

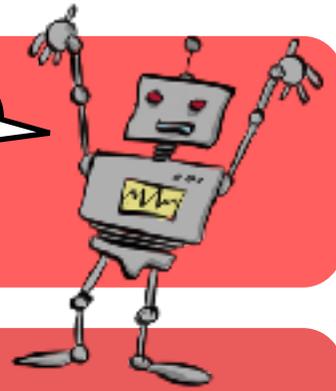
Year 2

Computing Activities: Code a Story

Year 2: Code a Story

The activity will introduce new concepts such as conditional language, repeat loops and debugging.

Let's get started!



Overview:

The children will write a basic story with illustrations. They will then turn this into an animated story using visual coding. The activity will introduce new concepts such as conditional language, repeat loops and debugging.

In completing this unit the children will learn how to code using Scratch. This unit features the new version of Scratch, however the coding blocks in Scratch 2.0 are identical and can still be used.

Assessment:

- (MS) I can save, share and retrieve my digital work.
- (MS) I can use technology to organise and present my ideas.
- (CS) I can plan out an algorithm with a sequence of commands to carry out specific tasks.
- (CS) I can identify 'bugs' in computer programs and use the term debug in context.
- (CS) I can create a simple repeat loop.
- (CS) I can create a simple game program.
- (CS) I can predict the outcome of a sequence of blocks in Scratch.
- (IT) I can use design and formatting to enhance my digital work.
- (IT) I can create with technology. E.g. Video, animation, 3D
- (DL) I know the rules of using technology at home or in school. (Health wellbeing)
- (DL) I can explain what personal information is and understand the need for passwords to protect it. (Privacy and Security)

Key Terms & Vocabulary Explained

Repeat	Backdrop	Program	Loops	Characters
Code	Sequence	Debug	Password	Username
Execute/Run	Browser	WWW	Backdrop	Images
Digital Book	Code	Computational Thinking		

Teacher's resources

Teachers will need to download and distribute the pupil PowerPoint documents. The children's journal is a digital textbook that can be used to record the children's understanding of the computing topic. They must personalise their book and answer all the questions within. The teacher journal can be used as a presentation and contains all teaching tips.



Resources Required

iPad, Chrome Book or Android
Book Creator, PowerPoint
Seesaw and Scratch 3.0



Teacher's Guide



Book Creator



Seesaw



PowerPoint



Scratch 3.0

Year 2: Code a Story

Assessment & Computing POS

Essential (MS): Age appropriate skills for the use of core devices and applications within their setting.	Computer Science (CS): Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs.	Information Technology (IT): Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Digital Literacy (DL): Recognise common uses of information technology beyond school. Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.
(MS) I can save, share and retrieve my digital work.	(CS) I can plan out an algorithm with a sequence of commands to carry out specific tasks.	(IT) I can use design and formatting to enhance my digital work.	(DL) I know the rules of using technology at home or in school. (Health wellbeing)
(MS) I can use technology to organise and present my ideas.	(CS) I can identify 'bugs' in computer programs and use the term debug in context.	(IT) I can create with technology. E.g. Video, animation, 3D	(DL) I can explain what personal information is and understand the need for passwords to protect it. (Privacy and Security)
	(CS) I can create a simple repeat loop.		
	(CS) I can create a simple game program.		
	(CS) I can predict the outcome of a sequence of blocks in Scratch.		

How to download teaching resources for this activity



We have made every effort to ensure resources are as accessible as possible. Please choose the file type you require for your device.



The **Teacher's Handbook** contains all the content you will need to teach this activity.



The **Children's Handbook** contains the content the children will need for this activity.



Download **all the resources** as ZIP file. This works best for desktop users.



[Download PowerPoint](#)



[Download Book Creator](#)



[Zipped Files](#)



[Download PDF Version](#)



[Download PPT Version](#)



[Download PDF Version](#)

App replacement

What can I use if I don't have that?

