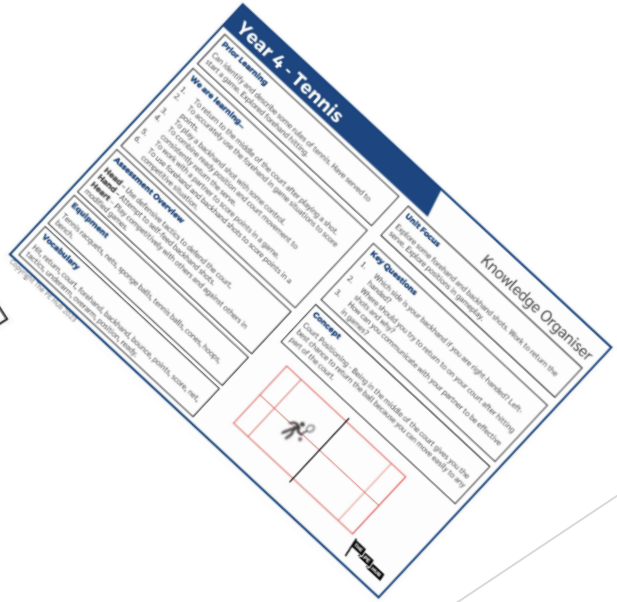
Year 6
Knowledge Organisers

At South Hill, we have created ‘Knowledge Organisers’ to help pupils and parents to know what the children will be learning in each of our Foundation subjects. These contain essential vocabulary and facts for each topic.

Please see ‘Knowledge Organisers’ attached for Year 6 for the Spring term, which will also be in pupil’s books and on working walls in school.



Year 6 Science - Summer 1 and 2

YEAR 6 SCIENCE – ANIMALS INCLUDING HUMANS

KNOWLEDGE ORGANISER

What have we learnt in this topic before, what we will learn this year and what will we learn next?

In Year 3, we learnt in our topic: **Animals including humans (Food, diet skeletons and muscles)**

- To identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- To identify that humans and some other animals have skeletons and muscles for support, protection and movement.

In Year 4, we will learn in our topic: **Animals, including Humans (Digestion, teeth and food chain)**

- To describe the simple functions of the basic parts of the digestive system in humans
- To identify the different types of teeth in humans and their simple functions
- To construct and interpret a variety of food chains, identifying producers, predators and prey.

In Year 5, we will learn in our topic: **Animals including humans (Growth, development & puberty)**

To describe the changes as humans develop to old age.

In Year 6, we will learn in our topic. Animals, including humans

- identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function
- describe the ways in which nutrients and water are transported within animals, including humans.

THE CIRCULATORY SYSTEM

On average, it takes about **45 seconds for blood to circulate from the heart**, all around the body, and back to the heart again. An average adult's heart beats more than 100,000 times a day. Your **circulatory system is made up of three parts: the heart, blood vessels and the blood itself.**

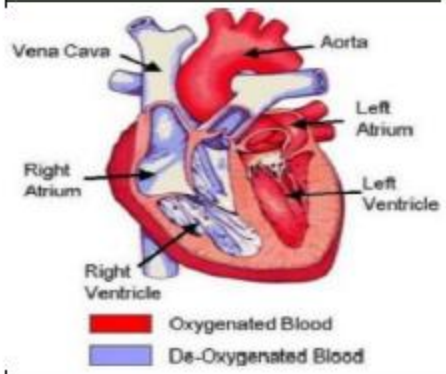
Your heart keeps all the **blood in your circulatory system flowing.**

The **blood** travels through a **network of blood vessels** to everywhere in your body. It carries useful materials like **oxygen, water and nutrients** and removes **waste products like carbon dioxide.**

