests and why?</b> Between the tropics of cancer and Capricorn (10° north and south of the equator) because the climate here is warm and rainy all year round.</li> <li><b>Why does it rain so much in the rainforest?</b> Rainforests are near the equator which means the sun's rays are more concentrated which evaporates more water that can then condense, become clouds and rain.</li> <li><b>In the Amazon rainforest, which months have more rain?</b> January, February and March with April and December also having higher amounts (shown in climate graph).</li> <li><b>What is the average temperature in the Amazon rainforest?</b> 27 °C (shown in climate graph).</li> <li><b>What is the precipitation range in the Amazon rainforest?</b> 195mm-20mm = 175mm</li> </ol>	<p><b>Temperature</b></p> <p><b>Precipitation (mm)</b></p> <p>Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec</p>
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## Geography – How should we manage fragile ecosystems?

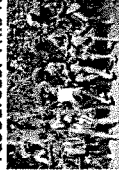
### Animals

1. **What are adaptations?** Living things change over time to survive in their environment. This is for both plants and animals.
2. **What are some of the mammals that live in the TRF?** Chimpanzee, Jaguar, Tarsier, sloth, spider monkey, manatee (marine), Agouti (rodent), Tent making bat, howler monkey, Golden Lion tamarins, vampire bat, tapir, Tucuxi (pink dolphin).
3. **What are some of the birds that live in the TRF?** Toucan, Macaw.
4. **What are some of the reptiles that live in the TRF?** Anole, Iguana, Boa constrictor, anaconda, Caiman, small turtles.
5. **What are some of the amphibians that live in the TRF?** Red eyed tree frog, poison arrow frog.
6. **What are some of the insects that live in the TRF?** Rhinoceros beetle, Morpho butterfly, Leafcutter ant.
7. **What are some of the fish that live in the TRF?** Red bellied piranha



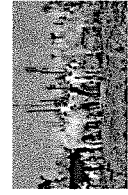
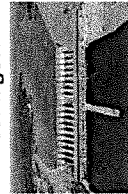
### People

8. **How many people live in rainforests worldwide?** They have never been counted but geographers estimate around 50,000,000 people live in rainforests across the globe.
9. **What is the most common way of living in rainforests?** Tribes who only rely on the forest for survival.
10. **What type of houses do they live in?** Tribes where huts or treehouses are made using only natural materials from the forest. Some tribes have 2 big communal houses, one for the men and one for the women.
11. **What do they eat?** A mixture of fruits and small mammals, depending on the forest they live in.
12. **What are some examples of tribes who live in rainforests?** The Pygmies in central Africa. The Huli in Papua New Guinea. The Yanomami in South America.
13. **Why are the tribes under threat?** People from outside the rainforest want to tap into the natural resources. This leads to deforestation, destroying the tribes' homes, food supply and medicine.



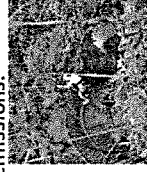
### Uses of the Tropical Rainforest

14. **Why is there development in the Amazon?** Companies can export minerals, make money through foreign exchange, pay off debts to other countries or use minerals to build up existing industries so Brazil becomes wealthier.
15. **How is farming damaging the Amazon?** Traditional farming doesn't cause damage and is sustainable. 'Slash and burn' farming is used where trees are felled and burned to make the soil more fertile. After 3-5 years the soil is infertile so farmers move on to the next area of land. Large scale commercial farming doesn't allow land to regrow so is unsustainable.
16. **How does logging impact the Amazon?** Commercial logging is the major source of rainforest destruction with 5,000,000 ha of forest destroyed every year. Trees are felled and removed from the forest to be sold as building materials, fuel or many other reasons.
17. **How does cattle ranching affect the Amazon?** Deforestation occurs to make space for cattle which is sold cheaply to HICs for the meat market.
18. **How does water supply impact rainforests?** With a growing global population, water supply is a constant issue. A solution for this is to build dams in rivers to create reservoirs of fresh water. However, these reservoirs flood the land and damage the forest. The wildlife in the water is also damaged.



### Ecotourism

19. **What is one of the biggest social problems in tropical rainforests?** Preserving culture.
20. **What is one of the biggest economic problems in tropical rainforests?** Selling natural resources for development.
21. **What is one of the biggest environmental problems in tropical rainforests?** Deforestation.
22. **What is ecotourism?** Sometimes called 'green tourism', it is a form of sustainable tourism where protection of the local environment and the way of life of the local people is considered the most important. It is a way of overcoming the problems caused by tourism.
23. **What activities would ecotourists take part in?** Jungle hike where a guide teaches you about the wildlife in the forest. Canoeing along the river, tree climbing and night walks are also popular. Fun activities mixed with education are common for ecotourism.
24. **What are some of the rules ecotourists have to follow?** They are not allowed to bring non-biodegradable plastics in to the forest. They must only walk along the designated paths to reduce trampling and protect animals. They must travel by foot or public transport to reduce carbon emissions.



### Test yourself questions

1. Describe the distribution of tropical rainforests.
2. How can temperatures in the tropical rainforest be described?
3. Explain three reasons as to why tropical rainforests are very important.
4. Explain why deforestation is happening in the TRF.
5. Describe one impact of deforestation that can be viewed as a positive.
6. Outline and explain the four ways in which TRF's can be managed.
7. Describe a characteristic of the TRF climate.
8. Outline an environmental impact of deforestation.
9. Suggest two ways in which TRF's can be more sustainable.
10. Describe the different plant layers in the TRF.

Key words	
1. Medieval	The period between 1066-1500.
2. Feudal System	The social structure of Medieval England.
3. Villein	Peasant at the bottom of the Feudal system.
4. Baron	Noble land owner that pledged their loyalty to the King.
5. Normans	People from the Normandy region of France, led by King William.
6. Motte and Bailey	The first type of castle made by William. It was made out of wood and had a higher Motte part and a lower Bailey part.
7. Stone Keep Castle	Similar to Motte and Bailey but made of stronger materials such as stone.
8. Concentric Castle	A castle with two or more supporting walls with a stone keep.
9. Domesday Book	A record of what everyone owned in the country in order to decide how much tax people should pay.
10. Taxes	Money collected from people by the King.

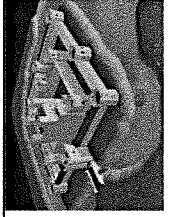
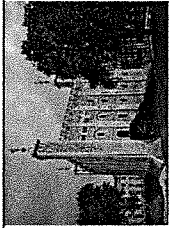
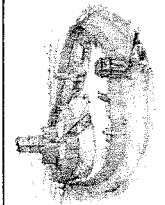
### Key events: Castles

William kept control by building castles throughout England. Over time 3 types of castles developed throughout Britain:

**Motte and Bailey:** The first castles built to fight against rebellions. They were built quickly and made out of wood, meaning that they were not very strong and could easily be destroyed. The Bailey was on flat land where the majority of the people lived. The Motte was the higher land of the castle where the fort was.

**Stone Keep:** This castle was now made out of stone and had tower a form of defence. The main part of the castle was the Keep, a large square tower, used as the main defence.

**Concentric-** At least two surrounding walls with the inner wall higher than the outer to help defence. These protected the central tower which was made of stone.

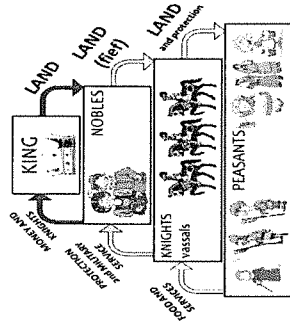


### Key events: Problems faced

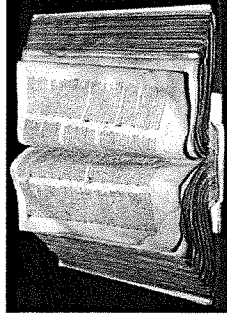
1.	Short term	Threat of invasion from the North; many English Lords did not accept his control and many of Harold's supporters were still in London.
2.	Long term	Needed to collect taxes but to do this he needed to find out who owned what and needed to make sure the whole country was under his control. This resulted in creating the Feudal system, the Domesday book and building castles.

### Key events: The Feudal System

After taking the throne in 1066, William had a few problems: he doesn't trust the English lords, who do not like him, he had to force the English to accept him as King and many were rebelling and fighting against him. He had to pay the French knights who helped him win the throne. His solution was to crush the rebellions and take land from the English lords to give to his supporters. He then had his supporters helping him to control the whole country. He also set up the Feudal System which forced the English to give William their taxes and loyalty in return for protection and land to farm. William was at the top of this system as he had all the land and money, which he gave to the Barons. They promise William their money, soldiers and loyalty. They give the land to the Knights in return for loyalty and military service. Finally the knights give the land to the peasant to farm in return for money and services.



Feudal Pyramid of Power



### Key events: Domesday Book

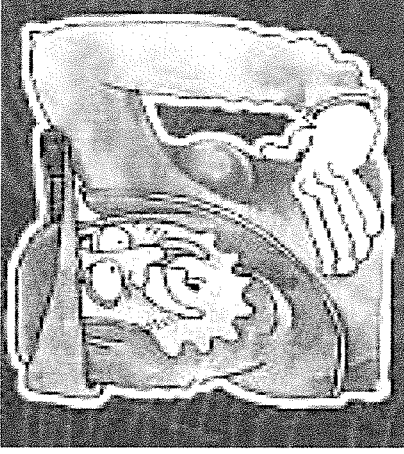
In 1086, William sent out surveyors to every part of England, with orders to list:

- How much land there was
- Who had owned it in 1066 and who owned it now
- What was the place like and who lived there
- How much was it worth in 1066 and how much now.

William did this to allow him to effectively tax the land and earn money and so that he knew what could be seized if the landowners didn't show loyalty.



Timeline	
1. 1170	Thomas Beckett is killed
2. 1122-1204	Eleanor of Aquitaine
3. 1215	Magna Carta
4. 1265	De Montfort's Parliament
5. 1312-1337	Mansa Musa
6. 1348	Black Death
7. 1373-1399	Jadwiga of Poland
8. 1381	Peasants Revolt



### The Black Death (1348-9)

#### Causes

*God deserting mankind/ unusual position of the planets/ impure air from a volcano or earthquake/ the Jews*

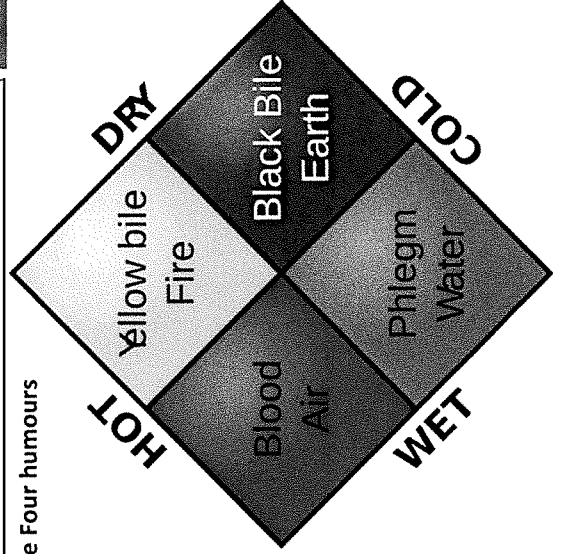
#### Treatments

*Ask for God's forgiveness/ bleeding/ purging/ strong smelling herbs/ theriaca/ lancing buboes*

#### Prevention

*Pray/ Pilgrimage/self-flagellation/ escape!/ carry a posy of flowers/ do joyful things!/ quarantine laws*

### The Four humours



### Key words

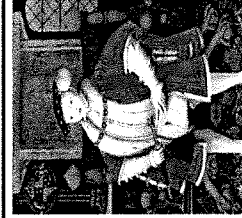
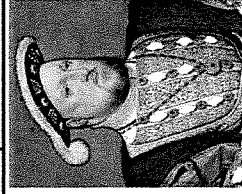
1.	Magna Carta	A document signed by King John to reduce the power of the King and make it more difficult for the King to make laws.
2.	The Crusades	The 'Wars of the Crosses', a Holy war in which crusaders from Europe set out to fight Muslim Turks.
3.	Tithe	A medieval tax involved paying one tenth of all farm produce to the church
4.	Cruck House	Peasants home made out of wood and mud
5.	Black Death	The disease that affected England from 1348 onwards. It is estimated that it killed 40% of the population.
6.	Bubonic Plague	The more common Plague that was carried in the bloodstream of rats. Fleas bit the rats and became infected. They then hopped onto humans, bit them and passed on the disease.
7.	Pneumonic Plague	This was more deadly. It was caught by breathing in the germs when an infected person coughed or sneezed. They would cough up blood and their lungs rotted inside them .
8.	Doom Painting	A painting in Medieval churches which showed the joys of heaven and the horrors of hell.
9.	Barber Surgeon	Performed simple surgery and cut peoples hair!
10.	Apothecaries	People who made and sold medicines made from plants and herbs.
11.	Blood-letting	The practice of making someone bleed to help cure illness.
12.	Flagellants	People who whipped themselves in order to ask God to forgive their sins. Seen as a prevention for the Black Death.
13.	Four Humours	A theory on the cause of illness first proposed by Hippocrates.
14.	Astronomy	The study of the planets and stars
15.	Symptoms	Signs of an illness or disease

# History

Year 7

## Topic The Tudors-Henry

Timeline	
1.	1485=1509 Henry VII is king
2.	1509-1547 Henry VIII is king
3.	1547-1553 Edward VI is king
4.	1553-1558 Mary I is queen
5.	1558-1603 Elizabeth I is queen
6.	22nd August 1485 Battle of Bosworth took place, ending with Henry crowned as the new king.
7.	1509 Henry VIII marries Catherine of Aragon
8.	1516 Mary, Henry's first child is born
9.	1533-34 Henry breaks with Rome and creates the church of England
10.	1533 Henry Divorces Catherine and marries Anne Boleyn
11.	17th September 1533 Elizabeth is born— Henry VIII's second child
12.	1536 Dissolution of the monasteries begins
13.	19th May 1536 Anne Boleyn is beheaded
14.	30th may 1536 Henry VIII marries Jane Seymour
15.	1537 Edward is born Henry's third child
16.	1537 Jane Seymour dies
17.	1540 Henry marries Ann of Cleves but the marriage is annulled
18.	1540 Henry marries Catherine Howard
19.	1542 Catherine Howard is executed
20.	1543 Catherine Parr becomes Henry's sixth wife



Key words	
1.	Monarch the King or Queen
2.	restored return something to the way it was before
3.	Dynasty people in the same family who have influence
4.	Beheaded to have your head cut off
5.	Protestant a Christian religion focussed on the Bible
6.	Regency Council someone who rules the country when the monarch is too young
7.	War of the Roses Battle for power between the House of York (white rose) and House of Lancaster (red rose)
8.	Reformation Reformation, also called Protestant Reformation, the move of part of the church away from the authority of the Pope. Its greatest leaders undoubtedly were Martin Luther and John Calvin.
9.	Dissolution of the monasteries The closure of English Monasteries by Henry VIII in 1536-1540. Monasteries were run by the catholic church and were homes for Monks and Nuns
10.	Heir A person who is next in line to the throne







### Key Individuals

1.	Martin Luther	A German priest whose <i>Ninety-Five Theses</i> began the Protestant reformation in 1517.
2.	Thomas Cromwell	He helped the King in breaking from Rome and establishing his own Church in England, with Henry as Supreme Head of the Church. He had a large role in the Dissolution of the Monasteries from 1536 onwards. However, he fell out of favour following the disastrous Anne of Cleves marriage and was executed in 1540.
3.	King Richard III	Richard was King of England and Lord of Ireland from 1483 until his death in 1485. He was the last king of the House of York and the last of the Plantagenet dynasty.
4.	Lady Jane Grey	She was the great grand-daughter of Henry VII and named by Edward to be his successor to the throne of England. She became known as the 'nine day queen'
5.	Pope Clement VII	Pope who refused Henry's request for a divorce
6.	Cardinal Wolsey	Henry VIII's most powerful minister. But he fell out of favour for not being able to get the Pope to grant Henry's divorce from Catherine of Aragon.

