Year 6 Knowledge Organisers

S9H SOUTH HILL

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 - 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: Animab including

humans (Food, diet skeletons and muscles)

- To Identify that animab, 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

(Digestion, feeth and food chain)

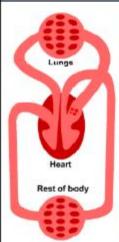
- To describe the simple functions of the basic parts of the digestive system in humans
- To identify the different types of feeth in humans and their simple functions
- To construct and interpret a variety of food chains, identifying producers, predators and prev.

In Year 5, we will learn in our topic. Animats including humans (Growth, development 5 puberty). To describe the changes as humans develop to old.

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 iffestyle 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.

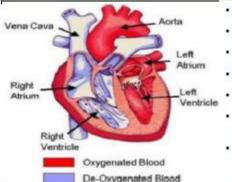
The blood travels through a network of blood vessels to everywhere in your body. It carries useful materials like oxygen, water and nutrients and removes waste products like carbon dioxide.

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 it, 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.

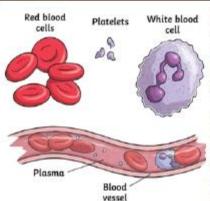


THE HUMAN HEART



- 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 poweful pump.
- The heart takes in low blood oxygen from the body.
- It pumps it through the fight 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—THE MAYANS

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—310BC
- The Stone age to Iron Age 32008C—22008C

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

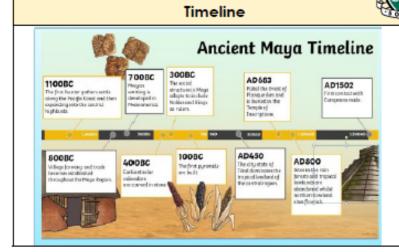
The Maya writing system, used to write several different Maya languages, was made up of over 800 symbols called glyphs. Some glyphs were logograms, representing a whole world, and some were syllabograms, representing units of sound. They were carved onto stone buildings and monuments and painted onto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

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.

noblemen would know the whole written language.



KNOWLEDGE ORGANISER



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 — Map Skills

KNOWLEDGE ORGANISE

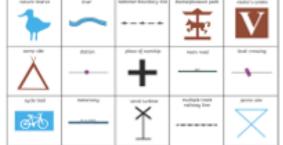
What have we learnt before in Geography and what we will learn next?

In Year 3, we learnt to develop key map skils by looking at OS maps, keys, map symbols, grid references and compass directions.

In Year 5, we used maps to look at map land use of a local area.

In Year 6, we will further develop map skills by looking at Ordnance Survey Maps in more detail.

ORDNANCE SURVEY MAPS - SYMBOLS



Why use map symbols?

OS maps use symbols that label real-life features and make the maps easier to understand. ... Using symbols on a map can be a alever way of availing this. They can be small pictures, letters, lines or galgyagg areas to show features like compaites, pubs or bus stations.

To find out how close your drawings are to actual Ordinance Survey symbols you can look at the key on an Ordinance Survey mag. Maps will usually have a key or a legend. This is a social in that will assign what each and every symbol on the map represents.

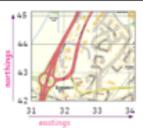
FIELDWORK

We will put our skills into practice by using ordnance survey maps of our local area to complete fieldwork and find and highlight the symbols we see on our walk and the 6 figure grid references we stop at along our study.

On our walk we will discuss the physical and human features of our area and look at the differences and similarities of changes over time.

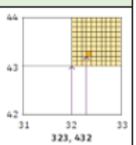
tradigit 1000 ptm set of 31 32 33 eastings are the number Northings are the number 1000 ptm set of 1000 ptm se

4 & 6 FIGURE GRID REFERENCES



A mag is criss-crossed with horizontal and vertical lines that create a grid.

- The grid and squares help to narrow a search area so you can locate features on a map.
- Usually, the lines are numbered with two digits.



