Rubbish robots

Years 5-6

Groups of 3

15 minutes

Pens/paper
3 coloured counters
Handful of hole punch chads
Grid and answer sheet

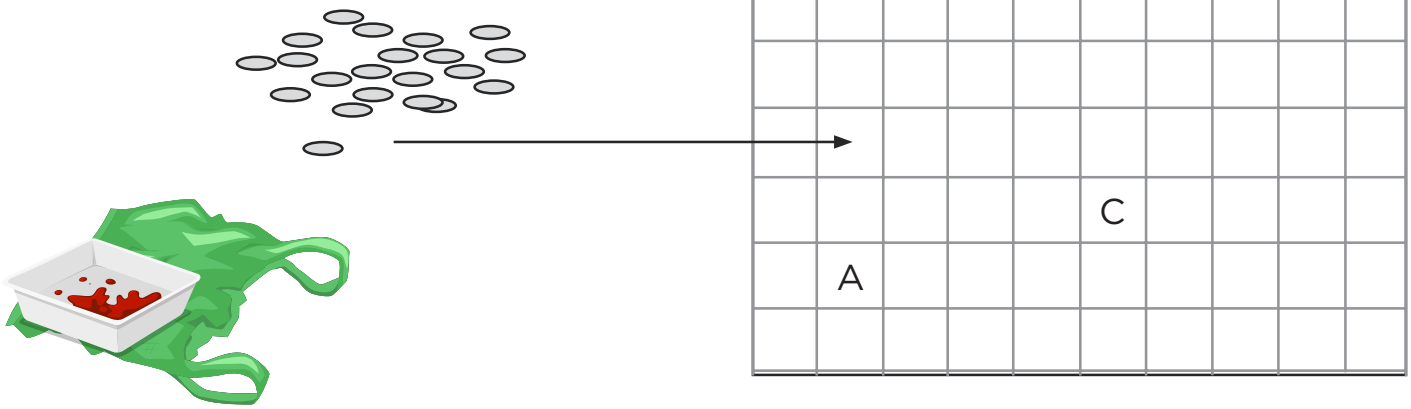
Student Instructions

Write a single algorithm that can move three robots at the same time to pick up the maximum amount of rubbish.

Robot Instructions	Rubbish Robots	Algorithm
	Represented by the 3 coloured counters A B C	You can only make one algorithm and you can only use 10 instructions 

