

STEM@CGI AT HOME

STEM-based activities for kids that can be done at home

Staying active. Learning together. #STEMatHome

STEM@CGI at Home offers weekly STEM-based activity packets for children, including practical STEM activities and competitions. Get your family involved, share pictures, learn and have fun!

We appreciate the difficulties many of you are facing when balancing remote working and childcare. To help with this, we are releasing weekly STEM-based activities that you can do at home with your children. Activities will encompass all aspects of STEM, including Coding, Environmental Sustainability, Robotics and opportunities to teach our children all about CGI!

Activity – Build a Bot and Be a Bot!

Robots are in many parts of our lives, even if we can't see them! Devices in our homes, such as smart phones, have personal assistant features that assist us in our day-to-day lives. Some people even have technology in their homes that do things like turn off the lights, set the temperature and see who's at the door. Robot vacuum cleaners help to tidy the house and robots are even used in the factories that build our cars, electronics, and make our clothes.

Age recommendations – this packet is great for students aged 5 to 10 with a high level of adult involvement and 10 + without.

Students and parents - follow the instructions of the packet to build your own robot (aka "bot"), become a bot and code a bot! Parents, if you'd like more info to guide the lesson, check out the lesson plan.



Activity – Build a Bot

Students - Your task is to build your own model robot using materials that you can find around the house. Check out [this video](#) for inspiration. Once you make your bot, answer these questions:

- What is your bot's name?
- What does your bot do?
- What else would you like us to know about your bot?

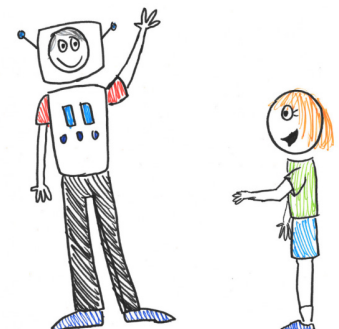
Activity 2 – Be a Bot: Coder

Parents – if your students aren't old enough to write their instructions, you can just write it exactly as they say. Check out [this video](#) for an example.

Students and parents – refer back to the "Build a Bot; Be a Bot" lesson for instructions on writing code.

Students –

- Select an activity you'd like to write a code for.
- Write down your program. Make sure to give exact instructions to your bot. Be as detailed as possible



Online activity – Create your own digital bot!

In this activity, you will learn how to position images to design and create your own digital robot! Using the programming language CSS, you will position parts to assemble your creation. You can also draw your own parts!

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; this is best accessed via the '[Giving your robot eyes](#)' page.

What you will learn

- How to use basic programming constructs to create simple programs.
- How to creatively use code to make aesthetically pleasing imagery



Additional bonus activities

The activities are aimed at students aged 8-14 but everyone can get involved!

Archery

Shoot arrows as close to the bullseye as you can.

Canine Quiz

Learn how to use App Inventor to make a quiz app.

Guide to my country

Learn to make a website to advertise your town/city/country.

Happy Birthday

Learn how to make an online birthday card using HTML and CSS.

Rock Band

Learn how to code your own musical instruments.

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

For more information or additional support with STEM activities when working remotely, please contact us [here](#).

© 2020 CGI Inc.

The materials in the program are made available by the **Raspberry Pi organization**. The program uses Scratch 3. Use of the materials in this program is licensed under the Creative Commons Attribution-Share Alike 4.0 International Public License. You shall use the materials in compliance with the License. A copy of the License is available [here](#). The materials in the package are hereby made available to you on an "as is" basis, without warranties or conditions of any kind, either express or implied. CGI accepts no responsibility nor liability for fees, damages, costs or expenses of any kind incurred or resulting from the use of the materials in this program, or from any content accessed via the hyperlinks contained herein. Thank you for reading this note. We hope your students enjoy our STEM@CGI at Home Program.