- Eastings are the numbers that run from west to east.
- . Northings are the numbers that run from south to north.
- The easting and northing numbers are put together to create a four-digit grid reference, e.g. (32,43), which refers to the bottom left corner of a square on the mag.
- Grid references can be even more specific by adding an extra digit to both the easting and northing numbers.
- These six-digit grid references, e.g. (323,432), tell us more precisely whereabouts in the square something is.

LAND USE

How does land use change over time?

We will look at a variety of areas and using our digital maps resource chart the changes of land use over time.





How has the land changed? Roads, stations, schools, places of worship, houses.

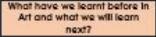
What has not changed? Physical features – hills, lakes, seas, rivers. This will then aid our own drawings of maps using our own criteria.

Key Vocabulary

map symbols scale grid key legend Ordnance Survey maps compass directions 4 figure/ 6 figure grid references co-ordinates eastings northings contour

YEAR 6 ART - COLLAGE

KNOWLEDGE ORGANISER



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



College, from the French: coller. In plus" or "to stick topother" is a technique of art crustion, grimarily 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 college began to slowly come into fashion within 10= century Japan when calligraphers started to allign gland paper and texts on surfaces when writing spetry.

Appearing at the beginning of the 20% century, College 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 cuttingedge style of creft art that had nover been seen before.

A college 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, gland to a piece of paper or canyas.

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

COLLAGE TECHNIQUES



tearing-

makes rough edges

weaving - to create depth and texture



photography - to create style depending on the aim of the pirce



cutting - makes smooth edges



mosaic - picture building through fragments



circles - used to create illusion and depth

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 camivals and culture of Brazil. She uses these inspiring places and experiences, turning them into bright, clashing colours or simple shapes. Beatriz Whazes uses

them to create images.

She uses coloured papers, sweet wrappers, food packaging, plastic and paints to create her images. Beatriz. Muhazos 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 caloudul windows, decorated

London Underground stations and exhibited her work on canvases too.

shapes in different sizes and overlaps





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

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

YEAR 6 DT - MAYA ARCHITECTURE

KNOWLEDGE ORGANISER

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

In Year 2, through our topic 'Construction/Use of Materials' we designed and made our own emergency vehicles.

In Year 3 we designed and constructed our own Anglo-Saxon home.

In Year 6, we will research, design and construct our own Maya temple.



HISTORY OF MAYA PYRAMIDS



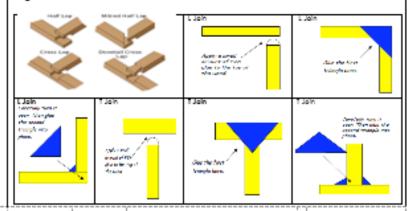
The Maya pyramids are structures built in the jungles of Central America by the Maya civilization between 200 and 900 AD. Unlike the straight sides of the more commonly known Egyptian pyramids, the sides of Maya pyramids are

typically stepped—sometimes for the purpose of enabling people to ascend to the top. Moreover, Egyptian pyramids have sharper figs, while Mesoamerican (Including Maya) pyramids tend to have flatter tops. These flatter tops accommodate certain ceremonies, such as sacrificial rituals, and temples for gods.

The pyramids served a variety of very important functions. Apart from the religious ceremonies, Maya pyramids were used as landmarks to aid in navigation. In the jungle where these pyramids were built, the pyramids were so tall that they could be seen above the trees. Finally, Inside some of the pyramids, there were burial chambers for the highest-ranking officials, just as in Egyptian pyramids.

TECHNIQUES - JOINING PROCESSES

Wood can be joined in a variety of ways. As well as using nails, screws and glue, there are other types of wood joins that help secure wood materials together.



JOINING WOOD MATERIALS

There are many different ways to join materials together. Different joining

CHICHEN ITZA



Chickén, taá is an ancient elly built by the Maya geogle over 1500 years ago. Around AD 600, it became an important area.

Within the Great North Flatform area of the city, is the most recognised temple in Chickée, ité. - El Castille (The Castille), also known as the Tampia of Calabbay or the Cabaltas, Pyramid. This stands of 24 matres high.

Cubulade, was the most important of the gods that the Maya people worshipped. The name means "Seathered screent".

