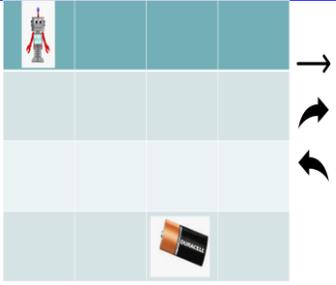
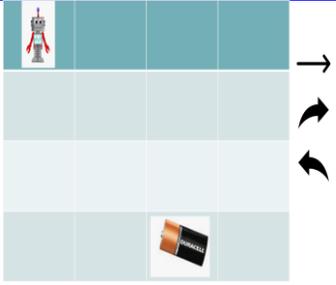


CODING AND ROBOTICS: ACTIVITIES FOR PATTERN RECOGNITION

RESOURCE:	ACTIVITY:	POSSIBLE GRADE:	CURRICULUM INTEGRATION:
Dice race https://www.youtube.com/watch?v=WlDmNxkNxKQ How to explain a game to people in relation to how to explain it to a computer.		R	
		1	
	2 learners play the dice-race. Explain how to play the game. Now explain it for a computer to understand.	2 🧐	Language Life Skills
		3 🧐	
Paper airplane https://www.youtube.com/watch?v=kIAj43fK2mg How to make a paper airplane		R	
	How to make a paper airplane. Identify the correct steps to follow	1 🧐	Language Life Skills
		2 🧐	
		3 🧐	
Plant a seed https://www.youtube.com/watch?v=FHsuEh1kJ18 How to plant a seed	Morning routine	R	Language
	How to plant a seed	1 🧐	Language Life Skills
		2 🧐	
		3 🧐	

<p>Oral – Recipe of a fruit salad Creative Writing - How to make</p> <p>How to build..... Write down the steps</p>	<p>Peanut butter sandwich</p> <ol style="list-style-type: none"> Learners explain and teacher do. OR The learners do. 	R 😊	
		1 😊	
		2 😊	
		3 😊	
	<p>Give learners the cards and they must pack out the sequence, or let them pack out how to get crate A to the middle</p>	R 😊	Language, Mathematics
		1 😊	
	<p>Swop the positions of box A and box B</p> <ol style="list-style-type: none"> Write down the instructions, OR Give 3 or 4 sets of instructions and learners must choose the correct one OR Give a set of instructions and learners must follow it. If it is wrong, they must debug it. 	2 😊	Mathematics, Language
		3 😊	
	<ol style="list-style-type: none"> Make a grid with masking tape. One learner gives the instructions by only using forward, turn right or turn left. The other learner follows the instructions. 	R 😊	Language, Mathematics, Life Skills
		1 😊	
		2 😊	
		3 😊	

Examples of unplugged activities:

<p>Create a grid with obstacles and ask learners to give instructions one by one to get to the finish. As learners become better with this activity, they can give all the instructions. This algorithm can then be tested by classmates.</p>	<p>Draw a grid with chalk Pack some obstacles in some of the blocks Write instructions on cards that learners can pack out (block coding cards)</p>
<p>Egg boxes with scrunched up paper balls to create obstacles A lovely activity for Grade Rs in the class. They give one instruction at a time to get from start to finish</p>	<p>The scrunched up paper is the obstacles that learners must avoid. The more obstacles, the more difficult the algorithm becomes.</p>
<p>Make a grid. Learners can use cars to get from the start to the finish. The start and the finish can be changed. This can also be a differentiated activity:</p> <ul style="list-style-type: none">• Give one instruction at a time• Complete all the instructions and then they make sure the algorithm works• Give them an algorithm that is not working and they must debug it.	<p>Make a grid with tape. Pack red squares in some of the blocks. That is hot lava and they should not land on that.</p>

Unplugged lesson in Action – Computational thinking

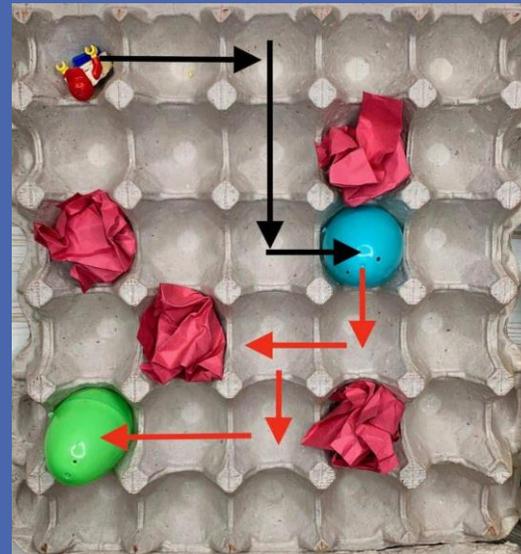
Graph Paper programme

<https://youtu.be/b4a7Ty1TpKU>

<https://www.youtube.com/watch?v=vBUtejDNvrs>

First, you will want to tape your egg cartons together into a large grid, the larger the grid, the harder the game will be. Next, you will put your surprise eggs on the grid. Spread them out. The more surprise eggs you have the easier it will be. Cut your red construction paper into squares. Ball up each square into the shape of a rock or egg. These are the 'hot lava rocks'. The computer needs to avoid these to get to the eggs! Grab your LEGO Minifigure and start him or her at one corner of your grid.

This game is quite simple. The goal is to get your Minifigure to the prize eggs while avoiding the lava rocks.



Draw an 8x8 grid on the ground and fill in some of the squares. These squares will be the “Water Blaster Zones.” Now, each participant gets a robot in the form of their parent, teacher, friend, or classmate. They must direct their robot to the Water Blaster Zones safely using only “code talk” or coding instructions



<https://www.youtube.com/watch?v=tf-z99Nyc18>

Offline coding for Kindergarten - Algorithms