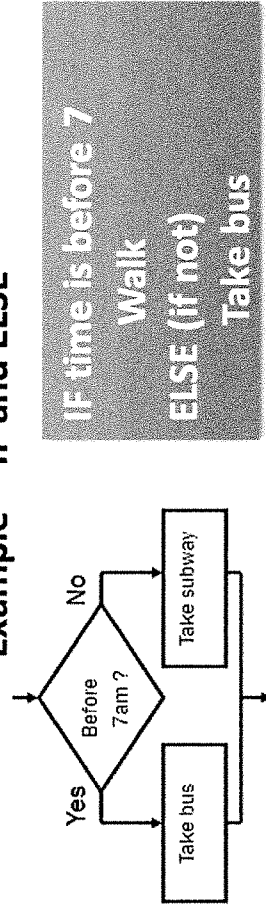
# Year 7 Computing All Saints' Absolutes: Algorithms

## Flow charts

Flow charts like pseudocode are informal but the most common flow chart shapes are:

	<b>Line</b>	An arrow represents control passing between the connected shapes.
	<b>Process</b>	This shape represents something being performed or done.
	<b>Sub Routine</b>	This shape represents a subroutine call that will relate to a separate, non-linked flow chart.
	<b>Input/Output</b>	This shape represents the input or output of something into or out of the flow chart.
	<b>Decision</b>	This shape represents a decision (Yes/No or True/False) that results in two lines representing the different possible outcomes.
	<b>Terminal</b>	This shape represents the "Start" and "End" of the process.

## Example – IF and ELSE



There are three basic building blocks (constructs) to use when designing algorithms:  
**Sequencing** (the specific order in which instructions are performed in an algorithm.)

**Selection** (for a decision or question)  
**Iteration** (to repeat something often called a 'loop'.)

KEY VOCABULARY	
<b>Algorithm</b>	An abstracted program which completes a given task, whatever the data provided.
<b>Abstraction</b>	Abstraction is moving a problem out of the specific in order to create a general solution that would work in similar scenarios. Ignoring the gritty details to focus on the problem.
<b>Decomposition</b>	Breaking a problem down into smaller, computational solvable chunks.
<b>Pseudo Code</b>	A structured way of planning code, which is 'computational' in style (uses Boolean logic, variables, comparisons and arithmetic for example) but is not tied to a strict high-level language's syntax.
<b>Flow Diagram</b>	A diagram, made using specific shaped boxes, that mocks up the flow of a program through various stages, processes and decisions.

## Year 7 Computing All Saints' Absolutes: Number Systems



### Keywords for Binary:

**Binary** A binary number is made up of just 2 digits and is known as base 2.

**Denary** A denary number is made up of 10 digits and is known as base 10.

**Data** The characters, or symbols, on which operations are performed by a computer, which may be stored and transmitted in the form of electrical signals and recorded on media.

**Convert** To change the form, character, or function of something

**Hexadecimal** Hexadecimal (or hex) is a base 16 system used to simplify how binary is represented.

### Things to remember when adding binary numbers:

Keep your numbers in the correct columns

$$1+1 = 2 = 10 \text{ in binary}$$

$$1+1+1 = 3 = 11 \text{ in binary}$$

Computers use binary numbers, the digits 0 and 1, to store data. This is because computer systems use switches to represent data and switches have only two states: ON and OFF

### Why do computers use binary numbers?

ON corresponds to 1 and OFF corresponds to 0. All computer programs, must therefore be translated into binary code for the computer to understand and execute the instruction.  
**Note:** Humans cannot use this system easily.

### Converting from binary to denary

To convert a binary number to denary, start by writing out the binary place values. In denary, the place values are 1, 10, 100, 1000, etc – each place value is 10 times bigger than the last. In binary, each place value is 2 times bigger than the last (i.e. increased by the power of 2). The first few binary place values look like this:

16	8	4	2	1
1	0	0	1	1

$$16 + 2 + 1 = 19$$

To convert a binary number into a denary number, add the numbers in the column headings for the columns that contain a 1.

There is a 1 in 16, 2 and 4 columns, so add these together to find the denary number of 19.

### Bits and bytes

1 bit - stands for binary digit and is the smallest unit of binary information

Nibble - 4 bits (half a byte)

Byte - 8 bits

### Converting Denary to binary

1. To convert 13 to a binary number, set the table.

13

16	8	4	2	1

2. Add a 0 in the first column heading

13 is under 16 so the first digit will be 0

16	8	4	2	1
0				

3. As 13 is over 8 place 1 in the column heading 8.

13 is over 8 so the next digit will be 1 then subtract 8 from 13

16	8	4	2	1
0	1			

4. Now  $13 - 8 = 5$ , so to make 5 I need 4 and 1.

16	8	4	2	1
0	1	1		

5. Place a 0 in the empty column.

16	8	4	2	1

**An overflow error** is when the result of a binary calculation is too long for a computer to process. For example, if the answer is 9 bits long, but a byte can only fit 8 bits

# HT3 Y7 Maths Absolute

## Basic operations

## Perimeter

## Area

### 1. Order of operation (BIDMAS)

#### Brackets

Indices (powers or roots)

Divisions and **Evaluate  $3 \times 2 + (18 \div 6)^2$**

$$3 \times 2 + 3^2$$

$$3 \times 2 + 9$$

$$6 + 9 = 15$$

### 2. Multiplication

$$83 \times 9 =$$

HTO	83	×	9	=	747
HTO	83	×	9	=	747
HTO	83	×	9	=	747

#### Column Method

HTO	83	×	9	=	747
HTO	83	×	9	=	747
HTO	83	×	9	=	747

$$78 \times 46 =$$

x	40	6	=	3588
70	2800	420	=	3588
8	320	48	=	3588

### 3. Multiplication with decimals

$$1. \text{ Convert to an integer calculation } 0.17 \times 0.4 = 0.068$$

$$2. \text{ Use any method to multiply } 17 \times 4 = 68$$

$$3. \text{ Convert the answer back. } \begin{array}{r} +10 \\ 68 \\ +10 \\ \hline 0.068 \end{array}$$

### 4. DIVISION

What is  $704 \div 4$ ?

HTO	704	÷	4	=	176
HTO	704	÷	4	=	176
HTO	704	÷	4	=	176

How many times does 4 go into 7? 1  
4 goes into 7 once  
Leaving remainder 3

HTO	704	÷	4	=	176
HTO	704	÷	4	=	176
HTO	704	÷	4	=	176

### 5. Division with decimals

- Write the division as a fraction  $2.4 \div 0.4 = \frac{2.4}{0.4}$
- Multiply both parts of the fraction to eliminate the decimal denominator.  $\frac{2.4 \times 10}{0.4 \times 10} = \frac{24}{4} = 24 \div 4 = 6$
- Finish the division.

### 6. Using a calculator

- $x^2$  Squaring a number
- $x^3$  Cubing a number
- $x^{\square}$  Choose a power for a number
- $\frac{\square}{\square}$  Fraction button
- $\text{Ans}$  Converts between fractions and decimals

- $\sqrt{\square}$  Square root
- $\sqrt[3]{\square}$  Cube root
- $\sqrt{\square}$  Choose a root of a number
- $\text{Ans}$  The latest answer calculated using your calculator

### 7. Definitions

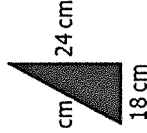
- Digit** – a single figure within a number
- Decimal point**– the dot separating units from tenths
- Brackets** – tell you to do this part of the calculation first
- Partitioning** –split one number into two simpler number
- Compensation** – Round one number up to make a calculation easier and then subtract the correction

### 8. Perimeter

**Perimeter** – the distance around a two-dimensional shape. The perimeter is calculated by adding all the edges together.

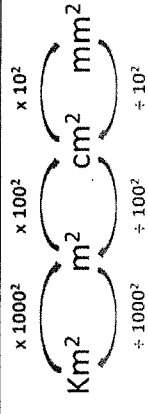
$$\text{e.g. } 30 \text{ cm} + 24 \text{ cm} + 18 \text{ cm} = 72 \text{ cm.}$$

The perimeter is 72cm.



### 9. Converting area units

DF: K529-530



### Example 1:

**Convert  $3\text{m}^2$  into  $\text{cm}^2$**

To change from  $\text{m}^2$  to  $\text{cm}^2$   $\times 100^2$   
 $3 \times 100^2 = 30000\text{cm}^2$

### Example 2:

**Convert  $450\text{mm}^2$  into  $\text{cm}^2$**

To change from  $\text{mm}^2$  to  $\text{cm}^2$   $\div 10^2$   
 $450 \div 10^2 = 4.5\text{cm}^2$

**Area** is the total surface of a shape or space.

**Step by step guide:**

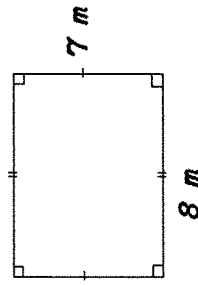
1. Write out the formula
2. Substitute the values from the question
3. Work out the answer
4. Add the correct units

**10.1 Area of a rectangle**



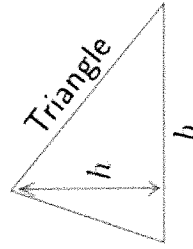
$$\text{Area} = \text{length} \times \text{width} = L \times W$$

**Example:** Find the area of the rectangle



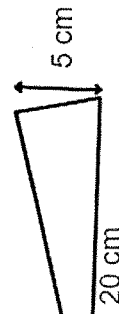
$$\begin{aligned} A &= L \times W \\ &= 7 \times 8 = 56\text{m}^2 \end{aligned}$$

**10.2 Area of a triangle**



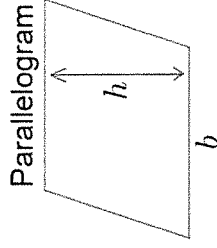
$$\text{Area} = \frac{1}{2} \times \text{base} \times \text{height} = \frac{1}{2} bh$$

**Example:** Find the area of the triangle

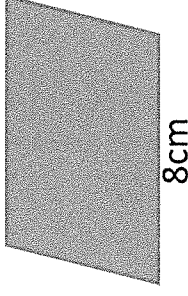


$$\begin{aligned} A &= \frac{1}{2} bh \\ &= \frac{1}{2} \times 20 \times 5 = 50\text{m}^2 \end{aligned}$$

**10.3 Area of a parallelogram**



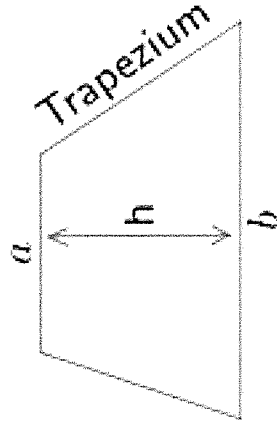
$$\text{Area} = \text{base} \times \text{height} = bh$$



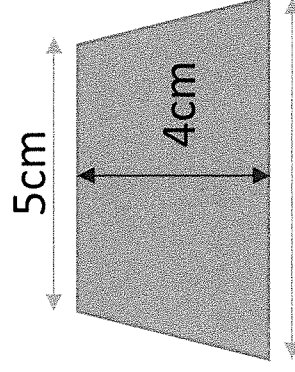
$$\begin{aligned} \text{Area} &= bh \\ &= 8 \times 5 \\ &= 40\text{cm}^2 \end{aligned}$$

**Example:** Find the area of the parallelogram

**10.4 Area of a trapezium**



$$\text{Area} = \frac{1}{2} (a + b) \times h$$



**Example:** Find the area of the trapezium

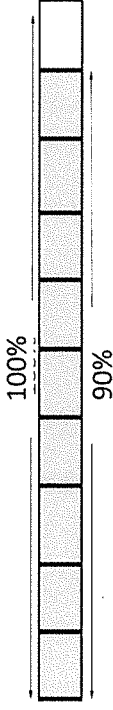
$$\begin{aligned} \text{Area} &= \frac{1}{2} (a+b) \times h \\ &= \frac{1}{2} \times (5 + 7) \times 4 = 24\text{cm}^2 \end{aligned}$$



3. Reverse Percentages

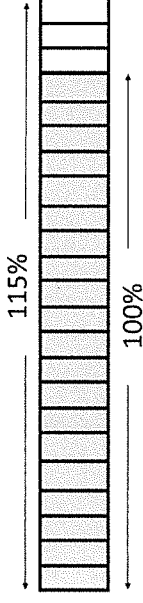
**Reverse Percentage** - used when the percentage and the final number is given, and the original number needs to be found.

e.g. At a shop during a discount event, everything is reduced by 10%. Tia bought a dress for £36. What is the original price?



90% is  $1\% = £36 \div 90 = £0.40$  so  $100\% = £0.40 \times 100 = £40$

e.g. Maggie takes her family out for a meal and she decides to tip 15%. Maggie's pays £92. What was the cost the food?



£92  $1\% = £92 \div 115 = £0.80$   
 $100\% = £0.80 \times 100 = £80$

4. Percentage Change

**Percentage Change Formula** =  $\frac{\text{New Value} - \text{Original Value}}{\text{Original Value}} \times 100$

e.g. Last month Sophie earned £200. This month she earned £300. What is the percentage increase?  
 Percentage change =  $\frac{300 - 200}{200} \times 100 = 50\%$  increase

5. Percentage multipliers

This type of calculation is most useful when using a calculator.