Mucus

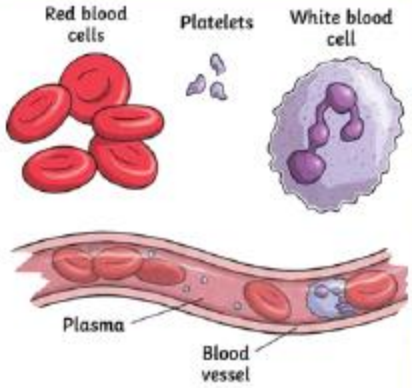
- **Mucus or snot** is created by our bodies to help our **immune system.**
- When you are healthy, your snot/mucus is different and that's when bugs can get through.
- When you are healthy, it is **clear and thin.**
- When you become ill, it **becomes thicker and may be a different colour.**
- When you become ill, your body **produces more** but this is to stop anything getting in so your body can fight whatever is making you ill.
- The mucus that is created is trying to **protect your lungs from further infection.**

THE HUMAN HEART



- How often your **heart** pumps is called your **Pulse.**
- The heart sits in the **chest cavity** between **the lungs** and is about the **size of a fist.**
- Essentially it is a **muscle** which functions as a **really powerful pump.**
- The heart takes in **low blood oxygen** from the body.
- It pumps it through the **right side of the heart** and on to **the lungs.**
- In the **lungs, the blood passes through very small blood vessels and absorbs oxygen.**
- The **freshly oxygenated blood** is **pumped back through the** heart and onto the rest of the body where it **provides fuel for muscles and organs.**

Human Blood



Human blood is made up of different **cells** and **plasma.** When you digest food, your small intestine absorbs the **nutrients** from your food and passes them into the blood stream. The circulatory system then carries the blood, and therefore the **nutrients,** to all the parts of the **body** it is needed.

It brings oxygen and nutrients to all the parts of the body so they can keep working. Blood carries carbon dioxide and other waste materials to the lungs, kidneys, and digestive system to be removed from the body. ... **Plasma** (pronounciation= PLAZ-muh) is a **yellowish fluid** that has **nutrients, proteins, hormones, and waste products.**

Key Vocabulary

Aorta arteries atrium blood vessels capillaries circulatory system heart lungs organ oxygen oxygenated pulse respiration veins ventricle

Year 6 History - Summer 1

Year 6 History–The Mayans

KNOWLEDGE ORGANISER

What have we learnt in this topic before and what we will learn this year?

In Year 3, the children learnt about Ancient Egypt and the Stone Age Eras. The Egyptians were 1100 years before and The Stone Age era was during The Mayan era.

- **Ancient Egypt 3100BC—3108C**
- **The Stone age to Iron Age 3200BC—2200BC**

In Year 5, the children learnt about the Shang Dynasty and how they effected a civilisation. This era was during the Mayan time period.

- **Shang Dynasty 1766BC—1122BC**

In Year 6, the children will learn about the Mayan civilisation and the impact they had on the world.

- **The Mayans—2000BC– 250 BC**

Enrichment day

We will have a Mayan day where we will experience life as a Mayan and complete activities about: the Mayan number system, artefacts, food and rituals.

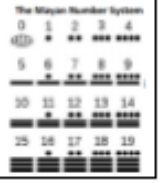
Religion

The Maya believed in and worshipped a number of different gods. They believed that the gods had a good side and a bad side and that the gods could help or hurt them. The Maya would dance, sing and sometimes make offerings of blood to the gods. Priests were very important in Maya society as it was believed that they could communicate directly with the gods. They would perform different rituals during festivals or special ceremonies in order to appeal to the gods. Itzamna, Kulkulkan, Bolon Tzacab and Chaac were considered the more powerful and important gods.

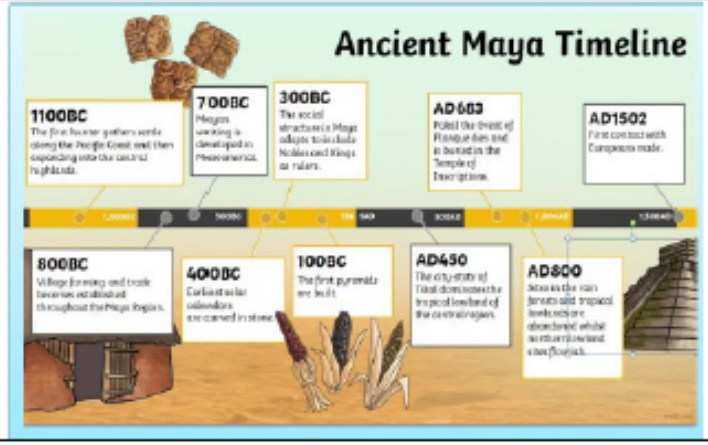
Writing and the number system

The Maya writing system, used to write several different Maya languages, was made up of over 800 symbols called glyphs. Some glyphs were logograms, representing a whole world, and some were syllabograms, representing units of sound. They were carved onto stone buildings and monuments and painted onto pottery. Maya scribes also wrote books, called codices, made from bark of fig trees. Only priests and noblemen would know the whole written language.