Apps Required	iPad	Android Tablet	Chromebook	Surface/PC	Mac
 Book Creator £4.99 (iPad) Free on Online but limited books		 Accessed through Chrome Browser	 Accessed through Chrome Browser	 Accessed through Chrome Browser	 Accessed through Chrome Browser
 Seesaw Free		 Accessed through Chrome Browser	 Accessed through Chrome Browser	 Accessed through Chrome Browser	 Accessed through Chrome Browser
 Scratch 3.0 Free					
 PowerPoint School licence					

You can use PowerPoint, Keynote, Google Slides or Book Creator Online for the Pupil Journal.
Just choose one to use in this activity and install that one.

What technology and apps do I need?



Week One

Hardware



You can use tablets or laptops/desktops. Children will creating a managed online account in Scratch 3.

Software/Apps



Seesaw



Scratch 3

Week Two

Hardware



You can use tablets or laptops/desktops. Children will through challenges in a digital workbook using /Keynote/PowerPoint/slides.

Software/Apps



Seesaw



PowerPoint/Keynote/Slides



Scratch 3

Week Three

Hardware



You can use tablets or laptops/desktops. Children will through challenges in a digital workbook using /Keynote/PowerPoint/slides.

Software/Apps



Seesaw



PowerPoint/Keynote/Slides



Scratch 3

Week Four

Hardware



You can use tablets or laptops/desktops. Children will through challenges in a digital workbook using /Keynote/PowerPoint/slides.

Software/Apps



Seesaw



PowerPoint/Keynote/Slides



Scratch 3

Week Five

Hardware



You can use tablets or laptops/desktops. Children will work on creating their own coded story.

Software/Apps



Seesaw



PowerPoint/Keynote/Slides



Scratch 3

Week Six

Hardware



You can use tablets or laptops/desktops. Children will work on creating their own coded story.

Software/Apps



Seesaw



PowerPoint/Keynote/Slides



Scratch 3

Code a Story Planning Overview

Lesson	Driving Question	Activity	Assessment
1	What does sign-in mean?	<ol style="list-style-type: none"> 1. Set up a class Seesaw / Scratch teacher account. 2. Introduce unit, class discussion about “what is code?” and online safety when using online accounts. 3. Discuss safe username and password creation. 4. Get children to either sign in to Scratch or create account (QR Code). 5. Ask the children to fill in the username and password printed cards. 6. Get the children to sign in to https://scratch.mit.edu 7. Model using Scratch and let the children play with the app. Follow the slides in the Teacher Handbook. 8. Self assessment and computing vocabulary. 	<p>(DL) I know the rules of using technology at home or in school. (Health well being)</p> <p>(DL) I can explain what personal information is and understand the need for passwords to protect it. (Privacy and Security)</p> <p>(MS) I can save, share and retrieve my digital work.</p> <p>(CS) I can create a simple game program.</p> <p>(CS) I can predict the outcome of a sequence of blocks in Scratch.</p>
2	Can you write an algorithm?	<ol style="list-style-type: none"> 1. Ask the children “who can remember what a program is?”. 2. Explain what a Coding Journal is and distribute the pupil’s Journal file. 3. Model add text and editing the Journal. 4. Get children to sign in to Scratch. 5. Model using Scratch and the Journal. Follow the slides in the Teacher Handbook. 6. Self assessment and computing vocabulary. 	<p>(MS) I can save, share and retrieve my digital work</p> <p>(MS) I can use technology to organise and present my ideas.</p> <p>(CS) I can plan out an algorithm with a sequence of commands to carry out specific tasks.</p> <p>(IT) I can use design and formatting to enhance my digital work.</p>
3	What is debugging?	<ol style="list-style-type: none"> 1. Model opening the Journal file & signing into Scratch. 2. Ask the children “who can explain an algorithm?”. 3. Model adding text and writing a simple conversation between two Scratch characters. 4. Complete writing an algorithm task in Journal. 5. Model using Scratch and the Journal. Follow the slides in the Teacher Handbook. 6. Self assessment and computing vocabulary. 	<p>(MS) I can save, share and retrieve my digital work</p> <p>(MS) I can use technology to organise and present my ideas.</p> <p>(CS) I can plan out an algorithm with a sequence of commands to carry out specific tasks.</p> <p>(CS) I can identify ‘bugs’ in computer programs and use the term debug in context.</p> <p>(CS) I can create a simple repeat loop.</p> <p>(IT) I can use design and formatting to enhance my digital work.</p>
4	Can you write a story?	<ol style="list-style-type: none"> 1. Model opening the Journal file. 2. Ask the children to write a story. 3. Create characters with algorithms and backdrops. 4. Follow the slides in the Teacher Handbook. 5. Self assessment and computing vocabulary. 	<p>(MS) I can save, share and retrieve my digital work</p> <p>(MS) I can use technology to organise and present my ideas.</p> <p>(CS) I can plan out an algorithm with a sequence of commands to carry out specific tasks.</p>
5 & 6	Can you create your own coded animated story?	<ol style="list-style-type: none"> 1. Model opening the Journal file and Scratch. 2. Draw characters and backdrops in Scratch. 3. Follow the slides in the Teacher Handbook. 4. Support the children with getting started and then let them explore and see what they can do. 5. Self assessment and computing vocabulary. 	<p>(MS) I can save, share and retrieve my digital work.</p> <p>(MS) I can use technology to organise and present my ideas.</p> <p>(CS) I can plan out an algorithm with a sequence of commands to carry out specific tasks.</p> <p>(CS) I can identify ‘bugs’ in computer programs and use the term debug in context.</p> <p>(CS) I can create a simple repeat loop.</p> <p>(CS) I can create a simple game program.</p> <p>(CS) I can predict the outcome of a sequence of blocks in Scratch.</p> <p>(IT) I can use design and formatting to enhance my digital work.</p>