During the spring equinex (eround 20th March) and the autumn equinex (32th September), the sun's rays excelle a shadow across the (Autumn Pyramid, which gives the impression of a snake sithering down the statease. The feethered snake god of the Maya people, (Autumn is also regressented around the gyromid, with corved sergent heads guerding each set of state.



Wood

be lained

different adhesives, such as give or nolls. Wood can also be out different ways to create stronger joins depending on the regularments of the project. Pabric

processes are used depending on the materials.

Fabrics can be loined in

many ways; they can be sewn together using thread, or fastened with buttons, zippers, laces or fabric alue. Hard Materials

Hard

Hard materials

need to be joined using dement or an adhesive that sets hard to help reinforce the join.

Kev Vocabulary

moterial ioin took structure mod-rock half lan cut alue L ioin cross lap dovetoil adhesive hinge T Join mitred measure saw



Year 6 - Cricket

Knowledge Organiser

Prior Learning

Linked 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 cricket, e.g., power, flexibility and cardiovascular endurance.

We are learning...

- To create pressure on a batter by using a ring field.
- To track and catch a high ball consistently.
- To perform a short-pitched bowl to get a batter to hit the ball in the air.
- To work in a pair to restrict runs scored when fielding.
- To play an on-drive.
- To set an attacking field.

Vocabulary

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

Equipment

Urgency, acquire, high ball, tracking, short delivery, long balls, on drive, off side, on side, slip, short leg, silly point, innings, retires, attack

Assessment Overview

Head - Apply with consistency standard rules of (modified) games.

Hand - Attempt to track and catch high balls in isolation and gameplay.

Heart - Work as a pair to field long balls.

Unit Focus

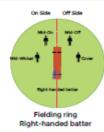
Apply cricket rules in a variety of styles of games. Attempt a small range of recognised shots. Use a range of tactics for attacking and defending in the role of bowler, batter and fielder.

Key Questions

- What is an attacking field?
- What are the reasons for working in pairs to retrieve the long ball?
- What is the benefit of bowling the short ball?

Concept

 The cricket field is split into two imaginary halves, the on side and the off side. These sides change depending on whether the batter is left or right-handed.





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.

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
- 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

Unit Focus

improvement.

- In which Olympic athletics event is the heave throw used?
- 2. How can you develop your fitness through parlauff running?

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

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 - 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.

We are learning...

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

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.

Key Questions

- 1. What is the need to change our field for certain batters?
- 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 - 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.

We are learning...

- To communicate clearly with a partner to 5. score points in doubles play.
- 2. To attempt a two-handed backhand shot with control.
- To perform a lob shot to hit the ball over our opponent's head.
- To apply the correct rules and scoring system in games.
- 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.

Vocabulary

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

Equipment

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

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.

Unit Focus

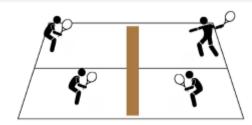
Develop backhand shots. Introduce the lob shot. Begin to use full tennis scoring systems. Continue developing doubles play and tactics to improve.

Key Questions

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

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.





COMPUTING: CREATING MEDIA KNOWLEDGE ORGANISER

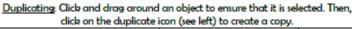


Overview

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 realworld 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.

More Advanced Techniques





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.

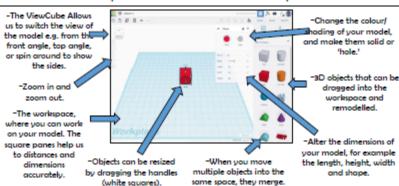




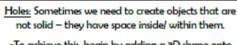
Text: You can add block text by selecting 'text' in the shapes. This can help you to enhance other shapes.

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.'



Making Holes



- -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



COMPUTING: CREATING MEDIA 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 areated 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.

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.



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 vou to find different things on the website.



 Webpages are made up of a code called Hypertext Markup Language (HTML). You can find this by rightdicking 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).

Making Effective Web Pages



ALL ABOUT

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 vour target audience in mind.

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.

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

-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