For a percentage increase

Step 1: Add the percentage that we are increasing by to 100%  
 Step 2: Divide by 100

e.g. What is the multiplier for a 15% increase?  
 $100\% + 15\% = 115\%$   
 $115\% \div 100 = 1.15$   
 Multiplier x1.15

For a percentage decrease

Step 1: Subtract the percentage that we are decreasing by from 100%  
 Step 2: Divide by 100

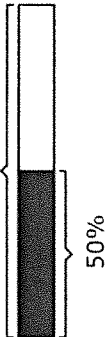
e.g. What is the multiplier for a 33% decrease?  
 A 33% decrease =  $100\% - 33\% = 67\%$   
 $67\% \div 100 = 0.67$   
 Multiplier x0.67

1. Percentages

Percentage - gives you the proportion per hundred

$50\% = \frac{1}{2}$

128



$50\% \text{ of } 128 = 128 \div 2 = 64$

$25\% = \frac{1}{4}$

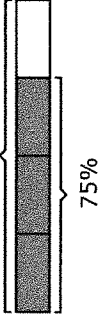
84



$25\% \text{ of } 84 = 84 \div 4 = 21$

$75\% = \frac{3}{4}$

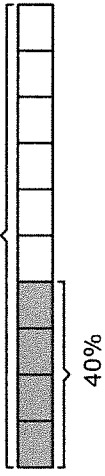
240



$25\% \text{ of } 240 = 240 \div 4 = 60$   
 $75\% \text{ of } 240 = 3 \times 60 = 180$

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

50



to find 10% divide by 10

What is 40% of 50?

$10\% \text{ of } 50 = 5$

$40\% \text{ of } 50 = 4 \times 5 = 20$

to find 5%, first find 10% and half it.

What is 5% of 50?

$10\% \text{ of } 50 = 5$

$5\% \text{ of } 50 = 5 \div 2 = 2.5$

to find 1% divide by 100

12% of £120?

$1\% = £120 \div 100 = £1.20$

$12\% = 1.20 \times 12 = £14.40$

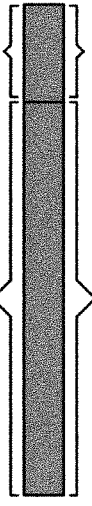
$1\% = \frac{\quad}{\quad}$

2. Percentage increase/decrease - changes expressed as fractions of 100.

Percentage Increase

A bottle of orange juice comes with 25% extra free. A normal size bottle is 200ml. How much juice is there in this bottle?

200 ml



25%

$25\% \text{ of } 200 = 200 \div 4 = 50$

$200 + 50 = 250$

The bottle has 250ml.

Interest - is money that is paid regularly at a particular percentage, usually when money has been lent or borrowed

Percentage Decrease

A holiday club costs £44 for the first child in a family. There is a 25% discount for a second child. What is the discounted price?

£44



25%

$25\% \text{ of } 44 = 44 \div 4 = 11$

$44 - 11 = 33$

The discounted price of the holiday club is £33.



## 6. Factors, Multiples and Primes

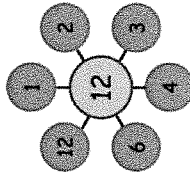
**Factor** – a number which divides exactly into another number is called a factor of that number.

**Multiple** - A number that is part of another's times table

**Prime number** – has exactly two factors 1 and the number itself

## 7. How to find factors of a number

e.g. Here are all the factors of 12:



(top tip – learn your times tables!)

It is usual to write the factors of a number in an ordered list e.g.

The factors of 12 are 1, 2, 3, 4, 6, 12.

$$1 \times 12 = 12$$

$$2 \times 6 = 12$$

$$3 \times 4 = 12$$

## 8. How to find multiples of a number

The multiples of a number are the values in its times table.

e.g. Find the first 5 multiples of 12.

12, 24, 36, 48, 60

(Clue – what are the first 5 numbers in the 12 times table?)

## 10. Prime Factor Decomposition

**Step 1:** Start by writing your number at the top middle of the page.

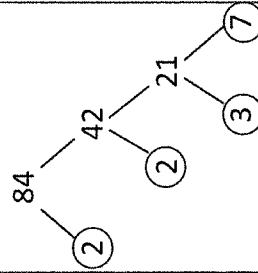
**Step 2:** Think about two numbers that multiply together to make your number, writing these down to the sides, connecting with straight lines, and circling any prime numbers.

**Step 3:** Repeat **Step 2** on the numbers that haven't been circled until the ends of each branch are circled.

**Step 4:** Write all of the prime (circled) numbers together as a multiplication.

**Decomposition** – splitting a number down into pairs of factors until you reach only prime numbers

e.g. Write 84 as a Product of Prime Factors



$$84 = 2 \times 2 \times 3 \times 7$$

$$84 = 2^2 \times 3 \times 7$$

## 11. HCF and LCM

**Highest Common Factor (HCF)** – the largest number that is a factor of all numbers

**Lowest Common Multiple (LCM)** – the smallest number that is a multiple of all numbers.

## 12. HCF Listing Method

- List the **FACTORS** of ALL the numbers
- Find the **BIGGEST** number in both lists

e.g. Find the HCF of 24, and 42

Factors of 24 are: 1, 2, 3, 4, 6, 8, 12, 24

Factors of 42 are: 1, 2, 3, 6, 7, 14, 21, 42

Therefore the HCF is 6.

## 9. Prime numbers

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

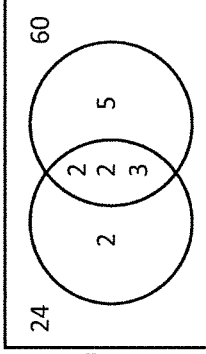
## 14. LCM/HCF Venn Diagram (Higher)

Find the HCF and LCM of 24 and 60

$$24 = 2 \times 2 \times 2 \times 3$$

$$60 = 2 \times 2 \times 3 \times 5$$

Complete the Venn diagram allocating the factors that are shared in the centre.



**HCF** is the region of intersection (overlap of circles).  $2 \times 2 \times 3 = 12$ .

**LCM** is the numbers in the circles all multiplied together.

$$2 \times 2 \times 2 \times 3 \times 5 = 120$$

## 14. Square Numbers

**Square Numbers** are what you get when you multiply a whole number by itself. 1

$$1^2 = 1 \times 1 = 1$$

$$4 = 2^2 \text{ or } 2 \times 2 = 4$$

$$9 = 3^2 \text{ or } 3 \times 3 = 9$$

$$16 = 4^2 \text{ or } 4 \times 4 = 16$$

$$25 = 5^2 \text{ or } 5 \times 5 = 25$$

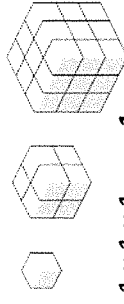
$$36 = 6^2 \text{ or } 6 \times 6 = 36$$

The first 15 square numbers are:

1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 225

## 15. Cube Numbers

**Cube Numbers** are what you get when you multiply a whole number by itself and itself again.



$$1^3 = 1 \times 1 \times 1 = 1$$

$$2^3 = 2 \times 2 \times 2 = 8$$

$$3^3 = 3 \times 3 \times 3 = 27$$

$$4^3 = 4 \times 4 \times 4 = 64$$

$$5^3 = 5 \times 5 \times 5 = 125$$

## 16. Square Roots and Cube Roots

**Square root** – is the opposite of squaring a number. It uses the symbol  $\sqrt{\quad}$  e.g.  $\sqrt{9} = 3$

**Cube root** – is the opposite of cubing a number. It uses the symbol  $\sqrt[3]{\quad}$  e.g.  $\sqrt[3]{8} = 2$

Type the key skill e.g. "K186" that you would like to practice into the Dr Frost Maths search box at the top of the screen. There are videos to watch and questions to practice for each key skill to help you be successful in Maths. Your username is your student email address. If you have any questions, please see your maths teacher.

### Multiplication and Division

- K7a: Multiply any integer by a single-digit integer.
- K7b: Multiply any integer by a 2-digit integer.
- K7d: Multiply any integer by a 3-digit integer.
- K7c: Multiply a 2-digit by a 2-digit integer.
- K9a: Divide any integer by a single-digit integer.
- K9b: Divide any integer by a double-digit integer.
- K13b: Solve an arithmetic worded problem involving multiplication or division.

### Order of operations

- K103a: Evaluate calculations with two operations.
- K103b: Evaluate calculations with three operations.
- K103c: Evaluate calculations with brackets.

### Perimeter

- K69a: Find the perimeter of a 2D shape by adding lengths.
- K69b: Find the perimeter of a rectangle.
- K69c: Find a side of a rectangle given its perimeter.
- K72b: Find the perimeter of a composite rectilinear shape.
- K72c: Find the perimeter of shapes made of several congruent rectangles.

### Percentages

- K110a: Find what percentage one number is of another.
- K108ab: Find the percentage of an amount without a calculator.
- K108c: Find the percentage of an amount with a calculator.
- K109a: Increase or decrease an amount by a percentage without a calculator.
- K113b: Increase or decrease an amount by a percentage with a calculator.
- K111a: Determine a percentage change.
- K209a: Find a value before a percentage change.
- K209b: Find a value before a percentage was taken.

### Area

- K70b: Find the area of rectilinear shapes by counting squares.
- K71a: Find the area of a rectangle.
- K71b: Find a side of a rectangle given its area.
- K73a: Find the area of a triangle.
- K73b: Find the base or height of a triangle given its area.
- K73c: Find the area of a triangle given the base, the height and another length.
- K73f: Find the area of a composite shape.
- K74a: Find the area of a parallelogram.
- K74c: Find the base or height of a parallelogram given its area.
- K74d: Find the area of a parallelogram given the base, the height and another length.
- K146a: Find the area of a trapezium.
- K146b: Find a length in a trapezium given its area.
- K28a: Find what fraction of a shape is shaded.

### Factors, Multiples and Primes

- K33a: Find factors of a number.
- K33c: Find multiples of a number.
- K37a: Identify prime numbers.
- K114a: Write a number as the product of its prime factors.
- K115a: Find the HCF of two numbers using a listing strategy.
- K115b: Find the LCM of two numbers using a listing strategy.
- K115c: Find the Highest Common Factor (HCF) of 2 numbers by prime factorising.
- K115d: Find the Lowest Common Multiple (LCM) of 2 numbers by prime factorising.

### Squares, Cubes, Roots and Higher Powers

- K16a Calculate powers of a number.
- K16b Identify square numbers.
- K16c Identify cube numbers.
- K17a Find the square root of a number.
- K17b Find the cube root of a number using a calculator.

# Rhythmworks

Year 7 – Term 2

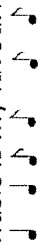
## A. Key Words

**PULSE** – A regular BEAT that is felt throughout much music. Certain beats of the pulse can be emphasised to establish regular pulse patterns e.g.

- 1 2 3 4, 1 2 3 4 = a 4-beat pulse
- 1 2 3, 1 2 3 = a 3-beat pulse (often called a WALTZ)
- 1 2, 1 2, 1 2 = a 2-beat pulse (often called a MARCH)

**RHYTHM** – A series of sounds or notes of different lengths that create a pattern. A rhythm usually fits with a regular pulse. Everyday sentences can be used to create rhythms. The patterns made by words create rhythms and this rhythm has a 4-beat pulse:

Music is my favourite



**ACCENT** – Emphasising or stressing a particular note or notes. Accents affect the **ARTICULATION** and are shown with this symbol >

**DURATION** – The length of a sound – long/short

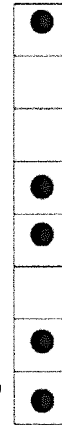
**TEMPO** – The speed of a sound or piece of music – fast/slow

**TEXTURE** – Layers of sound or how much sound is heard – thick/thin

**STRUCTURE** – The organisation of sound or how sounds are ordered

**SILENCE** – The absence of sound or no sound, shown in music by **RESTS**.

**RHYTHM GRID NOTATION** – A way of writing down and recording rhythms using boxes



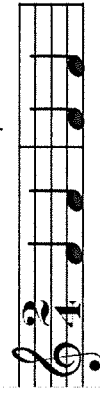
## B. Time Signatures

A **TIME SIGNATURE** tells us how many beats (and what type of beats) there are in each **BAR** of music and is made up of two numbers at the beginning of a piece of music.

Top Number = **HOW MANY BEATS**

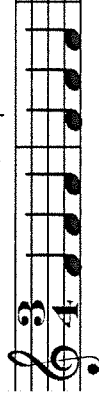
Bottom Number = **TYPE OF BEAT**

2/4 = **TWO CROTCHET** beats per **BAR**



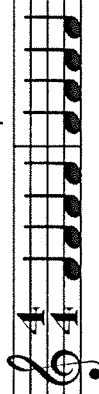
e.g. a **MARCH**

3/4 = **THREE CROTCHET** beats per **BAR**



e.g. a **WALTZ**

4/4 = **FOUR CROTCHET** beats per **BAR**



Bottom Numbers:

2 = Minim 4 = Crotchet 8 = Quaver

## BARS AND BARLINES

**BARLINE** →



← one BAR →

## C. Ostinatos, Cyclic and Polyrhythms

**RHYTHMIC OSTINATO** – a short repeated pattern made up of notes of different lengths but without a particular pitch.

**CYCLIC RHYTHM** – a rhythm which is repeated over and over again (in a cycle) many times.

**POLYRHYTHM** - the use of several rhythms performed simultaneously, often overlapping to create a thick, **POLYRHYTHMIC TEXTURE**. A common polyrhythm often used in Latin-American and African Music is to play a 3-beat and 2-beat rhythm simultaneously as shown below. This is called a “3 against 2 Polyrhythm”

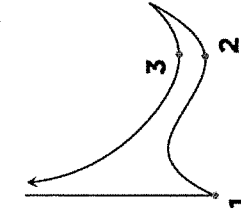
3 beat rhythm	X	X	X	X	X	X	X
2 beat rhythm	X		X		X		X

## D. Conducting Pulses and Beats

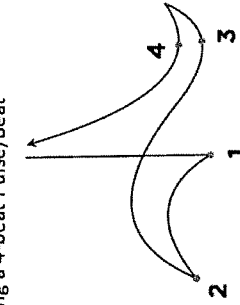
Conducting a 2-beat Pulse/Beat (e.g. a *March*)



Conducting a 3-beat Pulse/Beat (e.g. a *Waltz*)









Conducting a 4-beat Pulse/Beat



## E. Note Values - Note Names, Symbols and Duration






Note Name	Note Symbol	Note Value
Semibreve		4 beats
Minim		2 beats
Crotchet		1 beat
Quaver		½ of a beat
Pair of Quavers		2 x ½ beats = 1