The Maya developed a complex number and counting system that was advanced for their time. The Maya people used 3 symbols in their number system. These may have used sticks, pebbles and shells to count and represented as the symbols. They used a base 20 number system.



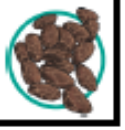
Timeline



Daily life

There were 5 social classes in Maya times. These were Rulers, followed by nobles and priests, then craftsman, peasants and finally the slaves. Each major city had a ruler and the position was passed down through the family. Priests were actually the most powerful people in the Maya society. The peasants were generally the farmers who lived outside of the city.

Maize was a very important crop that formed up to 80% of the Maya peoples diets. They believed that the first humans were made from maize dough by the gods. The Maya made a bitter chocolatey drink from the cacao beans that was enjoyed by the rich and used for medicines and in ceremonies. The beans were highly valued and even used as a form of money.



Key Vocabulary

artefact ritual civilisation calendar dynasty empire hieroglyphics codices scribes kingdom temple tomb worship maize cacao beans

Year 6 Geography - Summer 2

Geography - Can I carry out an independent fieldwork enquiry?

analyse	To look at something in detail.
audience	People who receive a message or watch a performance.
data	Numbers or facts collected to prove something.
enquiry	An investigation into a question.
impact	The influence one thing has on another.
improvement	To make something better than it was.
present	To show something to other people.
process	Steps taken to achieve a particular outcome.
risk	A situation where something may be dangerous.
route	A way to get from one place to another, marked on a map.
viewpoint	A particular way of thinking about something.

Data collection methods

interviews

sound recordings

photographs

questionnaires

sketch maps

tally charts

annotated sketches

Likert scales

Year 6 Art - Summer 1

YEAR 6 ART - COLLAGE

KNOWLEDGE ORGANISER

What have we learnt before in Art and what we will learn next?

In Year 3, we used collage to create a pirate boat scene, cutting materials accurately, overlapping materials and using different colours. We also used printed images and combined these with other media.

In Year 4, through our topic on the 'Romans' we developed our collage skills by creating our own mosaics.

In Year 6, we will continue to develop our skills of collage, tearing, cutting, overlapping and using IT skills to create a mixed media collage in the style of Beatriz Milhazes.

HISTORY OF COLLAGE

Collage, from the French: **coller**, "to glue" or "to stick together" is a technique of art creation, primarily used in the visual arts, by which art results from an assemblage of different forms, thus creating a new whole.

The techniques associated with Collage

Art were first used in China around 200 BC when paper was invented. The initial style of collage began to slowly come into fashion within 10th century Japan when calligraphers started to glued paper and texts on surfaces when writing poetry.
Appearing at the beginning of the 20th century, Collage Art began as a form of novelty art. This style explored the incorporation of many different materials that were often glued together, to create a cutting-edge style of craft art that had never been seen before.

A collage may sometimes include magazine and newspaper clippings, ribbons, paint, bits of coloured or handmade papers, portions of other artwork or texts, photographs and other found objects, glued to a piece of paper or canvas.

The beauty of making a collage is that there are no rules.

ARTIST– BEATRIZ MILHAZES

Beatriz Milhazes is a collage artist and painter who uses very colourful materials to create pictures. She is influenced by the tropical flowers and plants near her home in Brazil, and also the carnivals and culture of Brazil. She uses these inspiring places and experiences, turning them into bright, clashing colours or simple shapes. Beatriz Milhazes uses shapes in different sizes and overlaps them to create images.
She uses coloured papers, sweet wrappers, food packaging, plastic and paints to create her images. Beatriz Milhazes grew up visiting museums and galleries as a young girl. She was very impressed with the work of Matisse, and is still influenced by Mondrian and Bridget Riley. She repeats circles, squares, stripes, flowers and other simple shapes throughout her work. She has created colourful windows, decorated London Underground stations and exhibited her work on canvases too.

