TERM 2 OVERVIEW YEAR 3&4 – Computing

Term 1 Book(s) – The Lion, the Witch and the Wardrobe		
Topic(s) – Using a Variety of Software (Stop Motion)		
Assessment:	Ongoing formative assessment of key knowledge and skills for each year group. Using and applying unit in Term 6	**Very Important Points (VIPs):** Animation works because of persistence of vision Animation came before live action films You will need a minimum of 15 images to be shown every second. Stop motion animation uses one photograph per frame to create the illusion of movement Onion skinning means we can see one or more frames lightly in the background to help us to position our next frame. (VIPs specific to software used)
Links to prior learning (sequencing) and canon book	Year 3 children won't have experienced animation during KS1 and so this will be new learning for them. Year 4 children learnt about the history of animation during Year 3, and created animations using a computer program. They will be able to apply their knowledge and key terminology when creating a new form of animation.	
Links to other learning (cross fertilisation)	Science and Geography – children will be creating a stop motion animation of the water cycle.	
Links to future learning	Year 3 children will encounter animation again when they reach Year 4. They will look again at the history of animation, will create a flip book and will use a computer program to animate. In Year 5 and 6, children will continue to use a variety of software and will be able to apply learning to new areas of Computing.	
Character/Wider Development ('50 things', cultural capital, skills)	**The World Beyond Us** How can animation be used to develop our understanding of the world beyond us? **Modern Britain** Could animation be a powerful tool to help people understand our British Values? Could animation help to unite differences in communities? **Healthy Bodies & Healthy Minds** How could animation promote having a healthy body and a healthy mind? **The World Around Us** Explain why stop-motion animation could be seen as a universal language.	**Fat Question:** How has stop motion animation had an impact upon your life?

	Culture How could we share different cultures through the medium of animation? **Technology in Action** How did the discovery of persistence of vision contribute to the films we watch today?	

OVERVIEW OF TEACHING SEQUENCE

Key Facts/Learning	Learning Focus or Key Question	Learning Outcomes (NC)	Key Words/ Vocabulary	Greater Depth/SEND	Misconceptions	Activities and Resources
Week 1 – Lesson 1 Animation works because of persistence of vision Animation came before live action films You will need a minimum of 15 images to be shown every second.	LO: To understand and explore the history of animation	NC: • are responsible, competent, confident and creative users of information and communication technology • select, use and combine a variety of software (including internet services) on a range of digital devices	Zoetrope Thaumatrope Persistence of Vision Animation Frames	GD: Will understand how to create more complex images on the inventions because they will understand how the images interact with each other. They may be able to come up with more creative, 'out of the box' ideas that work well. SEND: A thaumatrope is much easier to make	Children may think that: Animations are 'real life', That videos are different to animation when they do work in the same way, with lots of individual frames. Only 'film makers' can create animations.	Children will find out about the history of animation, from before computers. They will watch a video clip to explain this. After this, they will look at different devices that were used to simulate animation. Finally, the children will be able to make either a zoetrope or a thaumatrope. **Deepen the moment** Now you have made your early animation invention, what would you improve if you made it again? What worked well and what was not so good when you watched your animation?

				than a zoetrope so it might be better to direct some SEND children to those. Pre-prepared images could be given to stick on to the circles so the thaumatrope is still successful. Templates for both types of invention are available in the folder.		
Week 3 – Lesson 2	LO: To plan and prepare my stop motion animation	NC: • are responsible, competent, confident and creative users of information and communication technology • select, use and combine a variety of software (including internet services) on a range of digital devices	Onion skin	GD: Could write a more sophisticated script with stage directions, including the appropriate punctuation. Could be able to communicate ideas in a novel way. SEND: Children could use a story board instead of script. (Template in folder) Given objects instead of having to think of them. Basic images of parts of the water cycle are on Trust Shared for children to	Children may have misconceptions about the water cycle – the order, what each stage does. These may become more apparent when the children are asked to present the information in a new way. Children may have misconceptions about how the frames are put together in order to create a moving image. Restate the persistence of vision to emphasise how it works.	Children will re-cap the water cycle, discussing the name and explaining the process of each stage. Children will then learn about the difference between stop motion animation and the drawn animation they encountered in the previous lesson. They will watch a short video clip to illustrate the process further. An important point to make during teaching is that it takes them 6 weeks of planning/preparing and 3 weeks of filming to produce just one minute of footage – highlight that we don't have that amount of time so our animations will be a lot simpler! The task is to plan out their animation. They need to decide

