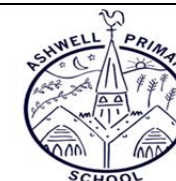


Ashwell Primary School
Computing Curriculum
Digital Design Progression - Knowledge & Skills Organiser



Year 1 – Digital Design

Core Knowledge / skills to be acquired: (Unit 1.6 – Animated Story Books)

- To introduce e-books and the 2Create a Story tool.
- To add animation to a story.
- To add sound to a story, including voice recording and music the children have composed.
- To work on a more complex story, including adding backgrounds and copying and pasting pages.
- To share e-books on a class display board.

Key Vocabulary:

- Animation** - Process of giving the illusion of movement to drawings and models.
Font - The style of text used in a piece of writing on the computer or tablet.
Sound Effect - A sound other than speech or music made for use in a play, film or computer file.
E-Book - A book that can be read on the computer or on a tablet.
File - A piece of work on the computer.
Display Board - A way to share your work on Purple Mash.

Curriculum Enrichment / Cultural Capital Opportunities / key questions

- What is 2Create a Story?
- What is an animated story?
- How can I make my story better?

Prior knowledge / skills this builds on: (EYFS Framework)

- Read words consistent with their phonic knowledge by sound-blending;
- Read aloud simple sentences and books that are consistent with their phonic knowledge, including some common exception words.
- Spell words by identifying sounds in them and representing the sounds with a letter or letters;
- Write simple phrases and sentences that can be read by others.
- Understand the past through settings, characters and events encountered in books read in class and storytelling.

What comes next: (Unit 2.6 – Creating Pictures)

- To learn the functions of the 2Paint a Picture tool.
- To learn about and recreate the Impressionist style of art (Monet, Degas, Renoir).
- To recreate Pointillist art and look at the work of pointillist artists such as Seurat.
- To learn about the work of Piet Mondrian and recreate the style using the lines template.
- To learn about the work of William Morris and recreate the style using the patterns template.
- To explore surrealism and eCollage.

Year 2 – Digital Design

Core Knowledge / skills to be acquired: (Unit 2.6 – Creating Pictures)

- To learn the functions of the 2Paint a Picture tool.
- To learn about and recreate the Impressionist style of art (Monet, Degas, Renoir).
- To recreate Pointillist art and look at the work of pointillist artists such as Seurat.
- To learn about the work of Piet Mondrian and recreate the style using the lines template.
- To learn about the work of William Morris and recreate the style using the patterns template.
- To explore surrealism and eCollage.

Key Vocabulary:

Impressionism - The impressionist movement began in the 1860s and became most popular in the 1870s and 1880s. It differed from the common art of the time because it was not religious art, showing scenes from religious stories or specific events, but was just intended to capture a scene at a moment. The art gave an 'impression' of the scene.

Palette - Within computer graphics, this is the range of colours or shapes available to the user.

Pointillism - Pointillism was a development of impressionism. It was invented mainly by George Seurat and Paul Signac. Pointillist paintings are created by using small dots in different colours to build up the whole picture. Colours are placed near each other rather than mixed.

Share - An instance of posting or reposting something on a social media website or application.

Surrealism - Explored the subconscious areas of the mind. The artwork often made little sense as it was usually trying to depict a dream or random thoughts.

Template - Something that serves as a model for others to copy.

Curriculum Enrichment / Cultural Capital Opportunities / key questions

- What are the main features of Impressionism?
- What are the main features of Pointillism?
- What are the main features of Surrealism?

Prior knowledge / skills this builds on: (Unit 1.6 – Animated Story Books)

- To introduce e-books and the 2Create a Story tool.
- To add animation to a story.
- To add sound to a story, including voice recording and music the children have composed.
- To work on a more complex story, including adding backgrounds and copying and pasting pages.
- To share e-books on a class display board.

What comes next: (Unit 3.7 – Simulations)

- To consider what simulations are.
- To explore a simulation.
- To analyse and evaluate a simulation.