COLLAGE TECHNIQUES

tearing- makes rough edges

weaving – to create depth and texture

photography – to create style depending on the aim of the piece

cutting – makes smooth edges

mosaic – picture building through fragments

circles – used to create illusion and depth

MIXED MEDIA

In visual art, mixed media describes artwork in which more than one medium or material has been employed. Assemblages, collages, and sculpture are three common examples of art using different media. Materials used to create mixed media art include, but are not limited to, paint, cloth, paper, wood and found objects.

Key Vocabulary

tear cut mosaic overlap texture shape depth illusion design surrealism
cubism abstract layers juxtaposition washes transfers overprinting decoupage

Year 6 DT - Summer 2

YEAR 6 DT- FOOD & NUTRITION – PIZZA AND SALAD

KNOWLEDGE ORGANISER

What have we learnt before in DT and what we will learn next?

In Year 5, we learnt to use cooking skills such as kneading, shaping and proving/rising to make bread rolls.

In Year 6, we will learn how to stretch, divide and use seasonal ingredients to make Pizzas and salad.

In Secondary school, we will further our cooking skills to include sweets foods with a range of practical lessons such as carrot cake and brownies.

PIZZAS

Pizza is an Italian dish typically consisting of a flat base of leavened wheat-based dough topped with tomato, cheese, and other ingredients, baked at a high temperature, traditionally in a wood-fired oven.

The dough is made by mixing the key ingredients together, kneading by hand or machine and then time is given for the dough to prove. It then stretched out and shaped into a base.

SEASONAL FOODS

It is important to remember that the seasons are different in different places over a year. In the northern hemisphere, spring takes place between March and May. In the southern hemisphere, spring is September to November. Therefore, foods are in season in different places at different times of the year. In the UK:

• Autumn: Butternut Squash, Cauliflower, Chicory, Elderberries, Mushrooms, Pumpkin, Wild Mushrooms, Squash.	• Winter: Apples, Beetroot, Sprouts, Cabbage, Leeks, Mushrooms, Onions, Parsnips, Pears, Turnips.
• Spring: Artichokes, Asparagus, Aubergines, Nine, Potatoes, Rhubarb, Rocket, Spinach, Spring Greens, Spring Onions.	• Summer: Blackcurrants, Broad Beans, Cherries, Chillies, Courgettes, Gooseberries, Garlic, Strawberries, Water Cress, Tomatoes.

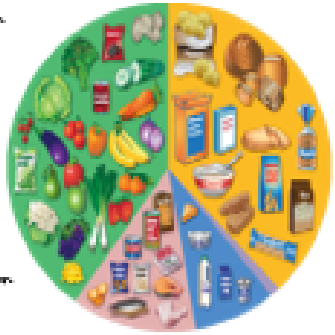
KEY COOKING SKILLS

STRETCHING	DIVIDING	SEASONAL INGREDIENTS
	 We can use a pizza cutter to slice pizza into individual slices. This is done using a circular wheel pushed firmly across the surface.	 We can use seasonal ingredients to ensure our food is as ripe and as tasty as possible! These can be used to enhance our main dish or added as a garnish or side.
When we make Pizza dough, we stretch out the dough using our hands to create a long flatter shape. Stretching the bread dough up and over further develops the dough's gluten, keeping it structurally elastic.		

EATING A BALANCED DIET

In order to stay healthy it is important that we eat a balanced diet of foods from each of the five food groups:

- Fruit and vegetables – Good for vitamins, minerals and fibre. Examples: apples, carrots, strawberries, lettuce.
- Carbohydrates – Good for energy (carbohydrates), vitamins, minerals and fibre. Examples: potatoes, bread, rice, pasta.
- Proteins – Good for muscle building (protein), vitamins and minerals. Examples: beans, pulses, fish, eggs, meat.
- Dairy – Good for muscle building, protein, vitamins and minerals. Examples: milk, cheese, cream.
- Fats and Sugars – Good for energy and fat reserves in small amounts. Eat them in balanced diets. Examples: butter, oil, chocolate, crisps, fizzy drinks.