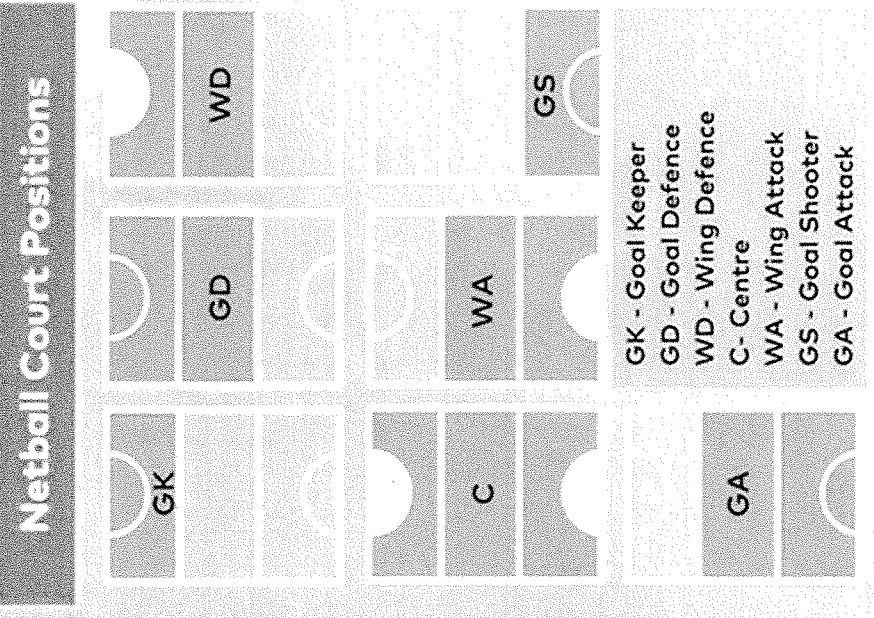
## Handball

Core Skills	Demonstration	Key coaching points	Decision making	Key term (Positions)
Passing Overhead pass Flick or Side Pass Bounce pass		<p>1. <b>Overhead Pass:</b> Weight is always on the front foot. 2. The ball is gripped using fingers and thumbs and never balanced in the palm. 3. The arm is raised, with the throwing elbow above shoulder level. 4. In levering the arm back to generate power, don't forget to keep the height. 5. Throw, don't push, the ball into the path of another player.</p> <p>2. <b>Frontal catch position:</b> Catching the ball with two hands is the best method. The fingers must be relaxed- palms facing the ball. Elbows bent.</p>	<p>3. Pass with the right and left hand • The ball must be passed in front of a player, taking into account the player's speed • The pass should be performed while moving of 3 steps • Both short and long passes are useful</p> <p>4. A ball feint could be in the guise of pretending to take a pass or shot, to outwit an opponent and gain an advantage</p> <p>5. Be prepared to receive the ball from various positions, including the side and behind.</p> <p>6. Receive the ball on the move, attacking the space</p>	<p><b>1. GOAL KEEPER (GK)</b> the goal-keepers role is to prevent goals and organise the team.</p> <p><b>2. RIGHT/LEFT BACK (RH/LH)</b> Normally bigger than the wingers, the half backs are shooters. They are strong and physical in defence - creating a wall for the opposition to shoot over. The bigger and stronger the wall, the better chance your team have of conceding fewer goals. In attack, the half backs are dangerous with their height, power and ability to shoot from distance.</p>
Shooting Standing Shot Jump Shot		<p>1. <b>Standing:</b> Receive the ball on the move when driving at the defence • Raise the throwing arm backwards and high (above the shoulder) • Transfer weight from back to front (nose over toes) • Release the ball at the highest point and aim the shot appropriately</p> <p>2. <b>Jump:</b> The third and/or final step should be explosive and allow the player to take off • The hips should go back with the throwing arm • The ball should be released before landing • The player can land inside the 6m line</p>	<p>3. Analyse the indicators – is there a possibility to score a goal?</p> <p>4. Consider where in the goal to aim the shot</p> <p>5. Vary where you shoot and how you do this. Aim for the corners. Score from a bounce.</p> <p>5. Consider the power needed to beat the goalkeeper, but not at the expense of accuracy</p>	<p><b>3. RIGHT/LEFT WINGER (RW/LW)</b> Very fast, agile and fit, this position requires a player who can run up and down the court all day long. They are the first players in attack and the first to return to defence.</p>
Dribbling		<p>1. After receiving the ball and before dribbling, a player holds the ball with both hands • The ball should be dribbled in one hand at hip level • The angle of the bounce depends on the speed that the player is moving at; the faster the run the more the angle becomes obtuse • If an opponent comes close, the ball should be shielded using the body and the centre of gravity lowered.</p>	<p>1. Only dribble in the following situations: To freeze time, to progress up the court WHEN there is NO ONE to pass to. You get a quick break from a deflected attack.</p> <p>2. Do NOT dribble for the sake of it- this demonstrates poor decision skills.</p>	<p><b>3. RIGHT/LEFT WINGER (RW/LW)</b> Very fast, agile and fit, this position requires a player who can run up and down the court all day long. They are the first players in attack and the first to return to defence.</p>
Attacking		<p>1. Counter attack – all your team moves forward quickly when you win the ball back from the opposition and attack before your opponents can get back to defend.</p> <p>2. P.A.S.S- Keep possession, Advance forward, Get into Space, Shoot.</p>	<p>3. Look for space on the field and attempt to move away from the opposition to give your teammate and option to pass to you.</p> <p>4. Decide whether to dribble or pass based on the position of your teammates.</p>	<p><b>4. PLAY MAKER:</b> Brain of the team, the creator. The centre player starts moves and gives the halves and wingers the very best opportunities to score.</p> <p><b>5. LINE PLAYER (LP)</b> The line player's main role is to sit within the defence and disrupt the opposition by putting blocks/screens on in order to give his players an easier route through the defence</p>
Tackling/ Blocking		<p>1. With a right handed attacker, you should meet the opponent with your left arm on the opponent's shooting arm and your right arm on the hip of the opponent 2. Meet the opponent with bent arms 3. If the opponent is shooting with the right hand, place your left foot in front 4. Move accordingly with the opponent. The difference between tackling and blocking is that by a tackle you attempt to prevent the opponent from shooting. When blocking, the opponent is able to shoot and you try to place one or both hands in front of the ball.</p>	<p>5. Defending in handball is strategically preventing the opposition gaining a clear sight on goal and denying goal scoring opportunities. Individual defending techniques include blocking and tackling. Blocking with the arms is used to stop an attacker's shot at goal or to support the goalkeeper by covering a part of the goal.</p> <p>6. Meet the opponent well balanced • Be closest to the shooting arm of the attacker • Use both arms raised • The arms should be so close together that the ball cannot pass through • A slight bend in the elbows • Keep hands and fingers extended, pointing up • Aim to block the ball with your palm or under-arm.</p>	<p><b>4. PLAY MAKER:</b> Brain of the team, the creator. The centre player starts moves and gives the halves and wingers the very best opportunities to score.</p> <p><b>5. LINE PLAYER (LP)</b> The line player's main role is to sit within the defence and disrupt the opposition by putting blocks/screens on in order to give his players an easier route through the defence</p>
Rules and regulations		<p>1. Each team consists of 7 players; a goalkeeper and 6 outfield players.</p> <p>2. Outfield players can touch the ball with any part of their body that is above the knee. • Once a player receives possession, they can pass, hold possession or shoot.</p> <p>3. If a player holds possession, they can dribble or take three steps for up to three seconds without dribbling</p> <p>4. Goalkeepers are allowed out of the goal area but must not retain possession if they are outside the goal area. Only allowed to score in the D.</p>	<p>5. Ensure you know all rules of Handball.</p> <p>6. Demonstrate fair play- Playing by the rules</p> <p>7. Demonstrate Sportsmanship- e.g. Shaking the oppositions hand/ Accepting the decisions of the referee.</p> <p>8. Do not display deviant behaviour e.g. illegal tackle.</p>	<p><b>CHALLENGE:</b> Wider reading: KS4 handball resource, 2 updated- lovepdf-compressed (1).pdf (<a href="http://englandhandball.com">englandhandball.com</a>)</p>



**NETBALL**

Skills	Demonstration	Key coaching points	Decision making	Positions
Foot-work		<p>1.Landing foot (1 foot – 2<sup>nd</sup> foot) 2.Double foot landing 3.Pivoting Pivot (turning) with the ball once you have caught it.</p> <p>4.Keep one foot fixed to the ground. Push and turn with the other foot. 5.Release the ball off in a different direction.</p>	<p>6.Decide which foot you are going to land on when you are in the air.</p> <p>7.Do not lift or drag your chosen foot when pivoting or passing the ball.</p>	<p><b>The Role of the Positions:</b></p> <p><b>GK</b>—To work with the GD and to prevent the GA/GS from scoring.</p> <p><b>GD</b>—To win the ball and reduce the effectiveness of the GA.</p> <p><b>WD</b>—To look for interceptions and prevent the WA from feeding into the circle.</p> <p><b>C</b>—To take the centre pass and to link the defence and the attack.</p> <p><b>WA</b>—To feed the circle players giving them shooting opportunities.</p> <p><b>GA</b>—To feed and work with GS to score goals.</p> <p><b>GS</b>—To score goals and work in and around the circle.</p>
Passing (different passes)		<p><b>Overhead pass</b> 1. Bend your arms and keep your elbows close to your body.</p> <p>2.Lift the ball over your head.</p> <p>3.Step forward and release the ball.</p> <p>4.The flight of the ball should be high.</p> <p><b>Shoulder pass</b> (opposite foot to throwing arm steps into the pass, transfer weight from back foot to front foot, hold the ball with 2 hands then move to one, follow through the pass, pass ahead of the player)</p> <p><b>Chest pass</b> – (two hands on the ball at chest height elbows down and in, spread fingers round the ball thumbs behind the ball step forward as you pass and release the ball)</p> <p><b>Bounce pass</b> (step forward with the ball, push the ball to land 2/3 of the distance towards the receiver)</p>	<p>8.Decide which pass to play depending on how far away your teammate is.</p> <p>9.Ensure you aim the ball at your teammate for it to be an accurate pass.</p> <p>10.If your teammate is marked throw it into space or to another teammate who is unmarked.</p>	
Shooting		<p>Feet shoulder-width apart facing the target</p> <p>Ball held high directly ABOVE head.</p> <p>Knees are slightly bent to push off with.</p> <p>Eyes looking at a point above the ring.</p> <p>Push the ball upwards using wrist and fingers.</p> <p><b>Goal Shooter (GS)</b> – To score goals and to work in and around the circle with the GA</p> <p><b>Goal Attack (GA)</b> – To feed and work with GS and to score goals</p> <p><b>Wing Attack (WA)</b> – To feed the GA and GS giving them shooting opportunities</p> <p><b>Centre (C)</b> – To take the centre pass and to link defence and attack.</p> <p><b>Wing Defence (WD)</b> – To look for interceptions and prevent opposition WA feeding the circle.</p> <p><b>Goal Defence (GD)</b> – To win the ball and stopping the opposition GA from shooting.</p>	<p>6.Keep your eyes on the target.</p> <p>7.Do not rush the shot, relax and take your time to aim correctly.</p> <p>8.Ensure you put enough power into the shot dependant on the distance you are away from the net.</p> <p>8.Do not go into a section of the netball court you are not allowed.</p> <p>9.If you are playing a new position ensure you know the sections you are allowed to enter.</p>	
Positional play		<p>Use fast feet to move away from the player who is marking you.</p> <p>Fake to move one way and go another way to confuse the defender and find space.</p> <p>Principles of attack Possession /Advance /Space /Shoot</p>	<p>contact: You can't touch or push any player during the game as it is a non-contact sport, this will result in a penalty pass or if they contact you whilst you are in the shooting circle, you will get a</p>	
Dodging and Attacking – creating space				



**Famous Netball players**









**Layla Guscoth** is an England netball international. She was a member of the England squad that won a bronze medal at the 2019 Netball World Cup.



**Beth Cobden** is an England netball international. She was a member of the England teams that won gold medals at the 2017 Fast5 Netball World Series and the 2018 Commonwealth Games.

Rugby

Core Skills	Demonstration	Key coaching points	Decision making	Key term
Movement		<p>Carry the ball in two hands</p> <p>Accelerate into spaces and run direct</p> <p>Draw players towards creating space for others to run into.</p> <p>If a player knocks on (drops the ball forward) the opposing side will gain possession via a scrum.</p>	<p>Draw players to create space for others.</p> <p>Identify and look to pick gaps in defensive lines.</p> <p>Use different running lines and moves to create scoring opportunities</p>	<p>Contact- person to person physical touch.</p> <p>Passing (pace, feint pass)</p> <p>Running (ball carrying)</p> <p>Defending (line positioning)</p> <p>Attacking (diagonally)</p> <p>Awareness (back up)</p> <p>Offensive line</p> <p>Ball Handling</p> <p>Scrum</p> <p>Tackling</p> <p>Ruck</p>
Tackling		<p>Low body position.</p> <p>Shoulder drive below the hip.</p> <p>Tackling must be below shoulder</p> <p>Head safe side.</p> <p>Lock arms to prevent leg drive.</p> <p>Release once player is fully grounded.</p>	<p>Wait for the correct moment to make the tackle.</p> <p>Wait for the attacker to move before committing to the tackle.</p>	
Ruck		<p>Low body position</p> <p>Hips above shoulders</p> <p>Stay on feet if you want to play the ball.</p> <p>Drive opposition players off or create a solid base to play from.</p> <p>You must enter a ruck from the back foot of your side of the ruck.</p>	<p>No hands in the ruck.</p> <p>Decide whether to drive over the ball or go for the ball.</p>	<p>The haka; war dance The Haka used in rugby is a war dance. It was traditionally performed by Maori tribes before battle. The purpose of the dance is to scare the enemy was also raising morale. In rugby, New Zealand sports teams' practice of performing a haka before their international matches has made haka more widely known around the world. This tradition began with the 1888-89 New Zealand Native football team tour and has been carried on by the <u>New Zealand rugby union team</u> (known as the All Blacks) since 1905</p>
5. Positional play		<p>Use of width.</p> <p>Ensure you are level or behind your teammate when they have the ball.</p> <p>Any player in front of a player kicking must wait for the kicker to pass or they will be offside</p>	<p>Identify the correct moment to pass the ball wide to create space to score a try.</p>	<p>The haka; war dance The Haka used in rugby is a war dance. It was traditionally performed by Maori tribes before battle. The purpose of the dance is to scare the enemy was also raising morale. In rugby, New Zealand sports teams' practice of performing a haka before their international matches has made haka more widely known around the world. This tradition began with the 1888-89 New Zealand Native football team tour and has been carried on by the <u>New Zealand rugby union team</u> (known as the All Blacks) since 1905</p>
6. Tactics		<p>Draw players to create spaces for others.</p> <p>Run direct and look for gaps in the defence.</p> <p>Straight defensive line.</p> <p>Use different running lines and moves to create scoring opportunities</p>	<p>Identify weaknesses in your opponent's defence and attempt to exploit this when you attack.</p> <p>Plan numerous attacks to use if your first phase of play is not successful.</p> <p>Defenders communicate to ensure there are no gaps in the defensive line.</p>	<p>The haka; war dance The Haka used in rugby is a war dance. It was traditionally performed by Maori tribes before battle. The purpose of the dance is to scare the enemy was also raising morale. In rugby, New Zealand sports teams' practice of performing a haka before their international matches has made haka more widely known around the world. This tradition began with the 1888-89 New Zealand Native football team tour and has been carried on by the <u>New Zealand rugby union team</u> (known as the All Blacks) since 1905</p>



## CHAPTER 2:

# PROPHECY AND PROMISE

## Knowledge organiser

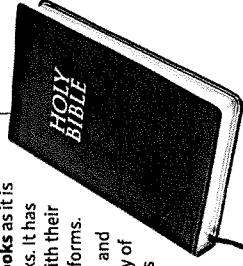
Key vocabulary	
revelation	The way in which God is made known to humans, which Catholics believe is most perfectly done through Jesus.
<i>Dei Verbum</i>	The Latin phrase for 'Word of God', also a document from the Second Vatican Council explaining how Jesus is the Word of God.
scripture	The holy book(s) of a religion; in Christianity it is the Bible.
tradition	Also known as Apostolic Tradition, these are actions and teachings from the original apostles passed on from one generation of bishops to the next.
magisterium	From the Latin term <i>magister</i> , meaning teacher or master; it is the authority of the Church to teach.
inspired	'God breathed'; the belief that the Holy Spirit guides an individual to act or write what is good and true.
canon	the agreed list of books that make up the Catholic Bible
Old Testament	The books of the first half of the Bible showing the creation of the world and God's relationship with the Israelites.
New Testament	The books of the second half of the Bible which tell the story of Jesus' life, ministry and death, and the establishment of the early Church.
Hebrew, Aramaic, Greek	Languages spoken in the area where Jesus grew up; some books of the Bible were written in these languages.
Tanakh	The Jewish Bible.
Liturgy of the Word	The part of Mass where Catholics are taught God's Word from the Bible.