Year 3 – Digital Design

Core Knowledge / skills to be acquired: (Unit 3.7 – Simulations)

- To consider what simulations are.
- To explore a simulation.
- To analyse and evaluate a simulation.

Key Vocabulary:

Simulation - A computer simulation is a program that models a real-life situation. They let you try things out that would be too difficult or dangerous to do in real life.

Curriculum Enrichment / Cultural Capital Opportunities / key questions

- What is a computer simulation? What kind of simulations are there? Are there any problems with simulations?

Prior knowledge / skills this builds on: (Unit 2.6 – Creating Pictures)

- To learn the functions of the 2Paint a Picture tool.
- To learn about and recreate the Impressionist style of art.
- To recreate Pointillist art and look at the work of pointillist artists.
- To learn about the work of Mondrian and recreate the style using the lines.
- To learn about the work of Morris and recreate the style using the patterns.
- To explore surrealism and eCollage.

What comes next: (Unit 4.6 – Animation)

- To discuss what makes a good animated film or cartoon.
- To learn how animations are created by hand.
- To find out how 2Animate can be created in a similar way using the computer.
- To learn about onion skinning in animation.
- To add backgrounds and sounds to animations.
- To be introduced to 'stop motion' animation.
- To share animation on the class display board and by blogging.

Year 4 – Digital Design

Core Knowledge / skills to be acquired: (Unit 4.6 – Animation)

- To discuss what makes a good animated film or cartoon.
- To learn how animations are created by hand.
- To find out how 2Animate can be created in a similar way using the computer.
- To learn about onion skinning in animation.
- To add backgrounds and sounds to animations.
- To be introduced to 'stop motion' animation.
- To share animation on the class display board and by blogging.

Key Vocabulary:

Animation - A process by which still pictures appear to move.
Onion skinning - A process where the shadow image of the previous frame is present to help you line up the objects of the animation correctly.
Sound - Music or oral effects that can be added to the animation.
Flipbook - A book with pictures drawn in a way that makes them appear to move when the pages are flicked.
Background - A non-moving image that appears behind the animated images.
Stop motion - A technique whereby the camera is repeatedly stopped and started, for example to give animated figures the impression of movement.
Frame - A single image in an animation.
Play - Press this button to make the animation start.
Video clip - A short piece of film or animation.

Curriculum Enrichment / Cultural Capital Opportunities / key questions

- What is an animation? What is meant by onion skinning? What is meant by stop frame animation?

Prior knowledge / skills this builds on: (Unit 3.7 – Simulations)

- To consider what simulations are.
- To explore a simulation.
- To analyse and evaluate a simulation.

What comes next: (Unit 5.5 – Game Creator)

- To plan a game.
- To design and create the game environment.
- To design and create the game quest.
- To finish and share the game.
- To self and peer evaluate.

Year 5 – Digital Design

Core Knowledge / skills to be acquired: (Unit 5.5 – Game Creator)

- To plan a game.
- To design and create the game environment.
- To design and create the game quest.
- To finish and share the game.
- To self and peer evaluate.

Key Vocabulary:

Animation - Creating an illusion of movement.

Computer game - A game played using a computer, typically a video game.

Customise - Modify (something) to suit an individual or task.

Evaluation - The making of a judgement about the value of something.

Image - In this case, a picture displayed on the computer screen.

Instructions - Detailed information about how something should be done or operated.

Interactive - Responding to a user's input on a computer or device.

Screenshot - An image of the data displayed on the screen of a computer or mobile device.

Texture - High frequency detail or colour information on a computer-generated graphic.

Perspective - Representing three-dimensional objects on a two-dimensional surface to give the right impression of their height, width, depth, and position in relation to each other.

Playability - A measure of either the ease by which a video game may be played, or of the overall quality of its gameplay.

Curriculum Enrichment / Cultural Capital Opportunities / key questions

- What is the 2DIY3D tool on Purple Mash?
- What makes a good computer game?
- Why is it important to continually evaluate your game?