Teacher's notes: Lesson 1

What does sign-in mean?

Assessment

(DL) I know the rules of using technology at home or in school. (Health well being)

(DL) I can explain what personal information is and understand the need for passwords to protect it. (Privacy and Security)

(MS) I can save, share and retrieve my digital work.

(CS) I can create a simple game program.

(CS) I can predict the outcome of a sequence of blocks in Scratch.

Step 1: Let's get started! Our first task, if you haven't done so already is to set up Seesaw. This is a fantastic app that the children can use to document their own learning by taking photos, videos and creating drawings. It is also a place for you to take photos and videos of the class to share or record the classes learning journey. You can also invite parents to access their own child's posts by downloading the 'Parent' app or via any browser on a computer.

Next you will need to sign up for a Scratch Teacher Account in advance of teaching this unit. This may take a few days as you will have to be approved by the Scratch team. As an educator, you can request a Scratch Teacher Account, which means you can create accounts for the children, view/manage their projects, add comments and give feedback all online from any device. [Sign up here.](#)

Step 2: In the Teacher's Handbook, you will find an overview of setting up an account and creating the children's accounts. You can add them yourself or ask the children to create their own username and password as part of the lesson. I prefer the latter as it is a great opportunity to discuss online safety and digital literacy. See the slides on creating usernames and passwords. In the teacher handbook you will also find online account cards that you can print out and have the children fill in with their account details. You can then collect them in and keep incase the children forget their details.

Step 3: Start the lesson by telling the children that they are going to use an online coding website. Explain that this is a real world website and is used by coders and children from all around the world to create games and animations. Ask the children if "anyone knows what coding is?". If the children can't give you a good explanation then discuss that coding is how games, apps and websites are created. Basically it is the instructions that make technology work. Tell the children that we will be learning how to give characters in a story instructions to speak and move.

Step 4: Whether you have created the children's account details yourself or made the QR link for them to create their own, you will need to discuss personal information and privacy. You can watch the [BBC video](#) and discuss 'How do you take care of your personal information?' with the class. If you have created the QR code link to your Scratch class, ask the children to scan the QR code and create their username and password. In the Teacher Handbook you will find a fun way of doing this, model creating safe usernames and passwords. Explain the importance of not using their real name and easy to guess password.

Step 5: Print out the Scratch account cards and hand them out to the children. Ask the children to create their accounts and write their account details down on the Scratch account cards and then collect them in for safe keeping. This may take some time but is an important lesson and teaches so many invaluable digital skills.

Step 6: Once the children are signed in <https://scratch.mit.edu> you can now follow the slides in the Teacher's Handbook and model the basic use of the Scratch coding environment. As the children are experimenting and playing with Scratch, use Seesaw to take some photos or videos.

Step 7: Remember to show the children how to sign out! This is an online account so you must get in the habit of signing out especially on shared devices.