Key Vocabulary

Pizza	salad	mix	dough	prove	knead	slice	seasonal ingredients	side	garnish	stretch
grow	raise	catch	balanced diet	5 a day	Fruits & Vegetables		Carbohydrates	Protein	Dairy	Fats & Sugars

Year 6 PE - Summer 1

Year 6 - Athletics

Knowledge Organiser

Prior Learning

Sustained pace over short and longer distances. Ran as part of a relay team. Performed a range of jumps and throws.

Unit Focus

Apply strength and flexibility to throwing, running and jumping. Accurately and confidently judge across a variety of activities. Work in collaboration to demonstrate improvement.

We are learning...

1. sprint start technique to increase our running speed.
2. the three phrases of triple jump.
3. the heave throw technique and what it is used for.
4. to assess our own ability to play our role in parlauff.
5. the scissor jump technique and when it would be used in athletics.
6. to record and relay results over a range of track and field events.

Key Questions

1. In which Olympic athletics event is the heave throw used?
2. How can you develop your fitness through parlauff running?
3. What are the 3 phases of triple jump?

Equipment

A variety of balls, hoops, bean bags, quoits, throw-down markers, hurdles, stopwatches, measuring tape, metre rule, skipping ropes, foam discus, hurdles, flexibar.

Vocabulary

Safety, rules, targets, record, set, take over, pass, strength, judge, trajectory, sprint, shuttle, assess.

Concepts

- Running for time and running for distance.
- Linking sport-specific movements to everyday tasks.

Assessment Overview

Head - Accurately and confidently record multiple scores under pressure.
Hand - Combine different jumping skills to accurately replicate the triple jump technique.
Heart - Judge your strengths and weaknesses to fulfil your role in a running challenge.

Year 6 PE - Summer 1 and 2

WatfordFC wellbeing

COMMUNITY SPORTS & EDUCATION TRUST

Positive Minds; Education

Week 1 Introduction to Mental Health

An introduction to Mental Health, what it is and why it is important.

Week 2 Building Positive Relationships

The importance of having a positive relationship, how to build and maintain them and identifying our support network.

Week 3 Body Mind and Resilience

The link between your physical and mental health, what is resilience and identify your coping strategies.

Week 4 The 5 Ways to Wellbeing and Lifestyle

The 5 ways to wellbeing and how they can be used to manage stress and improve your wellbeing.

Week 5 Gaming

The health impacts of gaming, how to do game appropriately and safety considerations to take.

Week 6 Social Media and Internet Safety

The health impacts of social media, how to be online appropriately and safety considerations to take and the relationship between online followers and self-worth.

Week 7 Body Image

What makes you unique, what is body image, and they impact it can have on all.

Week 8 Emotional Literacy

What are emotions, how do we show and respond to certain situations and the 5 stages of grief.

Week 9 Talking About Mental Health

The importance of talking about mental health, the warning signs to look out for and professional services that can support.

Week 10 My Next Steps

Setting goals for the future, how to have a growth mindset and any concerns you may have for secondary school and beyond.

Year 6 PE - Summer 2

Year 6 - Rounders

Knowledge Organiser

Prior Learning

Linked together a range of skills and use in combination. Collaborated with a team to choose, use and adapt rules in games. Recognised how some aspects of fitness apply to rounders.

Unit Focus

Apply rounders rules consistently. Play small-sided games using standard rounders pitch layout. Use a range of tactics for attacking and defending in the role of bowler, batter and fielder.

We are learning...

1. Attacking tactical bowling to make it more difficult for the batter to hit.
2. To track and catch a high ball.
3. To use fast bowling to deceive your opponent.
4. To work in a pair in the field to restrict scoring.
5. To apply tactics when running around bases to avoid overtakes.
6. To apply attacking and defensive tactics in a competitive situation.

Key Questions

1. What is the need to change our field for certain batters?
2. What are some of the rules of rounders?
3. How can you improve as a team to score more runs or stop the opposition scoring?

Equipment

A range of balls, a range of bats and striking equipment, posts, button cones, and batting cones.

