Programming Toys: Bee-Bot Toy Shop Part 2

Aim:	**Success Criteria:**	**Resources:**
Understand what algorithms are and that programs execute by following precise and unambiguous instructions. Create and debug simple programs. Children will work in the context of programming a Bee-Bot to reach set markers. I can program a sequence to make a Bee-Bot move.	I can plan and check an algorithm. I can evaluate and improve my sequence (debug).	**Lesson Pack** Bee-Bots 3-4 toys Whiteboards and pens
	Key/New Words: Algorithm, program, debug, sequence.	**Preparation:** **Differentiated Shopping List Activity Sheets** - 1 per child **Toy Shop Bee-Bot Mat** - 1 per pair or group

Prior Learning: Children will have learned how to program a Bee-Bot toy in lessons 4 and 5 of this unit.

Learning Sequence

	Bee-Bot at the Toy Shop: Use the **Lesson Presentation** to help the children to plan an algorithm on their whiteboards. Remind them to press 'Clear' and 'Go'. Can the children plan an algorithm before pressing 'Go'?	
	Shopping List: Sit the class in a circle. Use the list on the **Lesson Presentation** and ask children to help you program the route around the toys. Children should use whiteboards to practise drawing a route around the Toy Shop grid, then amend their algorithm to get the Bee-Bot back to the start.	
	Go Shopping: Children to write an arrow algorithm which would direct the Bee-Bot through the list on their **Differentiated Shopping List Activity Sheet**. Children direct the Bee-Bot around the mat to collect the 4 toys pictured. Children direct the Bee-Bot around the mat to collect 5 toys, including reversing to pick up the rubber duck. Children direct the Bee-Bot around the mat to collect 5 toys, avoiding obstacles. They then use the backwards button where possible to shorten the sequence.	
	Try It Out: Once they have completed their algorithm, in pairs, children should program the Bee-Bot to see if it works. If it hasn't worked, can the pairs identify why and debug the sequence?	
	What Did I Buy? Show the children the algorithm on the **Lesson Presentation**. Can they work out what your Bee-Bot picked up at the shop?	

Taskit

Listit: Children write a list, in groups, of toys that they think are robots. What kind of algorithms do they think makes it work? (Simpler wording - What instructions has that robot toy been given?) Write them down.

Playit: In a hall or on the playground, children can free play the activities in lessons 1 or 6 on a large scale: either programming each other, or a Bee-Bot to reach a real toy in a larger area, or to follow a chalk drawn pattern outside.

Computing

Programming Toys

Regent Studies | www.regentstudies.com

Bee-Bot at the Toy Shop
Part 2

Aim

- I can program a sequence to make a Bee-Bot move.