				cut out and use if no appropriate objects can be made/found.		what objects they will need and will need to come up with the story of the animation. **Deepen the moment** Have a run through of your script using your images so you can see if you have any issues you need to think about before you start to film.
Week 5 & 7 – Lesson 3&4	LO: To make and evaluate a stop motion animation	NC: • are responsible, competent, confident and creative users of information and communication technology • select, use and combine a variety of software (including internet services) on a range of digital devices		GD: Differentiated by outcome. SEND: Consider mixed ability pairs to support.	Children may underestimate the number of images they will need to take in order to create an animation. Children may not realise how small the increments should be for moving the objects or pictures.	Children will be spending the next two lesson taking the images needed for their animation. They will work in pairs, with one person operating the camera, and the other person positioning the objects for partner A's animation. In the second week, they will alternate positions to complete partner B's animation. At the end of the session, children will watch some of each other's animations and say what was effective about them **Deepen the moment** What other powerful ideas for animations can you come up with? Think about things that could have a big impact on our World.

Context (big picture learning)
Technology has such a wide ranging application and we believe it is important for our children to encounter as many of them as possible. We want to ignite interest in the subject and inspire a curiosity to find out more. Children will also look into the origins and history of animation to enable them to appreciate the progress technology allows us to make.

Folder name (Trust shared > Primaries > KS2 > Year 3/4 Planning > Cycle B > Autumn 2 - The Firework Makers Daughter > Computing)

Week 1 L1, Week 3 L2, Week 5 L3

Knowledge Organiser

Key Vocabulary:

animation – the process of creating the illusion of moving images using a series of still frames

persistence of vision – the human eye and brain can only 'see' 10 to 12 images per second. If another picture is shown quickly enough, it seem as if the picture is moving

frames – individual pictures in a sequence of images. Most video is shot at 24 or 30 frames per second (FPS)

onion skinning – you can see several frames at once so you can make decisions on how to create or change an image, based on the previous image in the sequence

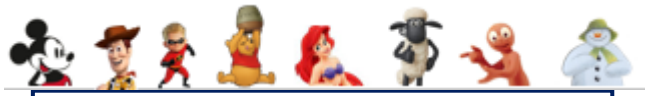
drawn animation – an animation technique where each frame is drawn by hand

stop motion animation – brings still objects to life on screen by moving the object a tiny bit and capturing a frame each time it is moved

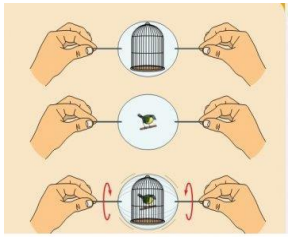
model animation – a form of stop motion animation, designed to merge with live action footage

3D computer generated animation – digitally made animated images using 3D models which can be rotated and moved like real objects.

The oldest known animated film was created in 1908. It is called Fantasmagorie and was animated by Emile Cohl



Thaumatrope



A toy that was popular in the 19th century. A disc with an image on each side is attached to a piece of string. When the string is twirled quickly between two fingers, the two pictures appear to blend into one.

Zoetrope

A cylinder with slits cut vertically in the sides. On the inner surface of the cylinder is a band with images from a set of sequenced pictures.

Flip Book

A book with a series of pictures that change gradually from one page to the next, so that when the pages are turned quickly, the picture appears to animate.

Snow White and the Seven Dwarfs was the first and oldest feature length animated film released by Disney. It

Fat Question:
How has stop motion animation had an impact upon your life?

PONTEFRACT ACADEMIES TRUST

Curriculum Intent:

Our Computing lessons are to prepare you for your future by giving you the opportunities to gain knowledge and develop skills that will equip you for an ever-changing digital world.

VIPs:

Animation works because of persistence of vision

Animation came before live action films

You will need a minimum of 15 images to be shown every second.

Stop motion animation uses one photograph per frame to create the illusion of movement

Onion skinning means we can see one or more frames lightly in the background to help us to position our next frame.