STEM from Home Pack 2

Robotics

The second pack in this series looks at Robotics. Whilst learning about robotics and the important role they play in our everyday lives, learn how to design, build and control your own robot!

This week's activity – Build a Robot (with HTML/CSS)

Overview

In this project, you'll learn how to position images to design your own robot! Use CSS to position robot parts to assemble your own robot.
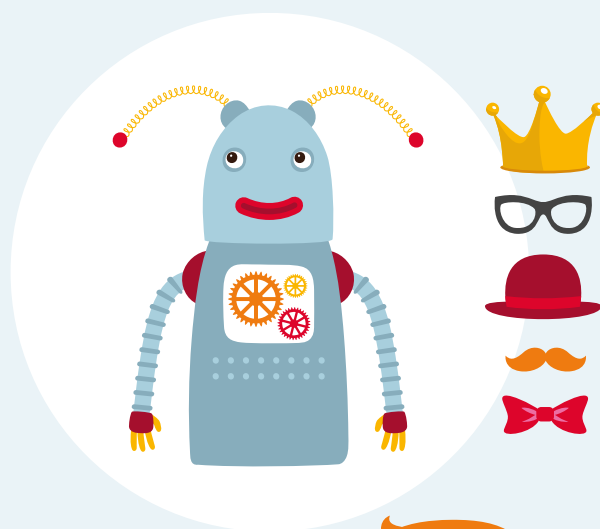
You can access this activity here.

What you will need

A computer capable of accessing trinket.io. This project can be completed in a web browser using trinket.io.

What you will learn

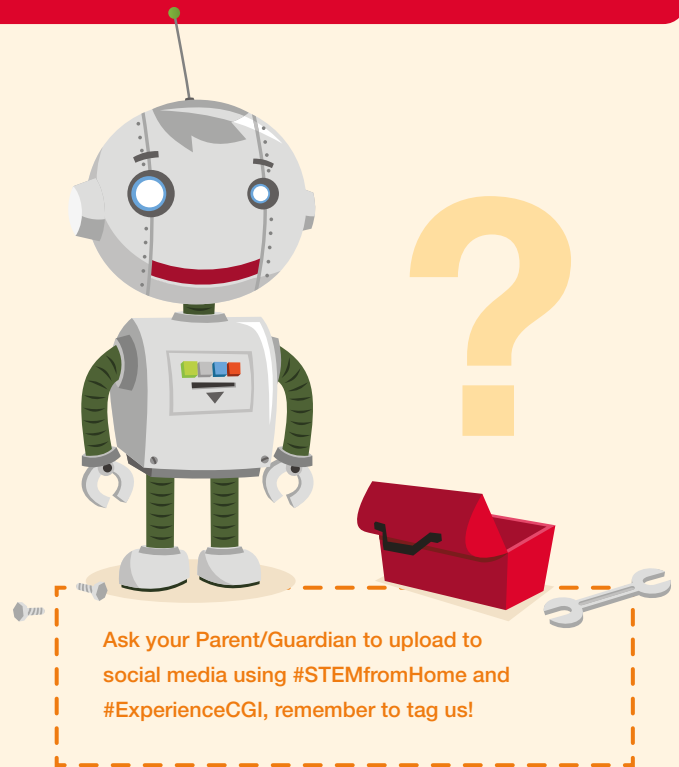- How to use basic programming constructs to create simple programs

This week's bonus activity – Build Your Own Robot!

Now that you have mastered digital design, your next task is to build your own robot!

Robots are in many parts of our lives, even if we can't see them! Devices in our homes such as Siri and Alexa assist us in our day to day lives, robot vacuum cleaners help to tidy the house and robots are even used in the factories that build our cars, clothes and electronics.

Your task is to build your own model robot using materials that you can find around the house. The design can be created using any materials that you like, just be sure to let us know the following:

- What is your robot's name?

- What is your robot's purpose? (every robot serves a purpose, this could be replicating or automating human behaviours)

- What materials will you use? Will your robot be eco-friendly, lightweight, hardwearing?

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

New! This week's active activity – Control your own Robot!

Now that you're an expert in **designing** and **building** robots, we want to see how you can **control** them! As useful and important as robots are in society, they cannot function on their own. They require a strict set of instructions from a computer in order to function.

Your task is to use a parent (or other family member) to act as a robot and give them strict instructions on how to operate (no telling them to tidy your room). Making sure you are operating in a safe space such as the garden or the living room, lay out a series of obstacles for to navigate round, as pictured below:
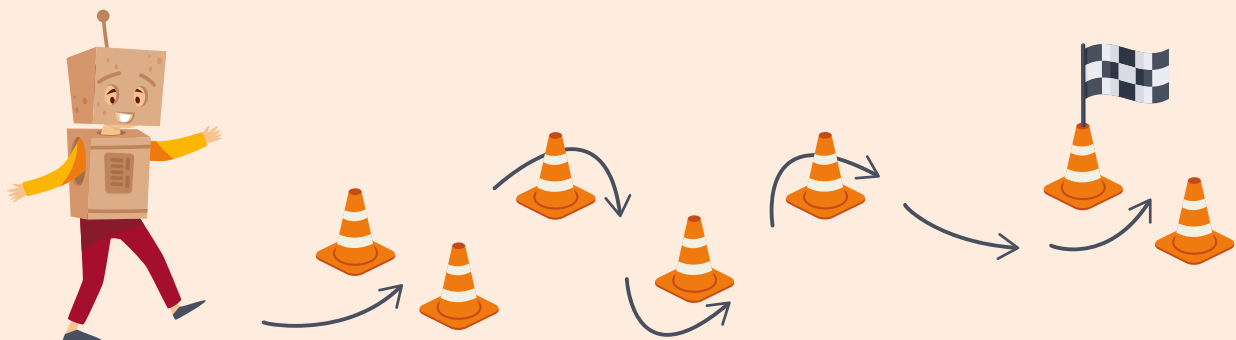
Give your robot step-by-step instructions for how to navigate the obstacle course without touching the obstacles. Remember, you can't just tell your robot to "go straight" or "turn left", be sure to give them specific instructions such as "walk forward three steps" or "turn 180 degrees". Once you have completed the course, swap and let your parent (or other family member) control you as the robot.

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