CHALLENGE ONE
LEGO BUILDING

UNPLUGGED ACTIVITY

HOUR OF CODE 7-13TH DECEMBER, 2020

Target Audience: Primary aged students **Time:** 30-60 minutes

1. Working in pairs students will follow steps to build a simple model.
2. Set up a barrier so they cannot see what each other is building.
3. Both students have identical sets of Lego bricks to build with.
4. One student will provide verbal instructions as they build their model.
5. The second student builds a replica according to the verbal instructions given.
6. At the end move the barrier to compare the completed models and see if the verbal instructions were followed effectively.

NOTE: It is a good idea to start with developing a common language to identify the Lego bricks that will be used. This will avoid misunderstandings throughout the activity.

Learn More

Instructions are a part of everyday life. Children learn to follow instructions from brushing their teeth to dressing themselves to packing a school bag.

It is important for children to be able to follow instructions so they can function effectively across different environments from home to school to society.

Computers operate through a program which is essentially following a list of explicit instructions (algorithms) to carry out a particular task. Programs are written in languages that have a limited set of instructions.

Building a Lego model allows students to create their own instructions to compete a task by following an algorithm. They need to provide clear and concise instructions in a specific order to create a model.

Variations

- Limit the number of Lego pieces students build with
- For older students they could write simple instructions
- Include a time limit to encourage breaking the task into small chunks



Key Learnings

Algorithms: Define simple problems, and describe and follow a sequence of steps and decisions (algorithms) needed to solve them (ACTDIP010)

Specification: Define problems in terms of data and functional requirements drawing on previously solved problems (ACTDIP017)

Data Representation: Recognise different types of data and explore how the same data can be represented in different ways (ACTDIK008)

Computational Thinking: A problem solving process to break down into small manageable chunks.