### OPTIONS

Artistic expression	Art is often used in religion to express scripture in a beautiful and engaging way, for example <b>The Book of Kells</b> , which is an ancient and beautiful handwritten book that contains the illuminated Gospels.
Lived religion	<b>Biblical idioms</b> have developed over time to become part of everyday language in the UK. Their presence reflects how influential the Bible has been in the UK. They are used to enhance everyday language and to express deeper meanings in a more interesting way.

### The Bible

- **Bible references** are made up of book, chapter and verse. They help Catholics to find specific passages.
- The Bible is **read in translation**, which means that it is not usually read today in the original languages it was written in (Hebrew, Aramaic and Greek), as most people do not speak these languages now.
- Catholics believe the Bible's writers were **inspired by the Holy Spirit**, so the true author of the Bible is God.

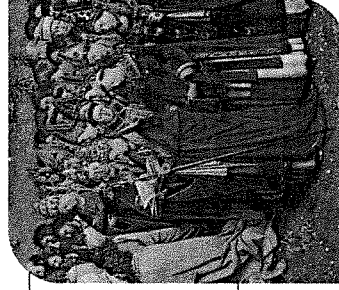


### How is God's message revealed to Catholics?

Scripture	Tradition
<ul style="list-style-type: none"> <li>• The Bible is also known as <b>sacred scripture</b>. Christians believe it is how God reveals information that will aid humanity's salvation.</li> <li>• Together, the Old Testament and New Testament explain the <b>history of salvation</b>.</li> <li>• The <b>Old Testament</b> reveals prophecies about Jesus and key information about God's plan for salvation. In the <b>New Testament</b>, the prophecies and promises in the Old Testament are fulfilled through Jesus.</li> <li>• The Catechism teaches that the Old Testament has 'intrinsic value', meaning that it is essential and valuable in its own right.</li> <li>• Catholics believe scripture is without error, which means that through it God speaks to humans and gives them key messages about salvation.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Dei Verbum</i> 9 teaches that sacred tradition is just as important to Catholics as sacred scripture.</li> <li>• Both are seen as the <b>Word of God</b>.</li> <li>• Tradition comes from the words and actions of the <b>apostles</b>, who were given the <b>Holy Spirit</b> at Pentecost. This gave them authority.</li> <li>• Tradition has developed teachings on the sanctity of life, the sacraments, the Creeds and the Mass.</li> <li>• Tradition is alive, therefore as the Church grows and changes, so does tradition.</li> </ul>

### The magisterium

- The magisterium is the **teaching authority** of the Catholic Church, which has been given to the Pope and the bishops so they can **faithfully** and **authoritatively** teach Catholics how to follow the Word of God.
- The authority was given to **St Peter and the apostles** who founded the early Church and started sacred tradition.
- This authority is passed down to **every Pope and the bishops**, who use it to teach the Word of God.



### How is scripture used by Catholics today?

- The Catholic Church uses scripture as the foundation of Mass. In the **Liturgy of the Word**, Catholics hear Bible readings that help them to feel closer to God and to understand what God expects of them.
- Catholics use scripture in prayer, for example in the **Rosary**, which is connected to key events in the Gospels. Catholics meditate on events in the Gospels when they pray the Mysteries of the Rosary.





# Y7 Biology 1– Cells and Systems

**1 MRS GREN (7 Life Processes):** Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion, Nutrition.

**Excretion** – The removal of waste substances from living organisms.

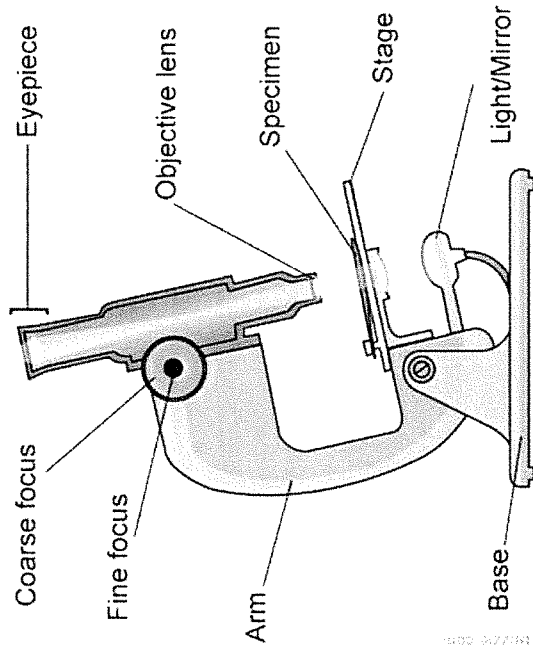
**Species** – A group of organisms that can breed with each other to form fertile offspring.

**Kingdoms** – Animal, Plant, Fungi, Prokaryotes and Protocists

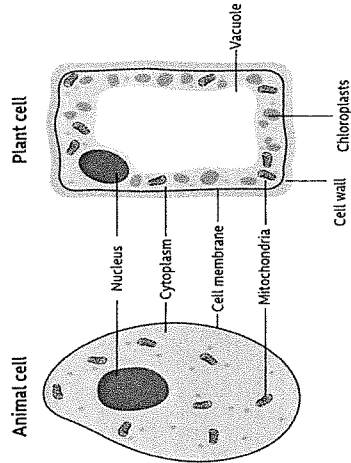
**Vertebrates** – Animals with backbones.

**Invertebrates** – Animal without backbones.

**3**



<b>2</b> Cytoplasm	Where chemical reactions take place.	Mitochondrion	Site of respiration, where energy is released.
Nucleus	Contains genetic material and controls cell activities.	Permanent Vacuole	Contains cell sap, to keep the cell turgid.
Cell membrane	Controls the movement of substances into and out of the cell.	Cell wall	Supports and strengthens the cell (made of cellulose).
Ribosome	Site of protein synthesis.	Chloroplast	Site of photosynthesis. Contain chlorophyll, which absorbs sunlight.



<b>4</b> Sperm cell	Carries the fathers' DNA in nucleus
Red blood cell	Carries oxygen around the body
Nerve cell	Carries electrical impulses around body
Root hair cell (plant cell)	Absorb water and minerals from the soil.
Egg cell	Carries the mothers' DNA in the nucleus
Palisade cell (plant cell)	Carry out photosynthesis. Found in leaves, contain chloroplasts.

**5 Diffusion** - Diffusion is the movement of a substance from an area of higher concentration to an area of lower concentration.

**Osmosis** - Movement of water particles from an area of higher water concentration to lower water concentration, across a partially permeable membrane.

**6** Aerobic respiration requires oxygen.

Aerobic respiration occurs in the mitochondria.

The word equation is Glucose + Oxygen → Carbon dioxide + Water

Anaerobic respiration occurs when there is not enough oxygen. Anaerobic respiration is less efficient than aerobic respiration (releases less energy).

In humans, the equation for anaerobic respiration is

glucose → Lactic acid

Lactic acid causes muscle cramp

Anaerobic respiration in plants and yeast produces ethanol and carbon dioxide. The word equation in plants is

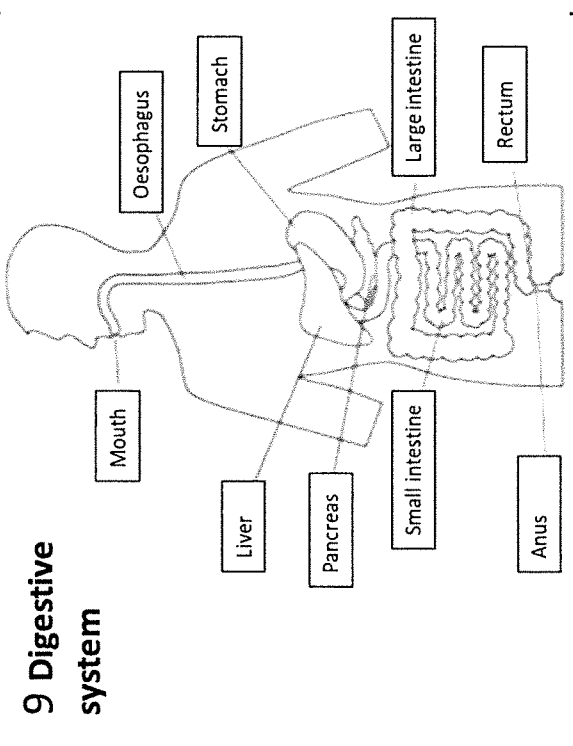
Glucose → ethanol + carbon dioxide

# Y7 Biology – Cells and Systems

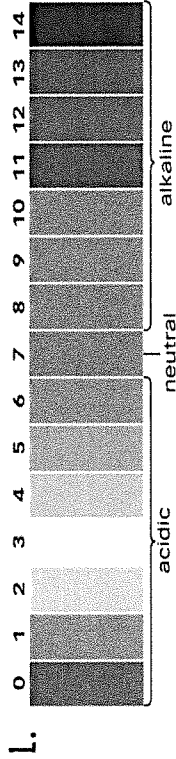
<b>8</b>	Mouth	Teeth chew up food into smaller pieces. <b>Saliva</b> is added, which digests <b>starch</b> .
	Oesophagus	Food moves down into the stomach, pushed along by the contractions of the muscular walls. ( peristalsis)
	Stomach	Stomach walls churn up food further and <b>digestive juices</b> and <b>stomach acid</b> are added.
	Liver	<b>Bile</b> is <b>produced</b> here. Bile helps to digest fats.
	Gall bladder	<b>Bile</b> , which is produced in the liver, is <b>stored</b> here.
	Pancreas	Produces <b>digestive enzymes</b> .
	Small intestine	<b>Nutrients</b> diffuse from the small intestine into the blood stream.
	Large intestine	Excess water is re-absorbed into the body. Left behind is waste which cannot be digested.
	Rectum	Stores <b>faeces</b> .
	Anus	Where <b>faeces</b> is released.

<b>7</b>	<b>Food group</b>	<b>Why do we need this food group in our diet?</b>
	Carbohydrates	Gives us <b>energy</b> .
	Lipids (fats and oils)	<b>stores energy</b> in the body and <b>insulates</b> us against the cold.
	Proteins	For <b>growth and repair</b> .
	Vitamins and minerals	Needed in small amounts to maintain <b>health</b> .
	Fibre	To provide <b>roughage</b> to help to keep the food moving through the digestive system.
	Water	Needed for <b>cells and body fluids</b> .

<b>10</b>	<b>Enzyme:</b>	<b>Where it is found:</b>	<b>11</b> <b>Food group:</b>	<b>Food test:</b>	<b>Positive sample:</b>	
	Protease	Stomach, small intestine		Starch	Iodine solution	From brown to blue-black
	Lipase	Small intestine		glucose	Benedict's solution and heated in water bath	From blue to brick red
	Carbohydrase	Mouth, stomach, small intestine		protein	Biuret solution	From blue to lilac (purple)
			fat	Ethanol	Goes cloudy	



# Y7 C2 absolute



- pH 0 is a strong acid.
- pH 6 is a weak acid.
- pH 14 is strong alkali
- pH 7 is Neutral

An indicator is a chemical that changes colour in acids and alkalis

**Universal Indicator:** measures the approximate pH of a solution, using the pH scale.

**litmus paper:** Used to identify whether a solution is alkaline or acidic but **does not** provide a pH.

**Physical changes.** This is when the physical properties change such as changing state. Evaporation and boiling are examples. The change is reversible (it can easily go back to what it was before).  
**Chemical changes** This is when the chemical properties change. A new substance is made. Example two elements chemically combine to form a compound. This is usually irreversible (cannot be changed back). When this happens we call it a chemical reaction.

**Conservation of Mass** – Mass cannot be created or destroyed only transferred into different forms

**Exothermic** – A reaction that transfers heat to the surroundings so the temperature of the surroundings increases

**Endothermic** – A reaction that transfers heat from the surroundings into the reaction so the temperature decreases

**Combustion reactions** - Combustion is another name for burning. It is an example of an exothermic reaction. Heat, a fuel and oxygen are needed for combustion.

**Neutralisation** A reaction between an acid and an alkali, which produces salt and water. Sulfuric acid makes sulphate salts. Nitric acid makes nitrate salts and hydrochloric acid makes chloride salts

**Salt name** given to a compound made when an acid reacts with an alkali, example magnesium nitrate.

## 2. key definitions

**pH:** Scale of acidity and alkalinity from 0 to 14.

**Acid:** A substance that neutralises an alkali

**Base:** A substance that neutralises an acid – those that dissolve in water are called **alkalis**.

**Concentration:** A measure of the number of particles in a given volume.

**Neutralisation:** A reaction between an acid and an alkali, which produces salt and water.

## 5 Word Equations

A chemical reaction can be summarised using a word equation: sulfur + oxygen → sulfur dioxide  
 This shows that: sulfur and oxygen are the **reactants** and sulfur dioxide is the **product**

### Symbol equations

In a symbol equation, the names of substances are replaced by symbols and formulae:  
 $S + O_2 \rightarrow SO_2$

7.

The **reactivity series** is a list of elements from the most reactive to the least reactive. The more reactive an element is, the more quickly the reaction will take place.