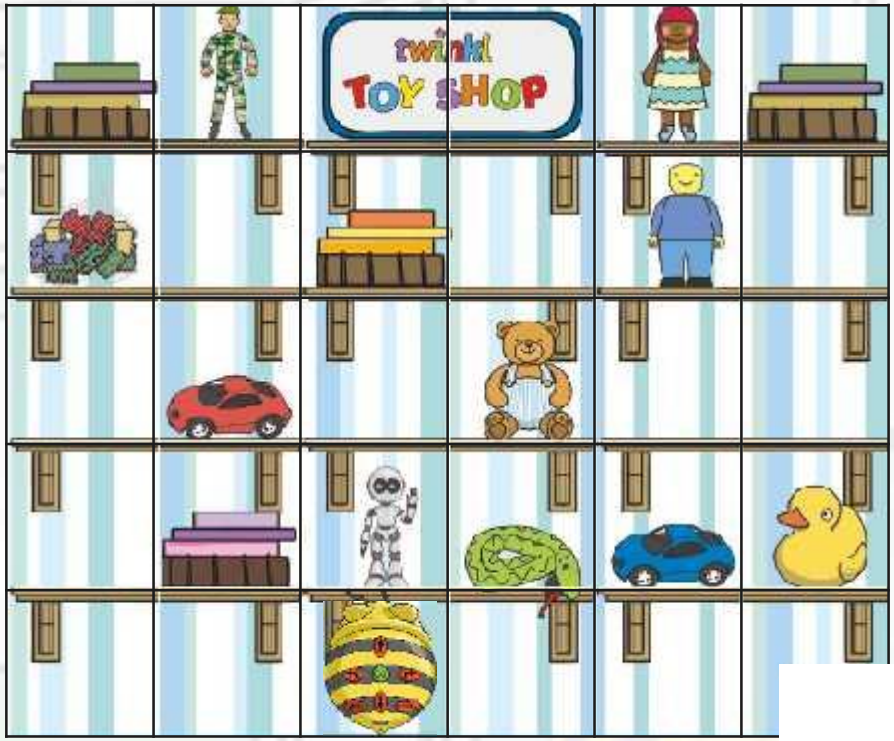
Success Criteria

- I can plan and check an algorithm.
- I can evaluate and improve my sequence.

Bee-Bot at the Toy Shop

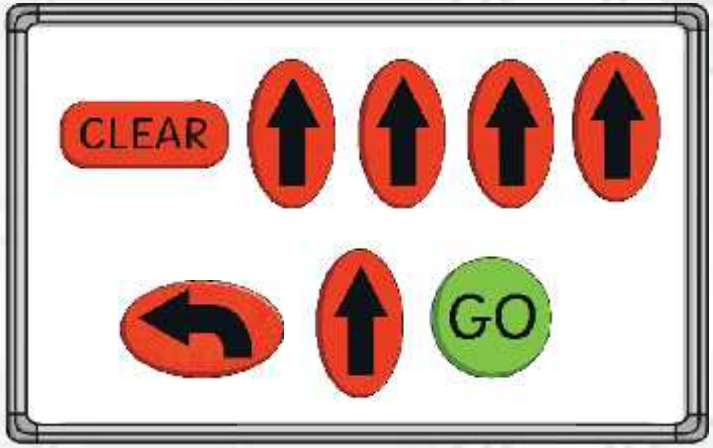
Welcome back to the Twinkl Toy Shop!

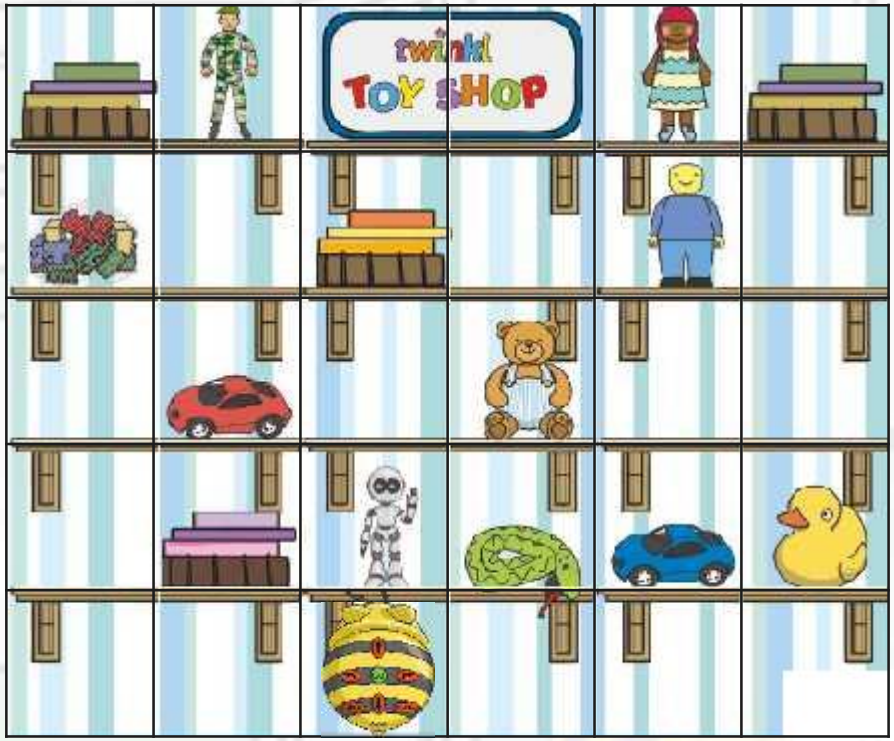
Can you draw on your whiteboard the buttons that you would need to get the Bee-Bot to the **soldier**?



Bee-Bot at the Toy Shop

Did you draw these instructions?





Did you remember to press CLEAR and GO ?