Rubbish

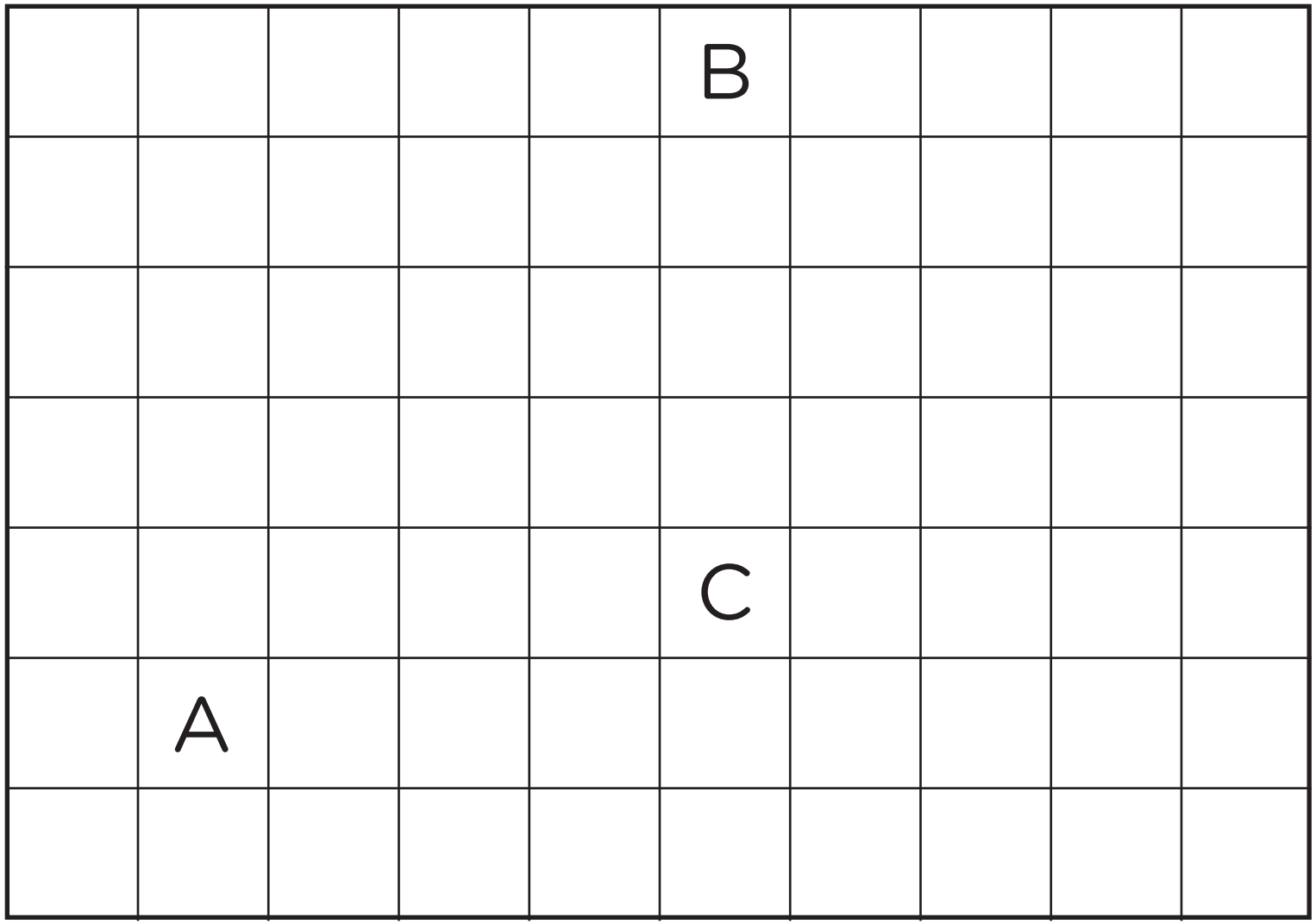
Randomly sprinkle the hole punch chads onto your grid.



1. Sprinkle the hole punch chads randomly onto your grid paper (this represents the rubbish)
2. Choose the starting point for each robot and place the counter at this point
3. Write the algorithm to move all three robots
4. Move all the robots one instruction at a time, collecting rubbish as you go
5. Count the total rubbish collected
6. Count the total rubbish collected
7. Repeat this for each student
8. Compare to see which algorithm collected the most rubbis

Rubbish robots

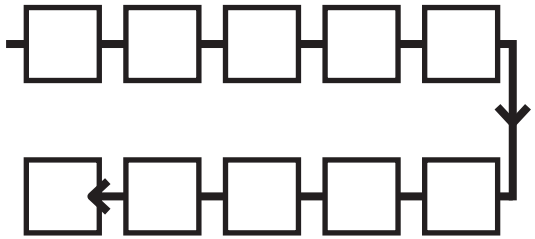
Activity grid and answer sheet



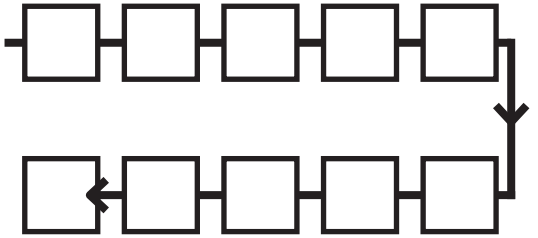
Algorithms

Use the boxes below to record each group member's algorithm

Student 1



Student 2



Student 3