**Displacement reactions** can be used to determine how reactive an element is. In a displacement reaction, a more reactive element takes the place of a less reactive one.

## 8. Metals and acid reactions

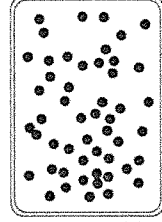
Metal + acid → metal salt + hydrogen

E.g.  $Zn + 2HCl \rightarrow ZnCl_2 + H_2$

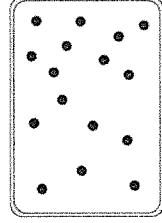
Zinc + hydrochloric acid → zinc chloride + hydrogen

We can prove hydrogen is produced in this reaction by using a lit splint and it would make a squeaky pop noise if hydrogen gas is present

## 10. Concentration of acid



High concentration



Low concentration

## 9. Metal carbonate and acid reactions:

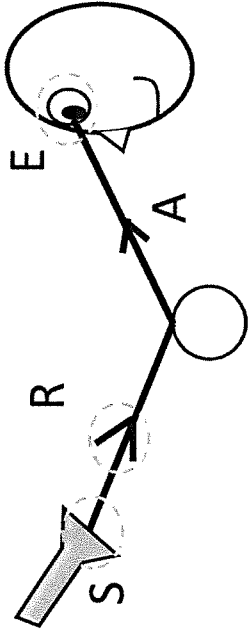
Metal carbonate + acid → metal salt + carbon dioxide + water

Sodium carbonate + hydrochloric acid → sodium chloride + carbon dioxide + water

E.g.  $Na_2CO_3 + 2HCl \rightarrow 2NaCl + CO_2 + H_2O$

We can prove carbon dioxide is produced by collecting the gas and adding limewater. If limewater goes cloudy, the gas is present

**1 – Ray Diagrams**



**Ruler Arrow Source Eye**

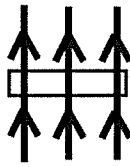
**Luminous** objects can be seen because they produce their own light.

E.g. Phone screen, stars, candle, light bulb

**Non-Luminous** objects can be seen when they reflect light from another source.

E.g. Person, book, moon

**4 – Materials and Light**



**Transparent**

Transmits Light  
You can see through it.

E.g. Glass



**Translucent**

Transmits and scatters light.

You can not see through it.

E.g. Tracing paper



**Opaque**

Does not transmit light  
You can not see through it.

E.g. Wood

When light hits a surface, it can be:



**Reflected**

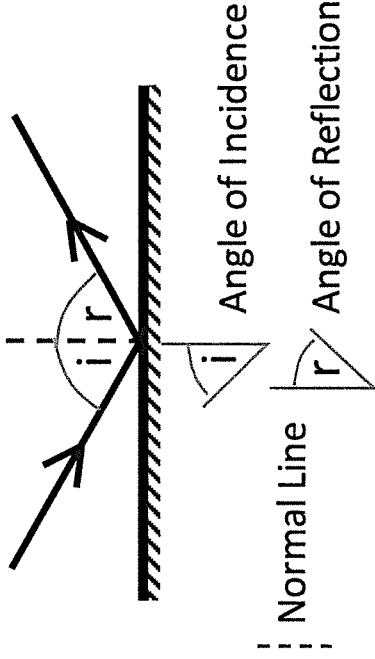


**Scattered**



**Absorbed**

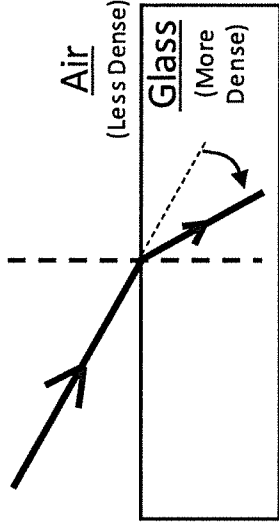
**2 – Reflection**



**Rule of Reflection**

The angle of incidence is **always** equal to the angle of reflection

**3 – Refraction**



Light changes **speed** which causes it to change **direction** (refract).

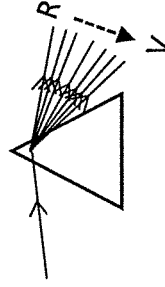
If light moves from a less dense to a more dense material, it will refract "TOWARDS the normal"

**5 – Colour and Filters**

White Light Contains

R O Y G B I V  
e r e l e e i l  
d a n g e o n g e  
r a l e u d o e w o t

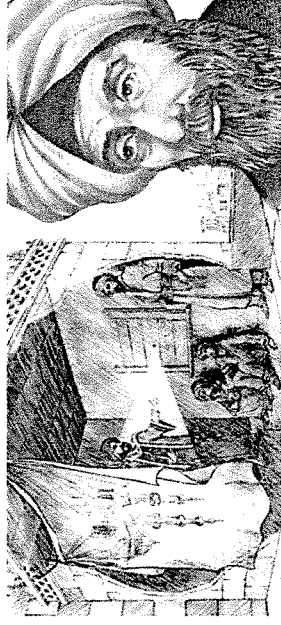
White Light can be split with a Prism



**Coloured Objects REFLECT** light that is the same as the object's colour and **ABSORB** all other colours

**Coloured Filters TRANSMIT** light that is the same as the filter's colour and **ABSORB** all other colours

**6 – Know Your Scientists!**



**Ibn al-Haytham (965-1040)**

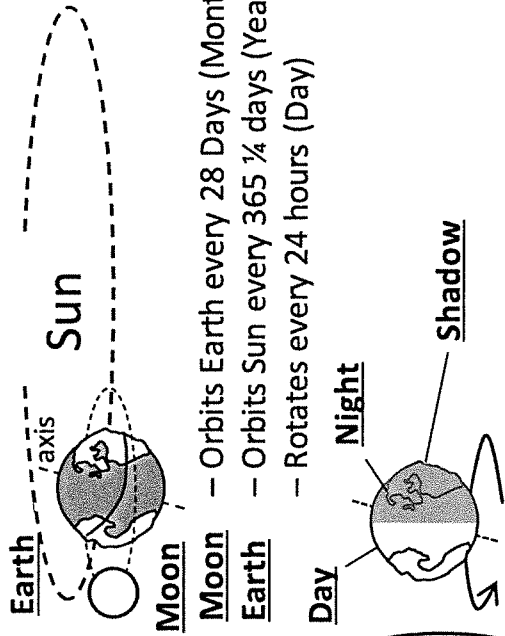
al-Haytham was born in Iraq during the "Islamic Golden Age". He is known for:

- Discovering how we see
- Developing an early camera
- Developing the "Scientific Method"

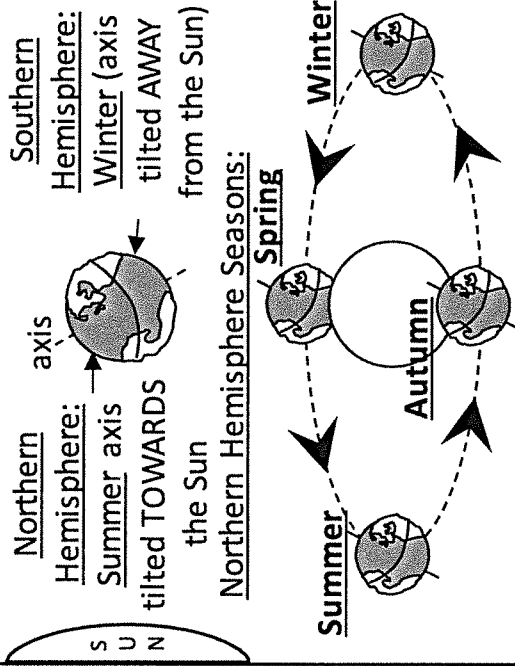
# Year 7 – Light and Space

## 1 – Sun, Earth and Moon

Orbit path an object travels around another  
Axis Imaginary line an object spins around



## 2 – Seasons



**In winter:** Sunlight is spread over a larger area, so it is colder. We spend more time in the shadow, so days are shorter.

## 3 – The Moon

We see the moon differently at different parts of its orbit. The different shapes are called the *phases* of the moon



**New**

**Crescent**

**Quarter**

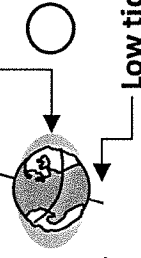
**Gibbous**

**Full**

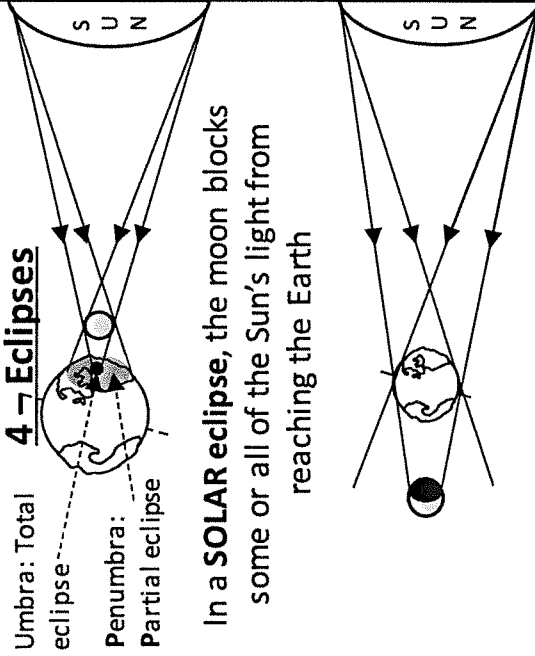
**Tides**

The moon's gravitational field pulls the water on Earth towards it. This causes the oceans to "bulge". This is experienced

as **high tide**.



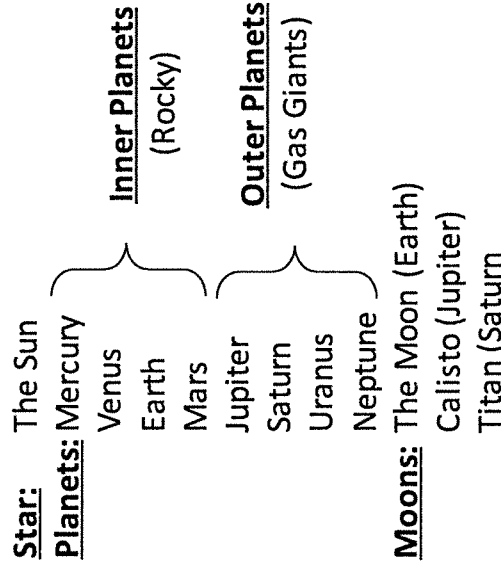
## 4 – Eclipses



In a **SOLAR** eclipse, the moon blocks some or all of the Sun's light from reaching the Earth

In a **LUNAR** eclipse, the Earth blocks some or all of the Sun's light from reaching the moon.

## 5 – Solar System



Our Solar System is one of hundreds of billions in our GALAXY (The Milky Way)

## 6 – Know Your Scientists!

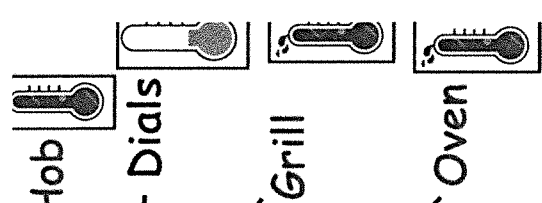


**Margaret Burbidge (1919-2020)**

Burbidge was an astronomer who studied Stars. She discovered that all elements are created inside stars.

She was made Director of the Royal Greenwich Observatory in 1973 and awarded the "Albert Einstein World Award of Science" in 1988.

# Y7 Food Preparation and Nutrition - Knowledge Absolute






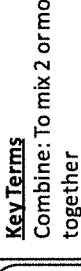



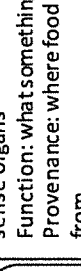
Always use oven gloves!

Food Science term	Definition
Dextrinisation	The browning of starch
Shortening	Stopping the gluten strands from stretching
Denaturation	When the structure of a food containing proteins is altered by heat, chemical or mechanical action
Caramelisation	When sugar turns brown

Ingredient	Function
Flour	Bulk out products like muffins and scones. To dextrinise in scones and muffins
Egg	To bind ingredients together in muffins and scones.
Butter	To shorten scones and biscuits
Sugar	To sweeten sweet products. To caramelise in biscuits and cakes

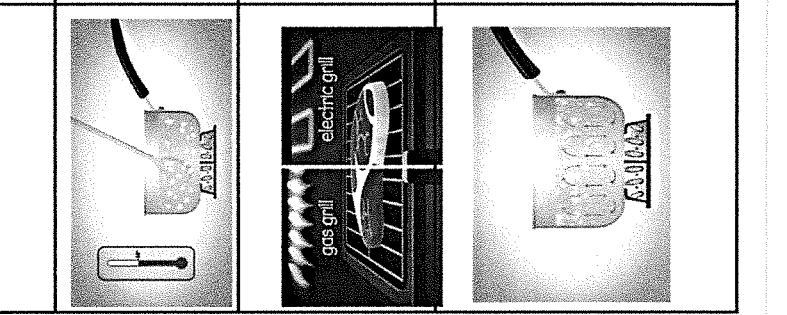
- Safety Rules**
- Always walk
  - Carry a knife by the handle, pointing down at the side of your leg
  - Turn pan handles in
  - Use oven gloves and wooden triangles

- Tips for healthier eating**
- These eight practical tips cover the basics of healthy eating, and can help you make healthier choices.
- Base your meals on starchy carbohydrates.
  - Eat lots of fruit and veg.
  - Eat more fish – including a portion of oily fish.
  - Cut down on saturated fat and sugar.
  - Eat less salt (max 6g a day for adults).
  - Get active and be a healthy weight.
  - Don't get thirsty.
  - Don't skip breakfast.