Prior knowledge / skills this builds on: (Unit 4.6 – Animation)

- To discuss what makes a good animated film or cartoon.
- To learn how animations are created by hand.
- To find out how 2Animate can be created in a similar way using the computer.
- To learn about onion skinning in animation.
- To add backgrounds and sounds to animations.
- To be introduced to 'stop motion' animation.
- To share animation on the class display board and by blogging.

What comes next: (Unit 5.6 – 3D Modelling)

- To be introduced to 2Design and Make and the skills of computer aided design.
- To explore the effect of moving points when designing.
- To design a 3D Model to fit certain criteria.
- To refine and print a model.

Year 5 – Digital Design

Core Knowledge / skills to be acquired: (Unit 5.6 – 3D Modelling)

- To be introduced to 2Design and Make and the skills of computer aided design.
- To explore the effect of moving points when designing.
- To design a 3D Model to fit certain criteria.
- To refine and print a model.

Key Vocabulary:

CAD – Computer aided Design - A CAD computer program or app allows you to design a 3D object or environment in 2D and visualise it in 3D on the screen from many angles.

Modelling - The activity of making models.

3D - Something that has three dimensions; height, width and depth.

Viewpoint - A person's opinion or point of view.

Polygon - An object with at least three straight sides and angles, and typically five or more.

2D - Something that has only two dimensions; height and width.

Net - A pattern that you can cut and fold to make a model of a solid shape.

3D Printing - The action or process of making a physical object from a three-dimensional digital model, typically by laying down many thin layers of a material in succession.

Points - An exact position or location on a 2D surface.

Template - Something that serves as a model for others to copy.

Curriculum Enrichment / Cultural Capital Opportunities / key questions

- What are the different view of an object available in 2Design and Make?
- How is CAD software used in industry? Give some examples.
- How can the objects designed in 2Design and Make be turned into 3D objects?

Prior knowledge / skills this builds on: (Unit 5.5 – Game Creator)

- To plan a game.
- To design and create the game environment.
- To design and create the game quest.
- To finish and share the game.
- To self and peer evaluate.

What comes next: (Unit 5.7 – Concept Maps)

- To understand the need for visual representation when generating and discussing complex ideas.
- To understand the uses of a 'concept map'.
- To understand and use the correct vocabulary when creating a concept map.
- To create a concept map.
- To understand how a concept map can be used to retell stories and information.
- To create a collaborative concept map and present this to an audience.

Year 5 – Digital Design

Core Knowledge / skills to be acquired: (Unit 5.7 – Concept Maps)

- To understand the need for visual representation when generating and discussing complex ideas.
- To understand the uses of a 'concept map'.
- To understand and use the correct vocabulary when creating a concept map.
- To create a concept map.
- To understand how a concept map can be used to retell stories and information.
- To create a collaborative concept map and present this to an audience.

Key Vocabulary:

- Audience** - People giving attention to something.
Collaboratively - Something that is produced by, or involves, two or more parties working together.
Concept - An idea.
Concept Map - A tool for organising and representing knowledge. They form a web of ideas which are all interconnected.
Connection - A relationship or link between two nodes or ideas.
Idea - An opinion or belief.
Node - A way to represent concepts or ideas.
Thought - An idea or opinion produced by thinking or occurring suddenly in the mind.
Visual - A picture, piece of film or display used to illustrate or accompany something.

Curriculum Enrichment / Cultural Capital Opportunities / key questions

- What is a concept map?
- How is information arranged on a concept map?
- How does a concept map help share ideas? safe?

Prior knowledge / skills this builds on: (Unit 5.6 – 3D Modelling)

- To be introduced to 2Design and Make and the skills of computer aided design.
- To explore the effect of moving points when designing.
- To design a 3D Model to fit certain criteria.
- To refine and print a model.

What comes next: (Unit 6.5 – Text Adventures) * See Coding strand

- To find out what a text adventure is.
- To use 2Connect to plan a story adventure.
- To make a story-based adventure using 2Create a Story.
- To introduce an alternative model for a text adventure which has a less sequential narrative.
- To use written plans to code a map-based adventure in 2Code.