Step 8: Explain the intended outcome of the session to the children and ask them to raise their hand if they have 'Got it', 'Got Some of it' or are 'Totally Lost'. Discuss the vocabulary used and if they understood key words.

Teacher's notes: Lesson 2

Can you write an algorithm?

Assessment

(MS) I can save, share and retrieve my digital work

(MS) I can use technology to organise and present my ideas.

(CS) I can plan out an algorithm with a sequence of commands to carry out specific tasks.

(IT) I can use design and formatting to enhance my digital work.

Step 1: In the last lesson the children created an account for Scratch (or signed in with the details you gave them), including username and password. They then played with Scratch and created a simple program, a set of instructions in Scratch. Start the lesson by asking the children “who can remember what a program is?”. In this lesson we are going to download a file called a coding journal (this is a bit like a diary but for learning), try some Scratch challenges and then type up our understanding of the things we do in Scratch.

Step 2: One of the core fundamentals of Key Stage 1 Computing, is that the children learn how to save and store their digital work. In this activity the children will navigate to a document, edit it and then resave it to a new folder. You will need to download and distribute the file so the children can edit it. On the resources page you will find the Pupil's Coding Journal is available to download as a PowerPoint or Book Creator (ePub). The PowerPoint file can be edited in Keynote (Mac/iPad) or Google Slides if you are using Chromebooks.

When distributing a file the easiest way is to use either the school network if you are using desktops PCs or laptops, iPads or Chromebooks the best way is to use a cloud. Simply download the file and upload it to a folder that is shared with the children. The children can then open the file in either the Keynote, PowerPoint or Slides app. We want the children to master as early as possible how to open, navigate folder structures and save work. Depending what device, cloud or app you use this process will look very different but the file itself will not. Every school will have their own method of distributing and storing digital work. Usually, each class has a set of folders where they can store their computing work. It's impossible in this guide to cover every way of sharing and storing files. As you model opening the file with the children ask questions about folders and files to help the class understand what they are and their purpose.

Step 3: Once the children have opened the Journal file, explain what a Coding Journal is “In this Coding Journal there are lots of programming challenges. This is a diary so fill it full of your thoughts about what you learn!”. Model adding a text field to the cover page and adding their name. Review what they did in lesson 1 and show them how the Journal works. Ask the children to add two more text boxes. One for their username and one for their password.

Step 4: Next the children will learn about switching between applications (or tabs on a browser if you are using online sites/Chromebooks). The children will code with Scratch (in the browser) and explain what they are doing in their Journal file. Getting the children familiar in using multiple apps and switching between them is a key part of using technology creatively. Ask the children to navigate to the Scratch website and sign in with their personal account details.

Step 5: Working with the children you can follow the slides in the Teacher's Handbook to complete the challenges. Try things in Scratch and then answer the questions in the Journal, flipping between apps/sites.

Step 6: As the children are experimenting and playing with Scratch, use Seesaw to take some photos or videos.

Step 7: Remember to show the children how to sign out! This is an online account so you must get in to the habit of signing out especially on shared devices. They will also need support in saving their Pupil Journal file.

Step 8: Explain the intended outcome of the session to the children and ask them to raise their hand if they have 'Got it', 'Got Some of it' or are 'Totally Lost'. Discuss the vocabulary used and if they understood key words.

What is debugging?

Assessment

(MS) I can save, share and retrieve my digital work

(MS) I can use technology to organise and present my ideas.

(CS) I can plan out an algorithm with a sequence of commands to carry out specific tasks.

(CS) I can identify 'bugs' in computer programs and use the term debug in context.

(CS) I can create a simple repeat loop.

(IT) I can use design and formatting to enhance my digital work.

Step 1: Ask the children to open the app they previously used to edit the journal file Keynote/ PowerPoint/Slides/Book Creator. Model opening the Journal file and signing into Scratch.

Step 2: Explain that last week they played with algorithms and programs. Ask "who can explain an algorithm?". Discuss answers and remind the children if need be.

Step 3: Explain this week they will be creating a coded story. They will write a simple conversation between two characters and then use code to get the character to move and talk to each other. See the two character conversation slide in the Teacher's Handbook. Discuss ideas for the conversation. Give the children 15 minutes to write something either in their Journal or printed version.