Vocabulary

Shot, defensive, offensive, predict, place, select, tactics, stance, tracking.

Rules

- A batter can still run on a 'No Ball' in the same way as if a ball was good.
- A batter cannot be caught out or stumped out at 1st post by a no ball.
- If you do not hit the bowled ball, you still must run unless it is a no ball.

Assessment Overview

Head – Demonstrate urgency when in the field.
Hand – Play in a complete game of rounders with markings and four bases.
Heart – Understand teammate's perspective and motivation when accumulating rounders,

Year 6 PE - Summer 2

Year 6 - Tennis

Knowledge Organiser

Prior Learning

Introduce volley shots and overhead shots. Apply new shots into game situations. Play with others to score and defend points in competitive games. Further, explore tennis service rules.

Unit Focus

Develop backhand shots. Introduce the lob shot. Begin to use full tennis scoring systems. Continue developing doubles play and tactics to improve.

We are learning...

1. To communicate clearly with a partner to score points in doubles play.
2. To attempt a two-handed backhand shot with control.
3. To perform a lob shot to hit the ball over our opponent's head.
4. To apply the correct rules and scoring system in games.
5. To play in different doubles formations and work with our partner to improve.
6. To discuss and apply a range of tactics in doubles play to achieve success.

Key Questions

1. What tactics did you try to implement as a pair?
2. Can you explain the deuce scoring in tennis?
3. How can the lob shot help you to score points in a game?

Equipment

Tennis racquets, nets, sponge balls, tennis balls, cones, hoops, bench.

Vocabulary

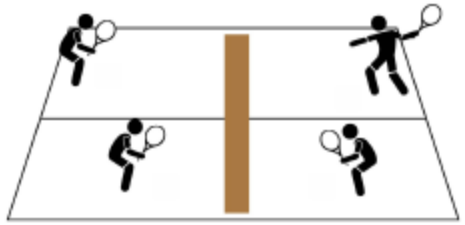
Lob shot, positioning, footwork, listening skill, dispute, peers, attacking, defensive, improvement.

Rules

- Play rules where if the ball is hit out of the playing area, the point is awarded to the other player.
- Balls need to be hit inside the boundaries of the court—if a ball lands in a boundary and the player misses, the point goes to the other team/player.

Assessment Overview

Head – Make good choices in games about the best shot to use.
Hand - Begin to use full scoring systems.
Heart - Use speaking and listening skills to umpire and play with peers without dispute.

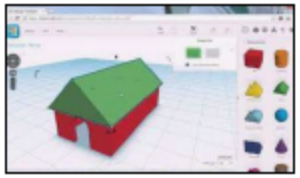


Year 6 Computing - Summer 1

Y6

COMPUTING: CREATING MEDIA KNOWLEDGE ORGANISER

Overview



3D Modelling

-3D means three-dimensional, or having 3 dimensions. For example, a box is a 3D shape, whereas a square is a 2D shape.

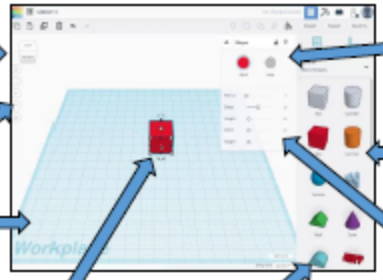
-3D modelling involves using computer software to create 3D shapes, in order to produce models of real-world objects.

-3D modelling allows us to view designs from different angles and experiment with various designs.

-3D modelling is used in many industries, e.g. in interior design, architecture and making video games.

The Basics of 3D Modelling

'Tinkercad' is one example of software that we can use to create 3D Models. Other examples include 'CAD for Kids' and 'Sketchup 3D.'



-The ViewCube Allows us to switch the view of the model e.g. from the front angle, top angle, or spin around to show the sides.

-Zoom in and zoom out.

-The workspace, where you can work on your model. The square panes help us to distances and dimensions accurately.

-Objects can be resized by dragging the handles (white squares).

-When you move multiple objects into the same space, they merge.

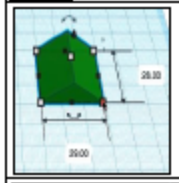
-Alter the dimensions of your model, for example the length, height, width and shape.

