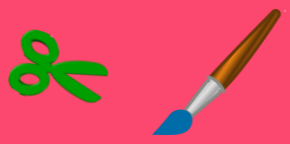
Computing Science Week Scotland #CSscot23
15th – 19th May 2023
early level Learner's Sustainability Challenge

Computing Science Experience and Outcome focus:
Designing, building and testing computing solutions
I can develop a sequence of instructions and run them using programmable devices **or equivalent***. **TCH 0-15a**

Part 1

Imagine a shiny new recycling robot from the National Robotarium has arrived at your nursery or school to help you recycle and contribute to the United Nation's Global Goals.
What would the recycling robot look like? Can you reach into your imagination to show this by designing and creating a recycling robot of your own? You can draw, paint, build, connect, animate, model, code/programme or dress up. act or sing with any resources or materials you choose.
What would you name the recycling robot?
What sort of recycling tasks would the recycling robot help with? This can be recycling on land or in the ocean, recycling in your nursery or school, local community or in your home.





Part 2

Uh oh, there is a problem with the recycling robot! The Robotarium packed this recycling robot up and posted it off too soon by mistake. The robot that arrived and has not been programmed with the algorithm / instructions yet. The robot can not function and does not know what to do to help you recycle.
Can you work together to become programmers and create an algorithm (series of instructions) that tell the Robot what to do to make it recycle?
The recycling robot requires between 5 and 10 instructions.
You can use this algorithm sequencer to help plan your algorithm.
*You can also take turns at being programmers, testers and 'Kid Bots' to test your algorithm. Programmable devices are not required, ***equivalent*** means you can use anything to test your algorithm. You can even pretend to be the robot yourself!

Part 3

Capture a short video of your recycling robot model/animation/creation working or a short video explaining how it works in your imagination.
Explain what it recycles and why you think that is important.
Describe the order of the algorithm that the recycling robot needs to function.

Share your videos with the Education Scotland Digital Team via twitter @DigiLearnScot

Additional supporting resources:

Earth Cubs | The World's Largest Lesson (globalgoals.org)
Bee-Bots Basics Activity | Resources | Barefoot Computing
Bee-Bot Route Decomposition Activity | Barefoot Computing
Toothbrushing Algorithm | Hello Ruby