 <p>Name: Spatula Use: Scraping bowls</p>	 <p>Name: Sharp knife Use: Cutting vegetables</p>	 <p>Name: Mixing Bowl Use: Mixing ingredients together</p>	 <p>Name: Fish slice Use: To lift products off baking trays</p>
 <p>Name: Tablespoon Use: For measuring</p>	 <p>Name: Teaspoon Use: Measuring ingredients</p>	 <p>Name: Spatula Use: To scrape mixture out of bowls</p>	 <p>Claw Use: Rubbing in= incorporating butter into flour using fingertips</p>

**Key Terms**

- Combine: To mix 2 or more things together
- Hygiene: Cleanliness
- Bacteria: germs
- Organoleptic: involving the use of sense organs
- Function: what something does
- Provenance: where food comes from
- Nutrient: Provides nourishment for the body
- Dextrinisation: Browning of starch by dry heat
- Coagulation: When a mixture sets
- Sensory test: using sense organs to evaluate food
- Enzymic: Action of enzymes
- Carbon Footprint: Amount of carbon dioxide something releases into the environment
- Greenhouse Gas: emissions that are harmful to the planet
- Bridge and claw: knife holds
- Quality Control: measures put into place to ensure uniformity



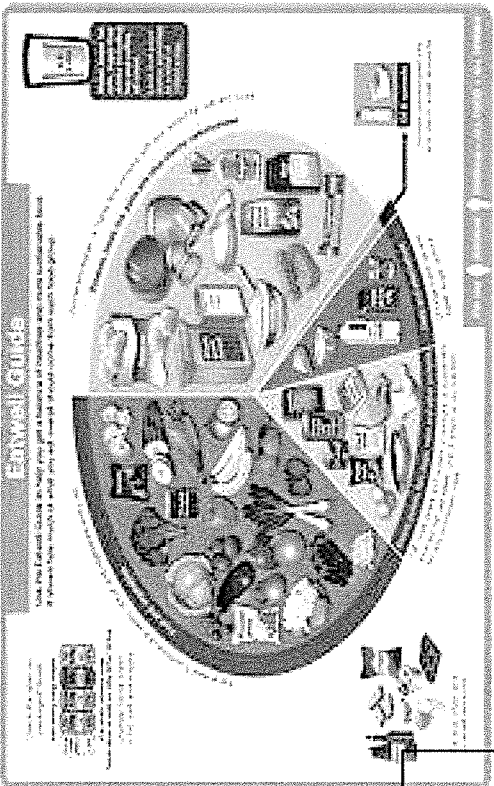
Method of Heat Transfer and explanation	Example of food cooked using this method
Conduction – Transfer of heat through the vibration of the particles. When the particles collide they pass on some energy.	Pasta Roast Beef Pizza
Radiation - Transfer of heat energy through waves of radiation. No direct contact between the food and heat source. When the waves of radiation reach food they are absorbed and heat up the food.	Toast Grill meat or fish
Convection – Transfer of heat energy through gases or liquids. When you heat the liquid the part near the heat source heats up first. The warmer liquid rises and cooler liquid falls. This circulation continues until all the liquid is heated. Convection also happens in ovens.	Pasta Rice Boiling vegetables

- Hygiene Rules**
- Always wear an apron
  - Tie long hair back
  - Remove nail varnish
  - Remove jewellery
  - Wash pots in hot soapy water

Image



APPEARANCE	FLAVOUR	TEXTURE	AROMA
Attractive	Acidic	Brittle	Acrid
Appetising	Aftertaste	Bubbly	Aromatic
Bright	Balanced	Chewy	Burnt
Burnt	Bitter	Glummy	Cheesy
Colourful	Bland	Close	Fishy
Colourless	Buttery	Creamy	Floral
Crumbly	Cheesy	Crisp	Fragrant
Crystalline	Citrus	Crumbly	Fruity
Cuboid	Cool	Crunchy	Light
Dark	Delicate	Dry	Meaty
Dull	Delicious	Flaky	Musty
Evenly baked	Fizzy	Fluffy	Perfume
Firm	Greasy	Greasy	Pungent
Fizzy	Herby	Gritty	Rancid
Flaky	Hot	Hard	Roasted
Flat	Light	Juicy	Rotten
Fragile	Mature	Lumpy	Savoury
Glossy	Mild	Moist	Scented
Golden	Peppery	Mushy	Sour
Golden brown	Refreshing	Open	Spicy
Greyish	Rich	Rubbery	Strong
Heavy	Salty	Runny	Zesty
Interesting	Savoury	Sandy	
Light	Scrumptious	Short	



**Nutrients**  
**Macronutrients** - needed in large amounts e.g. fat, protein and carbohydrate  
**Micronutrients** - Needed in small amounts e.g. vitamins and minerals  
**Food groups** - Starchy foods, meat, fish and alternatives, dairy foods, oils and spreads, fruit and vegetables.

**How to write a hypothesis**  
 ✓ A hypothesis is what you think you will prove e.g. I think that the best sauce will be contain plain flour.  
 ✓ It is clear and to the point  
 ✓ No more than two sentences

**How to conduct a fair test**  
 ✓ Always have a control to compare the samples to  
 ✓ Only change one thing in each sample so you know what is effecting the sample  
 ✓ Always use sample codes to prevent bias  
 ✓ Use a variety of testers

**Why do we choose the foods we eat?**  
 ✓ Cost  
 ✓ Culture / religion  
 ✓ Seasons  
 ✓ Medical issues  
 ✓ Marketing / advertising  
 ✓ Ethics

**Seasonal food**  
 ✓ Reduces food miles and environmental impact  
 ✓ Costs less  
 ✓ Supports local producers  
 ✓ Taste and looks better / fresher

**Organic food**  
 ✓ Can be of a higher quality  
 ✓ Can taste better  
 ✓ More ethical  
 ✓ Less environmental impact  
 ✓ More sustainable  
 ✓ Can be expensive

**Fairtrade** - Supports farmers in developing countries by offering better prices and better working conditions. Products such as: bananas.

**How to save money when buying food**  
 ✓ Compare prices  
 ✓ Buy food seasonally / locally  
 ✓ Use coupons or offers  
 ✓ Plan your meals  
 ✓ Only buy what you need

Examples
Wash your hands Wipe surfaces Wash all equipment
Cooking meat until juices run clear
Keep chilled food in a fridge like cheese, milk and chicken.
Use separate chopping boards and utensils for raw and cooked food. Keep raw food at the bottom of the fridge

Bacteria	Source	Symptoms
Salmonella	Raw meat, poultry, eggs, milk, dairy products	Diarrhoea, vomiting, fever & headache, abdominal pain
Listeria	Pasteurised and raw milk, cheese, soft ice cream, raw vegetables, raw meat	Flu like symptoms, nausea, vomiting, diarrhoea, may cause abortion, still birth, meningitis, septicemia.
Staphylococcus Aureus	Meat, meat products, poultry, nose and throat of humans	Vomiting, abdominal pain, diarrhoea
E-Coli	Sewage, soft cheese, minced beef and chicken	Diarrhoea, abdominal pain, nausea
Campylobacter	Meat, poultry, raw milk, untreated water, chickens	Diarrhoea, flu like symptoms, headache, fever, abdominal pain
Bacillus Cerus	Rice, cereal products and starchy foods i.e. potatoes.	Diarrhoea, abdominal pain, nausea

**Enzymatic Browning**  
 When fruits containing polyphenol oxidase are exposed to oxygen they go brown. This includes fruits like apples and bananas. This is enzymatic browning.  
 Grating or bruising the fruit speeds this up and adding acid like lemon juice or blanching the food slows it down.





# Year 7 Wood

## Design and Technology – MoodLight

circuit	electronic circuit is composed of individual electronic components, such as resistors, transistors, capacitors and diodes, connected by conductive wires through which electrical current can flow.
isometric drawing	isometric drawing, also called isometric projection, method of graphic representation of three-dimensional objects, used by engineers, technical illustrators, and, occasionally, architects.
Millimetre	Unit of measurement (metric). There are ten millimetres in a centimetre.
Environment	Can you recycle the product, is it environmentally friendly. Which environment will your product be used or be displayed
Safety	How will you ensure that your product will be safe to use for everyone including children?
parallel	Parallel definition, extending in the same direction, equidistant at all points, and never converging or diverging; parallel rows of trees.
right angle	When two straight lines intersect each other at 90° or are perpendicular to each other at the intersection, they form the right angle
soldering	Soldering is a joining process used to join different types of metals together by melting solder. Solder is a metal alloy usually made of tin and lead which is melted using a hot iron.
softwood	Softwood refers to timber that has been cut from a coniferous or an evergreen tree. Softwood trees are fast growing due to not losing their leaves.
hardwood	Hardwood is wood from deciduous trees. These are usually found in broad-leaved temperate and tropical forests
manufacture specification	A specification which contains all the information that is needed to make the product. It describes the stages of manufacture and the materials needed.
finishes	Finishes are added to a product's surface after production to improve its functionality and/or aesthetic. Such as: Change the colour of a product, improving appearance/make the product look more attractive, Change the look and feel of a product Wood stains to enhance the colour of timber. Other finishes for wood are – Varnish, wax, paint or Danish oil.
Input/output	The input-process-output (IPO) model, or input-process-output pattern, is a widely used approach in systems analysis and software engineering for describing the structure of an information processing program or other process.
L.E.D- Light Emitting Diode	Low voltage light output component used in electronic circuits.
Marking – out;	Used to measure materials for cutting or joining.
Wood joint	Joints are used to build strength into products made from wood. They should fit accurately.

Specialist materials	Specialist equipment	Uses
M.D.F – medium density fibreboard	Tenon saw	This is manufactured board that is made from wood dust and glue it is cheap but breaks easily when cutting. Used to make the insert for the lid. Tenon saws are commonly used to make the Tenon's used in mortise and Tenon joints. The saw has a short straight blade.
Plywood	Bench Hook	Manufactured board made from multiple layers of thin wood veneer rotated by 90 degrees to each other, cross grain reduces warping. A bench hook is a workbench appliance used in woodworking to hold a workpiece in place while crosscutting with a hand saw.
	Cross File	To reduce the surface imperfections and remove waste material
	Vice	to hold the material whilst it is being worked on
	Power drill	Power drill to make the holes in wood metal and polymers for the keyring
	Strip Heater	Method of shaping plastic materials like acrylic. Used to heat and fold (bend) in a line to different angles.
	Belt sander End Grain sander	A belt sander is designed for high speed sanding, quickly stripping a piece of wood with powerful force, with a rotating abrasive surface.
Materials	Meaning	
P.V.A		PVA is a water-insoluble resin which is typically white at the point of application, but dries colourless and has a high bonding strength. Gluing woods to woods.
Acrylic		Tough but brittle polymer. Used for car lights, displays stands & textiles. Poly-methyl Methacrylate PMMA

### Working Properties

Working properties relate to how a material responds to external forces and/or conditions.
<b>Strength</b> The ability of a material to withstand force without breaking. Examples of forces include pressure, tension, compression, shear and torsion. Materials may be strong in one force but weak in another (e.g. concrete is strong in compression but weak in tension).
<b>Hardness</b> The ability of a material to resist wear, abrasion, scratching or denting. Diamond is the hardest naturally occurring substance found on Earth.
<b>Toughness</b> The ability of a material to absorb energy without fracturing
<b>Malleability</b> The ability of a material to be bent and shaped without breaking
<b>Ductility</b> The ability of a material to be stretched or pulled into a strand without breaking
<b>Elasticity</b> The ability of a material to return to its original shape after being stretched, bent or compressed

# Year 7 Mood Light

## NATURAL TIMBERS

### Hardwoods

Hardwood is from a **deciduous** tree, usually a broad-leaved variety that drops its leaves in the winter

### Ash

**Properties:** Flexible, tough, and shock resistant  
Laminates well, pale brown  
**Uses:** sports equipment & tool handles.

### Mahogany

**Properties:** easily worked, durable & finishes well.  
Reddish brown.  
**Uses:** high end furniture and joinery, veneers.

### Oak

**Properties:** Tough, hard and durable, high quality finish possible. Light brown.  
**Uses:** flooring, furniture, railway sleepers, veneers.

### Beech

**Properties:** Fine finish, tough & durable. Beige with pink hue.  
**Uses:** Children's toys and models, furniture, veneers.

### Balsa

**Properties:** very soft and spongy, good strength to weight ratio, Pale cream/white.  
**Uses:** prototyping and modelling.

- 1 Give two differences between hardwood and softwood

*Hardwood comes from deciduous trees (1)  
Softwood comes from coniferous trees (2)  
Deciduous trees are usually slower growing which makes the wood denser (1)*

### Softwoods

Softwood is from a **coniferous** tree, one that usually bears needles and has cones

### Pine

**Properties:** Lightweight, easy to work, can split and be resinous near knots. Pale yellowish brown.  
**Uses:** Interior construction and furniture.

### Spruce

**Properties:** easily worked, high stiffness to weight ratio. Creamy white colour.  
**Uses:** Construction, furniture and musical instruments.

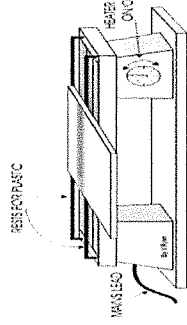
### Larch

**Properties:** durable, tough, good water resistance, good surface finish. Pale reddish brown  
**Uses:** exterior cladding, decking, machined mouldings, furniture and joinery, railway sleepers and veneers.

## Bending

Line bending enables thermoplastics to be folded. Acrylic sheets are suitable for this process

A line bender heats a sheet of thermoplastic over a strip heater unit it is soft. It can then be bent to a chosen angle. When the plastic cools, it retains the shape



## Strip Heater

Line bending enables thermoplastics to be folded. Acrylic sheets are suitable for this process

A line bender heats a sheet of thermoplastic over a strip heater unit it is soft. It can then be bent to a chosen angle. When the plastic cools, it retains the shape

## Design and Technology – Moodlight

### Tenon Saw

**Uses:** Cutting shallow slots into small pieces of wood  
**WOOD SPIRES**



**For:** Tenon

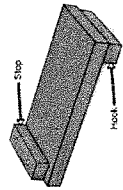
### Tri – Square

**Uses:** to mark out line perpendicular to the edge of work piece.  
Check 90 degree angles



### Bench Hook

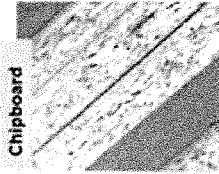
**Uses:** enables a piece of wood to be held firmly in position on a workbench while it is cut through.



## MANUFACTURED TIMBERS

Manufactured boards are usually sheets of processed natural timber waste products or veneers combined with adhesives. They are made from waste wood, low-grade timber and recycled timber.

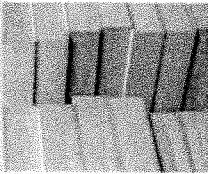
### Chipboard



**Properties:** Good compressive strength, not water resistant unless treated, good value but prone to chipping on edges and corners.

**Uses:** Flooring, low-end furniture, kitchen units and worktops.

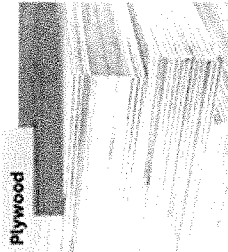
### Medium density fibreboard (MDF)



**Properties:** Rigid and stable, with a smooth, easy to finish surface. Very absorbent so not good in high humidity or damp areas.

**Uses:** Good value, flat pack furniture, toys, kitchen units and internal construction.

### Plywood



**Properties:** Very stable in all directions due to alternating layers at 90 degrees, with outside layers running in the same direction.

**Uses:** Furniture, shelving, toys and construction interior, exterior and marine grades available for greater water resistant.

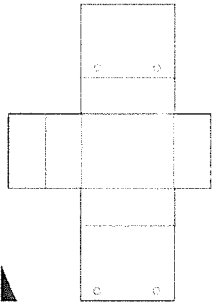
# Year 7 Model Unit

## Positive and negative impact - ecological footprint

How does sourcing our materials affect the environment?