Step 4: Remind the children that the purple blocks in Scratch are the speech bubble blocks. They will need to understand this to create a basic animated coded conversation. Show the children the Pupil Coding Journal challenges they will need to complete in order to get their conversation working. Show the children the planning with an algorithm slide; model how to create a simple algorithm that show what the characters will do.

Step 5: Ask the children to start a new project in Scratch. Working with the children you can follow the slides in the Teacher's Handbook to complete the challenges. Try things in Scratch and then answer the questions in the Journal, flipping between apps/sites. Spend some time explaining debugging and fixing code, see the Teacher's Handbook slide.

Step 6: As the children are experimenting and playing with Scratch, use Seesaw to take some photos or videos.

Step 7: Remember to show the children how to sign out! This is an online account so you must get in the habit of signing out especially on shared devices.

Step 8: Explain the intended outcome of the session to the children and ask them to raise their hand if they have 'Got it', 'Got Some of it' or are 'Totally Lost'. Discuss the vocabulary used and if they understood key words.

Can you write a story?

Assessment

(MS) I can save, share and retrieve my digital work

(MS) I can use technology to organise and present my ideas.

(CS) I can plan out an algorithm with a sequence of commands to carry out specific tasks.

Step 1: Explain to the children that in the last lesson we created a simple coded animation with just two characters moving and talking. In this lesson we are going to make up a whole story and create our own characters!

Step 2: Ask the children to open the app they previously used to edit the journal file Keynote/ PowerPoint/Slides/Book Creator.

Step 3: Try a story dice app or website to help spark the children's imagination. You will find example apps and websites in the Teacher's Handbook. Model how to create a simple story based on the Story Dice. Use the pages in the Pupil Journal for the children to write their story or print out the script worksheet / give the children some scrap paper to write their story.

Step 4: What do the characters look like in your story? Sketch them out using either digital drawing tools or hand draw, give them names. Think about how they will move in your story... write an algorithm! Based on your sketches we will create digital drawing in Scratch later. Again print out sheet or use scrap paper. Where will your story take place? Sketch it out. Based on your sketches we will create digital drawings in Scratch later. Again use digital tools, print out sheet or use scrap paper.

Step 5: As the children are experimenting and playing with Scratch, use Seesaw to take some photos or videos.

Step 6: Remember to show the children how to sign out! This is an online account so you must get in the habit of signing out especially on shared devices.

Step 7: Explain the intended outcome of the session to the children and ask them to raise their hand if they have 'Got it', 'Got Some of it' or are 'Totally Lost'. Discuss the vocabulary used and if they understood key words.

Teacher's notes: Lesson 5 & 6

Can you create your own coded animated story?

Assessment

(CS) I can predict the outcome of a sequence of blocks in Scratch. E.g. I can look at my friend's program and tell you what will happen.

Step 1: Over the next two lessons let the children have a go at creating their story using Scratch. Explain to the children that in the last two lessons we are going to create an amazing coded animation with our own character moving and talking.

Step 2: Ask the children to open the app they previously used to edit the journal file Keynote/PowerPoint/Slides/Book Creator. Model opening the Journal file and signing into Scratch.

Step 3: They will need to sign in and create a new project. Draw their characters and backdrops. Code their characters. Save their work. Don't forget to use the pupil journal to show they understand!

Step 4: Follow the slides in the Teacher's Handbook to help you model the first steps in creating their fully coded story. Spend some time showing the children the "wait" instruction and the "loop" instruction. Basically the wait instruction adds a delay before something happens and the loop instruction makes something happen more than once. Let the children play, make mistakes, fix errors, try new things. The aim is to see what the children can create. As this lesson is over two weeks, remember to save work regularly.

Step 5: As the children are experimenting and playing with Scratch, use Seesaw to take some photos or videos.

Step 6: Remember to show the children how to sign out! This is an online account so you must get in the habit of signing out especially on shared devices.

Step 7: Explain the intended outcome of the session to the children and ask them to raise their hand if they have 'Got it', 'Got Some of it' or are 'Totally Lost'. Discuss the vocabulary used and if they understood key words.