STEM from Home Pack 1
Introduction to Coding and Design

The first pack in this series looks at two very important STEM skills; **Coding and Design.**
Your tasks are to code your own racing game using Scratch and design your own STEM Superhero!

This week's activity – Boat Race

Overview

In this resource, you are going to learn how to make a racing game. The player uses the mouse to navigate a boat to an island without bumping into obstacles.

You can access this activity here.

What you will need

A computer capable of running Scratch 3. Scratch 3 software, either online or offline. (please note, third party software should not be downloaded on CGI devices). Please check with your parent/guardian before downloading.

What you will learn

- Use operators to compare numbers in Scratch

- Add code to detect when a sprite is touching a colour in Scratch

- Use a variable to record the time in Scratch
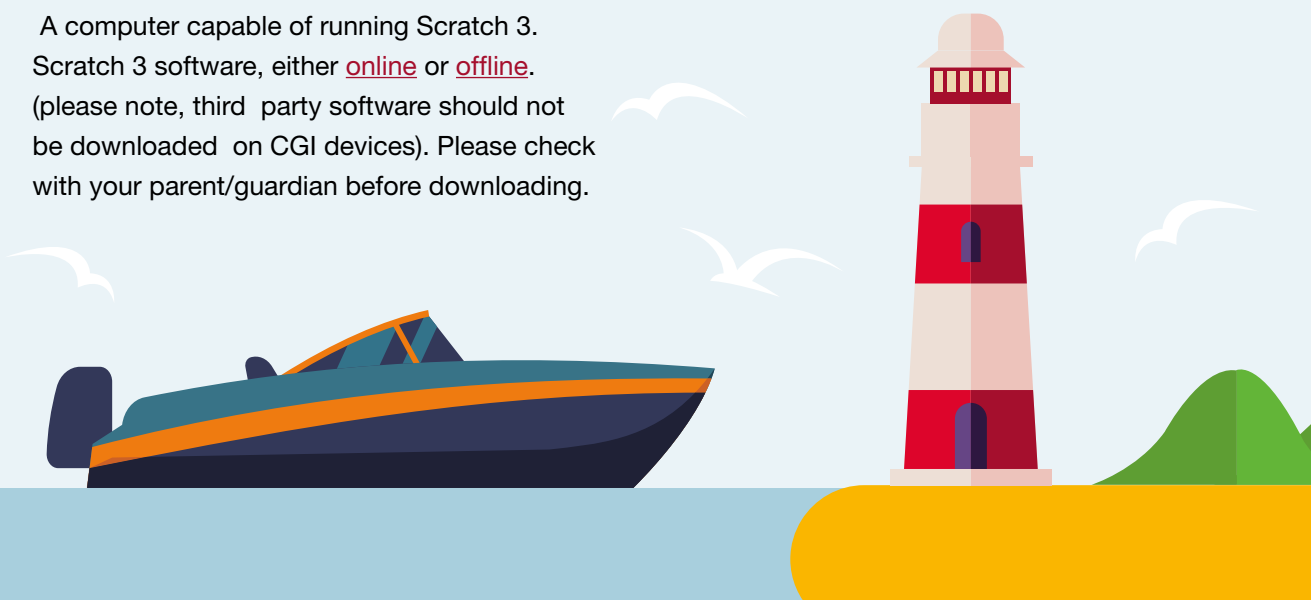
This week's bonus activity – Design Your Own STEM Superhero!

We know that STEM advances our lives and has formed the basis of hundreds of professions all over the world for thousands of years. However, which area of STEM are you most interested in? Which area do you think could most use a STEM Superhero?

Your task is to design and draw/build your own STEM Superhero. Your hero can be related to any area of STEM and should have their own designated super power! Designs can be hand-drawn, drawn electronically or created as a model, it's up to you. Just be sure to let us know what powers you have chosen! The following factors should be considered in design:

- What superpower will your hero have?
- How will they help in the world of STEM?
- What will your hero look like? Make sure that your hero stands out!
- Be creative and think outside the box!

Ask your Parent/Guardian to upload to social media using #STEMfromHome and #ExperienceCGI, remember to tag us!

Bonus activities

Binary
In this project you will make a game in which you play the notes of a song as they scroll down the Stage.

Beat the Goalie
In this project you'll learn how to create a 2 player football game in which you have to score as many goals as you can in 30 seconds.

Bird Watch Website 1.0
Learn how to code your first website using HTML/CSS.

Zombie Apocalypse Survival Map
Create a real map of your local area and mark on it the locations of supplies, secret bases, and even the zombies themselves!

Turtle Snowflakes
Create a beautiful landscape of snowflakes using Python Turtle. This is great fun and a great way to start learning how to code with Python.

Thanks to our friends at Raspberry Pi for providing the coding and robotics activities in this pack.

For more information or additional support with STEM activities when working remotely, please contact **enquiry.uk@cgi.com**

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