-3D objects that can be dragged into the workspace and remodelled.

-Change the colour/ shading of your model, and make them solid or 'hole.'

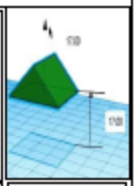
More Advanced Techniques

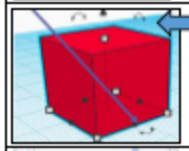
Duplicating: Click and drag around an object to ensure that it is selected. Then, click on the duplicate icon (see left) to create a copy.



Resizing: Objects can be manually resized by clicking and dragging on the handles around them. The dimensions are labelled.

Lifting: Use the ViewCube to change the viewing angle of the model to the front/ side. Then, use the cone handle in order to lift the object from the workspace.



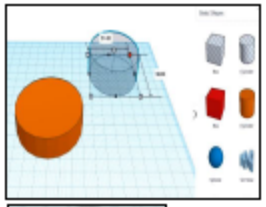


Rotating: Selecting these handles allows us to rotate shapes. Drag the object to rotate it in different ways.

Combining Shapes Many complex shapes are made up of a number of 3D shapes – we can position and merge them together.

Text: You can add block text by selecting 'text' in the shapes. This can help you to enhance other shapes.

Making Holes



Holes: Sometimes we need to create objects that are not solid – they have space inside/ within them.

-To achieve this, begin by adding a 3D shape onto the workspace. Then drag one of the 'holes' shapes onto the workspace. Adjust dimensions accordingly.

-Drag the 'holes' shape over the 3D shape as desired.

-Click and drag a box around the shapes to select them.

-Click the 'group' button to combine the shapes and create the hole.

Important Vocabulary

Modelling | Three-dimensional | Workspace | Faces | Vertices | Edges | Handles | Duplicate | Holes

Year 6 Computing - Summer 2

COMPUTING: CREATING MEDIA

Y6 KNOWLEDGE ORGANISER

Overview

Web Page Creation

-A webpage is a hypertext document that is a part of the World Wide Web.

-Websites are a collection of webpages about the same topic. They can be found using browsers.

-Examples of websites are Amazon and YouTube. Webpages are the different pages on the websites.

-Websites are created for a chosen purpose, and with a particular audience in mind.

-They include navigation paths, and must adhere to copyright and fair use of media rules.

Features of Good Websites

Websites can be found using browsers. Browsers allow us to find our way around the worldwide web, and show us what websites look like.

-The website name is usually visible in large font, particularly on the home page.

-There is often a slogan/ logo and short description of what the website is about.

-The search allows you to find different things on the website.

-Webpages are made up of a code called Hypertext Markup Language (HTML). You can find this by right-clicking on a page and selecting 'Inspect.'

-The menus at the top of the page allow you to look at different parts of the website.

-Pictures are used to highlight what the text is about. Colours are used carefully.

-There are links to other areas of the website/ World Wide Web (in blue).

Creating a Webpage

Google Sites has been used in these examples, but lots of other web page creation software and apps are available, with similar tools and functions.

Setting Up: Click + to start a new website. Click on the top left to add a website name and the top centre to add a page title.

Header: You can add images used in the header, and the type of header, by clicking on these options.

Text Box: Lets you add different sections of text.

Images: Add in pictures from your computer or from the internet.

The layouts feature lets you set out your page in different ways. There are six for you to choose from.

Most websites contain a home page, which introduces the website. The other pages (sub-pages) on the website go into more detail about individual topics.

Making Effective Web Pages

Purpose: The purpose is the reason for your web page – what is it for? You should make sure that your web page meets its purpose.

Audience: The audience are the people who your web page is aimed at. You should make decisions with your target audience in mind.

Copyright: You should only use images that are copyright-free. Many images are owned by people/ companies and cannot just be reused.

Navigation Pathways

Navigation Pathways are also known as breadcrumb trails.

-Hyperlinks allow different pages to be linked together.

-These links help the audience to navigate the website easily.

-The user can also keep track of where they have been on the website.

Important Vocabulary

Web Page | Website | Domain | Hypertext | Purpose/ Audience | Browser | Copyright | Homepage | Navigation Pathways