

5 Digital activities for Young STEM Leaders in the primary classroom

by *Jayne Mays*

Digital Technology is everywhere! With our children and young people being ‘Digital Natives’ who love what technology does; it is important for them to understand how it works and how it can be used to allow them to be creative.

Below are some activities that have been planned and delivered by both myself and some of my Young STEM Leaders. There are also links to the resources which have been found on well-known websites.



1) Animation

Animations can be used to retell a story, create a new story or to share some learning. This activity works great in pairs and can make use of Lego, Play-Doh, and drawings to create the content for animations. Not only does it explain how animations are made, the importance of frames and the ways in which the number of frames affect duration, it also highlights the importance of communication and teamwork.

This activity should last between 2 and 3 hours.

- First explore the basics of animation, frame, and frame rates. A great resource to develop an understanding of these is [Pivot Animator](#).
- Next, plan the animation – What material will be used? Are models or drawings needed? What is the story that the animation will tell? Stories should have a beginning, middle and end.

- Finally, it is time to create the animation. I would recommend the [Stop Motion Studio App](#) to do this.

Top Tip!

Only move your model/drawing a small amount to create the most effective animation.

2) Escape Room

Escape Rooms are a great way to bring some excitement, and a competitive edge into the classroom. An Escape Room can be made using Microsoft OneNote, where new pages are locked with a password and questions can vary from everyday topics to recapping previous learning. [Tutorials](#) on how to do this can be easily found online.

3) Hour of Code

Computer Programming embeds skills from across the curriculum whilst encouraging problem solving skills. Computer programming

encourages learners to develop prediction skills and debugging/ abstraction skills to fix and remove unnecessary code. If your learners are not confident in using Scratch or Python programming languages, the [Hour of Code website](#) is a great place to start exploring the various languages at a level suited to their needs. You can choose a specific game for the learners to focus on or allow them to explore/develop a particular language further. Dance Mat is a firm favourite of my learners!

4) Micro:bit

With Micro:bits the possibilities are endless and one way my Young STEM Leaders love to use these is to program the LEDs to show a picture or a message to decorate our STEM room Christmas tree! Micro: bits can be plugged in via a USB or using Bluetooth to transfer over code. If you don't have access to physical Micro:bits, there is a simulator on the [Micro:bit website](#). If your learners are confident at coding >>

with Micro:bits you can challenge them by programming one Micro:bit to send a radio signal to another telling it to display the LEDs in a particular way or have them programming the lights to go through a sequence.

5) Bee-Bots

Bee-Bots are a fantastic way to explore algorithms as well as reinforce many aspects of learning including position and movement. This activity can make use of Bee-Bots or Blue-Bots if you have access to them or can be completely 'unplugged' and the skills developed are the same! STEM Leaders can have the children create their own mat for the Bee-Bot, linked to a theme such as a fairy tale or their favourite toys. Once the mat has been created, the pieces can be stuck together



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and the Bee-Bots (physical device or paper Bee-Bots that the children have designed themselves) can now explore the mat. The Young STEM Leaders should encourage

the learners to use commands such as Start/Go, Left, Right, Forward, Backwards and Stop to plan the code, perhaps writing this on paper or on a whiteboard, and then follow the instructions.

I hope this gives you, your Young STEM Leaders and learners some ideas to get started and spark a love of learning in STEM. <<

Find out more...

To learn more about the Young STEM Leader programme and start delivering it in your school community or youth group, visit www.youngstemleader.scot, email us youngstemleader@sserc.scot or check out our [@YoungSTEMLeader](https://twitter.com/YoungSTEMLeader).

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indi inspires imaginative play-based learning by empowering learners to design and build their own mazes while teaching critical problem-solving and computational thinking skills. With its on-board colour sensor and colour cards, indi provides endless opportunities to rev learners' creativity with or without the need of an app.

Build custom mazes, solve puzzles, and take control of the wheel to drive. Teach coding concepts to

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The simplicity of indi is really resonating with both learners and educators due to its simplicity and very thoughtful execution.

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watch indi go!