**Mining** Digging the ground or dredging rivers The removal of minerals from the earth  
Mainly metal based - aluminium ore, gold, silver, iron ore. Mining land - digging huge holes and removing the sediment with huge holes causing stagnant ponds.

**Deforestation** cutting down of trees for land or to use for timber / paper The act of cutting down trees in forests. Tress can be 'farmed' just like any other crop, planting the trees specifically to cut down for materials.  
Sometimes, deforestation is not responsible and trees are not replanted, animals are not re-homed.



A **net** is a 2D plan for making a 3D object. You can use CAD to design a net and then use a machine to cut it out.

**Mathematical modelling** is another way to model. These models use data and information regarding variables to show how an object will behave in reality.

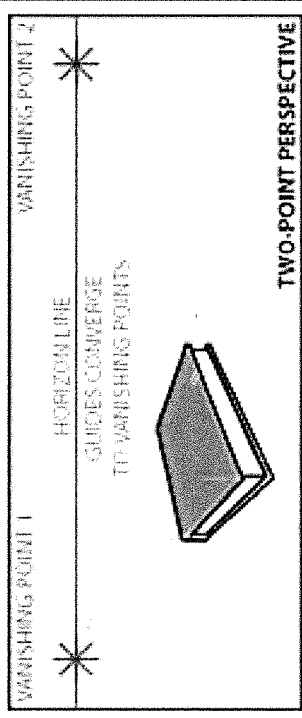


## KEYWORDS

1. Techsoft - A computer program used for drawing.
2. Laser Cutter-CAM machine for cutting accurate shapes .
3. Deformation Changing the shape of plastics / metals.
4. Line bender- A line bender has a heated element that provides heat, concentrated to just a few millimetres wide, along the length of the long machine. These are used to heat polymers along this line so that they can be bent. Once the polymer softens, it will bend easily into shape around a former before being left to cool.
5. Two point perspective - Perspective Drawing tries to show what something actually looks like in 3D- smaller in the distance. Larger closer up. It does this by using lines that appear to meet at points called vanishing points.
6. Orthographic They show a 3D object in a set of 2D drawings viewed from different angles. - A front view plan view and end view.
7. Laser cutting ; Laser cutting uses a high-power laser to cut through materials like plywood, it is controlled through CAD which is then sent to the CAM ( the laser cutter )
8. CAD - Computer Aided Design
9. CAM - Computer Aided Manufacture

## Two point perspective

Perspective Drawing tries to show what something actually looks like in 3D- smaller in the distance. Larger closer up. It does this by using lines that appear to meet at points called vanishing points.



## TWO-POINT PERSPECTIVE

Advantages of CAD	Disadvantages of CAD
Ideas can be drawn and developed quickly	Expensive to set up
Designs can be viewed from all angles and with a range of materials	Needs a skilled workforce

Advantages of CAM	Disadvantages of CAM
Fast and accurate production	Expensive to set up
Machines can run constantly on repetitive tasks	Needs a skilled workforce of engineers

1. Task Analysis
2. Design Brief
3. Primary Research
4. Secondary Research
5. Anthropometrics
6. Ergonomics
7. Design Fixation
8. User Centred Design
9. Iterative Design
10. Tie Dye
11. Resist Dye
12. Risk assessment
13. Sustainable
14. Organic
15. Natural fibre
16. Smart Material
17. Production Aid
18. Ferrrous
19. Non Ferrrous
20. Alloy
21. Mould
22. Casting
23. Pewter
24. Hack saw
25. Files
26. Abrading
27. Abrasive papers
28. Metal polish

- Cotton
- Poppers
- Tacking thread
- Dye
- Embroidery thread
- Pewter

- Marking out
- Adapting a pattern
- Pinning and tacking
- Threading a needle
- Setting up a sewing machine
- Using a sewing machine
- Embroidery stitching
- Application of colour
- Filing
- Sawing
- Polishing
- Sanding
- Drilling



**Tools and Equipment**

- Paper Scissors-** Used for cutting out paper patterns.
- Iron-**
- Unpicker-** Unpickers are also known as seam-rippers, quick-unpickers. You insert the unpicker between the stitches and pull up so the threads are cut by the small blade.
- Dressmaking scissors-** Also called fabric shears to cut fabric. These have long very sharp blades.
- Pins-** Hold the fabric together before stitching together.
- Needles-** for hand stitching- there are several sizes for thickness of the thread/ beads being used.
- Measuring Tape-** flexible so it can follow curves
- Tailors Chalk-** for drawing on fabric
- Sewing Machine-** Strong stitches made in manufacturing

**Research**

**Task Analysis-** The designer should pick out all the key points in the brief - one way of doing this is through a spider diagram called a task analysis. It's a way of analysing the brief and deciding what research is needed. This helps the designer get ideas; checks people actually want the product; finds out what the target market likes/dislikes about existing products; find out about materials, components, techniques, manufacturing processes and costs.

**Design Brief**

The starting point for any design is the design brief. The brief outlines what problem a design will solve. It should be referred to throughout the project to make sure what you are working on will solve this problem. The client gives the designer a design brief. It should include: What kind of product is needed, how the product will be used, who the product is for.

**Primary Research**

Primary research is one that involves the gathering of fresh data, i.e. when data about a particular subject is collected for the first time. Primary research is any type of research that you collect yourself. Examples include surveys, interviews and observations.

**Secondary Research**

Secondary research involves the summary, collation and/or synthesis of existing research. When conducting secondary research, authors may draw data from published academic papers, government documents, statistical databases, and historical records.

**Questionnaire-** Primary research. You can find out about your target markets and the information will help you design a suitable product to meet their needs.

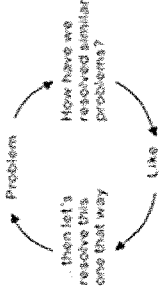
**Anthropometrics-** human body measurement data.

**Ergonomics-** A product that is easy and comfortable for people to use.

**Design Fixation-** It is when a designer fails to break new ground, but follows existing solutions. It is when the designer follows conventional ideas.

**User Centred design -** Asking A sample of the target market for input in the design process. The aim is gain feedback from potential users on your designs and make improvements so its more appealing to your target market

**Iterative design-** a design strategy that involves constantly evaluating and improving a products design.


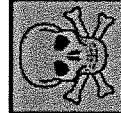


**Woolly** comes from a plant. It is grown and the cotton is taken from the cotton boll.

**Sustainable**- A sustainable process or material is one that can be used without causing permanent damage to the environment or using up finite resources

**Organic**- production without the use of chemical fertilizers, pesticides, or other artificial chemicals

**Positive and negative impact of the use of cotton.**

ORGANIC	On the farm	NON-ORGANIC
<p>Farmers are free to save seeds and choose what they grow</p> <p>Soil is nurtured, making it viable for the long term</p> <p>Organic cotton is grown alongside food which feeds the farmers</p>  <p>Less energy and water use</p> <p>Growing organic cotton produces up to 94% less greenhouse gas emissions</p>	<p>95% of cotton seed market is controlled by GM giant Monsanto</p> <p>Farmers are locked into costly contracts and have little control</p> <p>Cotton is usually grown as a monocrop, destroying soil quality</p>  <p>16% of the world's insecticides, and 10% of local pesticides, are used, poisoning people and the environment</p> <p>27 million cotton workers suffer poisoning from pesticides each year</p> <p>83% of manufactured nitrogen fertilizers used on crops end up in the environment</p> <p>Higher levels of CO<sub>2</sub> are released into the atmosphere</p> <p>High energy and water use</p>	


**Natural and Synthetic Fibres**

**Natural fibre** A type of fibre that is harvested from natural sources e.g. plants and animals.

**Natural fibres:** cotton, wool, silk

**Synthetic fibres:** polyester, polyamide (nylon), elastane (lycra)

Natural fibres can come from plant or animal sources

Origins	Example	Properties	Uses
Cotton comes from the fine hairs on the seed pod of a cotton plant.		Soft and strong, absorbent, cool to wear and easily washable. Cotton fabrics can be given a brushed finish to increase their thermal properties	Most clothing, especially shirts, underwear and denim can be made from cotton. Also used for towels and bedsheets

**MANUFACTURING PROCESS- THE DYE**

Is typically brightly coloured, patterned textile or clothing which is made from ordinary cloth, usually cotton, through a **resist dyeing** process known as tie-dyeing. Methods are used to "resist" or prevent the dye from reaching all the cloth, thereby creating a pattern. Elastic bands resist the dye. A **mordant** fixes the dye and stops it from running. Salt is a mordant.

**Scale of Production**

**One Off Production** (Also known as: bespoke, made to measure, custom made.) A single product or unit is made.

**Mass Production** Large numbers of identical products are manufactured over a long period of time. Used for products constantly in demand.

**Continuous Production** differs from mass production as it runs non-stop, 24 hours a day, 7 days a week. manufacturing products to meet a constant demand

**Batch Production** A specific quantity of a product is made; this is called a batch. Batches can be repeated as many times as necessary.

**Health and Safety of the Sewing Machine**

Dangers when using an industrial sewing machine. - E.g. stitching fingers, electrocution, and inhalation of textile dust. Two dangers related to use of industrial sewing machines. You can reduce the dangers of using a sewing machine by - Training of staff, regular safety and maintenance checks, emergency stop buttons, regular breaks so concentration is not lost. One person per machine, tidy areas. Keep fingers away from the needle.

**Risk Assessment**

Is used to identify and minimise any risks when working. Think about the hazard and the precaution that could be taken to minimise the risk.

Hazard	Precaution
Clothing could get caught in the sanding machine.	Tuck clothes in and wear an apron.
Fine dust created when using a sanding machine.	Wear a mask and use a dust extractor.

**Profit and Costing**

When considering costings, you must consider- how many products you are making, the cost of materials, machinery and overheads.

**Bulk buying**

Raw materials can be bought in bulk because your buying so much it allows




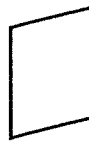
- What is Ferrous metal?**  
Ferrous metal contains Iron & is magnetic. Example : Steel.
- What is Non - Ferrous metal?**  
Non ferrous does not contain iron & is not magnetic. Examples : aluminium, copper.
- What does Alloy mean?**  
A metal made by combining two or more metallic elements, especially to give greater strength or resistance to corrosion. Examples : Brass, Bronze.

**Positive and negative impact - ecological footprint**

How does sourcing our materials affect the environment?  
**Mining** Digging the ground or dredging rivers The removal of minerals from the earth Mainly metal based - aluminium ore, gold, silver, iron ore. Mining land - digging huge holes and removing the sediment with huge holes causing stagnant ponds.

**Flowchart**

It is beneficial as, The order of making is logical, to helps meet schedules/deadlines. It simply/clearly communicates instructions for making so all the pieces are made in the same way.  
 Flowcharts have inputs which is equipment, machinery material and components needed. A flowchart must include quality control Check points, these are decisions. Feedback is used as a form of quality control and should form a yes or no answer  
 A flowchart is a type of diagram that represents a workflow or process. These symbols represent stages in the flow.

	All flowcharts begin and end with the start/ finish symbol. This shape is called a <b>terminator</b> .
	A <b>process</b> box is used when there is an instruction that must be carried out.
	A <b>diamond</b> box is used when a <b>decision</b> needs to be made. The outcome of the decision must be either yes or no.
	<b>Inputs</b> to the system are represented by a parallelogram box

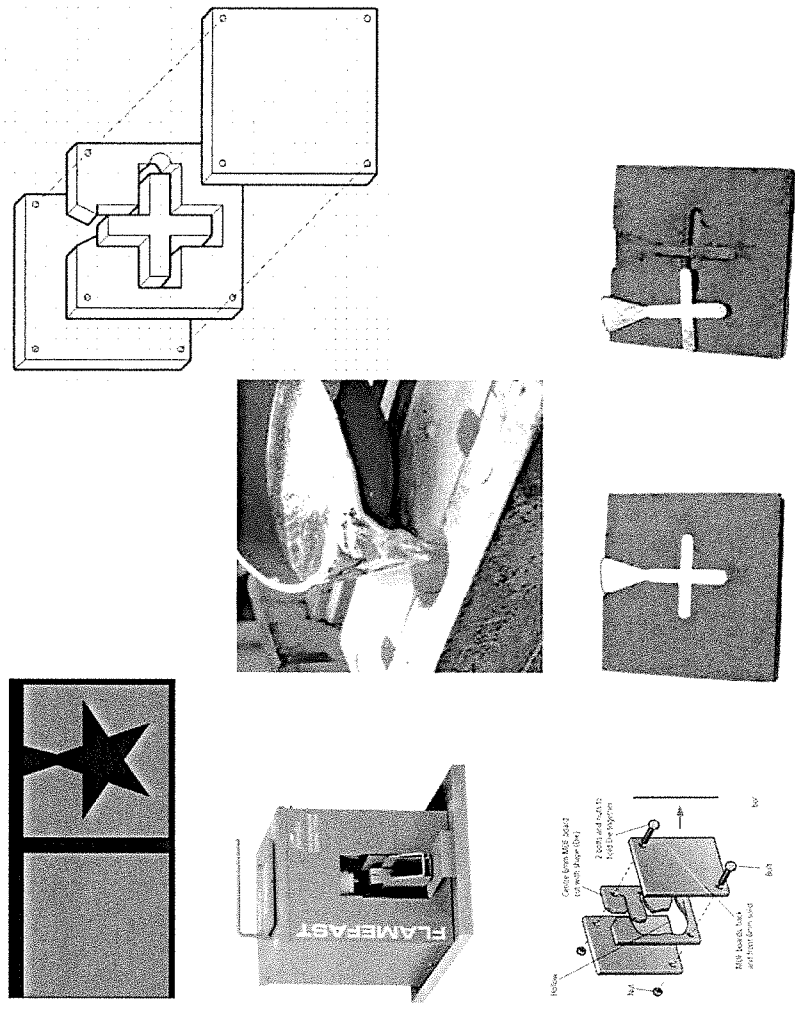
A mould can be made from any material , it is used to pour molten metal into, to create a shape we are using it to pour molten pewter into it.

**Explain what is meant by casting.**

When you heat metals (or polymers) and pour them into a mould this is called casting.

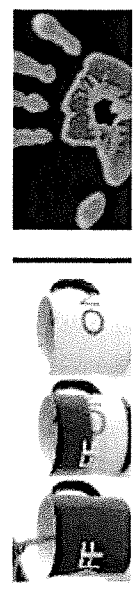
**What is a sprue?**

The funnel for pouring the pewter into.



**Smart Materials**

That materials can have one or more properties that can be significantly changed in a controlled fashion by external stimuli, such as stress, temperature, moisture, or PH e.g. shape memory alloys, thermochromic pigments and photochromic pigments



Thermochromic paints can be added to any surface like these mugs or a textiles or card based product to react to heat.