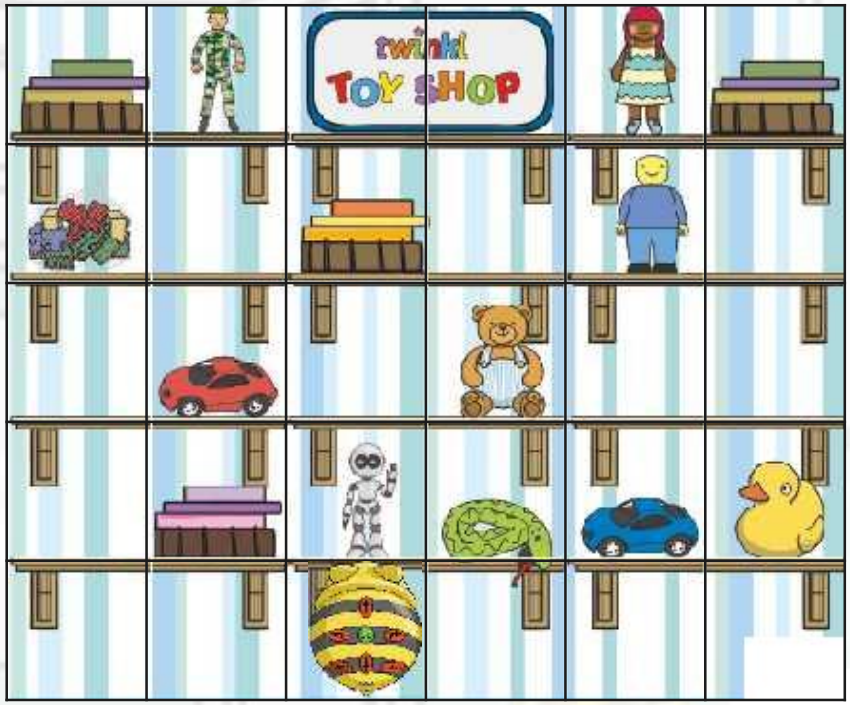
Shopping List

I want to buy:

- a blue car
- a brick man
- a red car
- a toy soldier

I want to get them in this order.

What's the best route for my Bee-Bot to take?

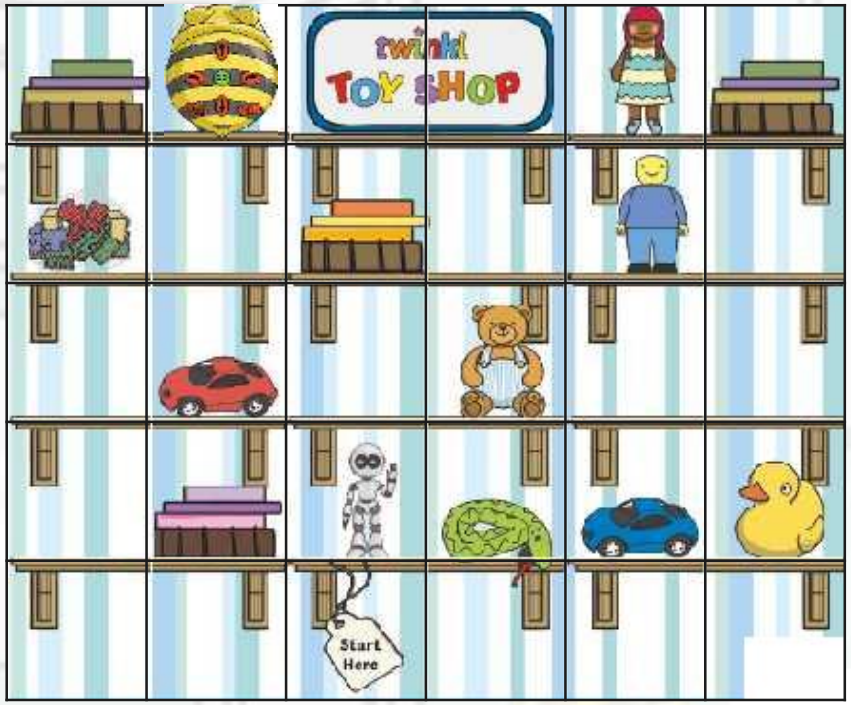


Remember, you can use the button to go back a square.

Shopping List

Whole Class

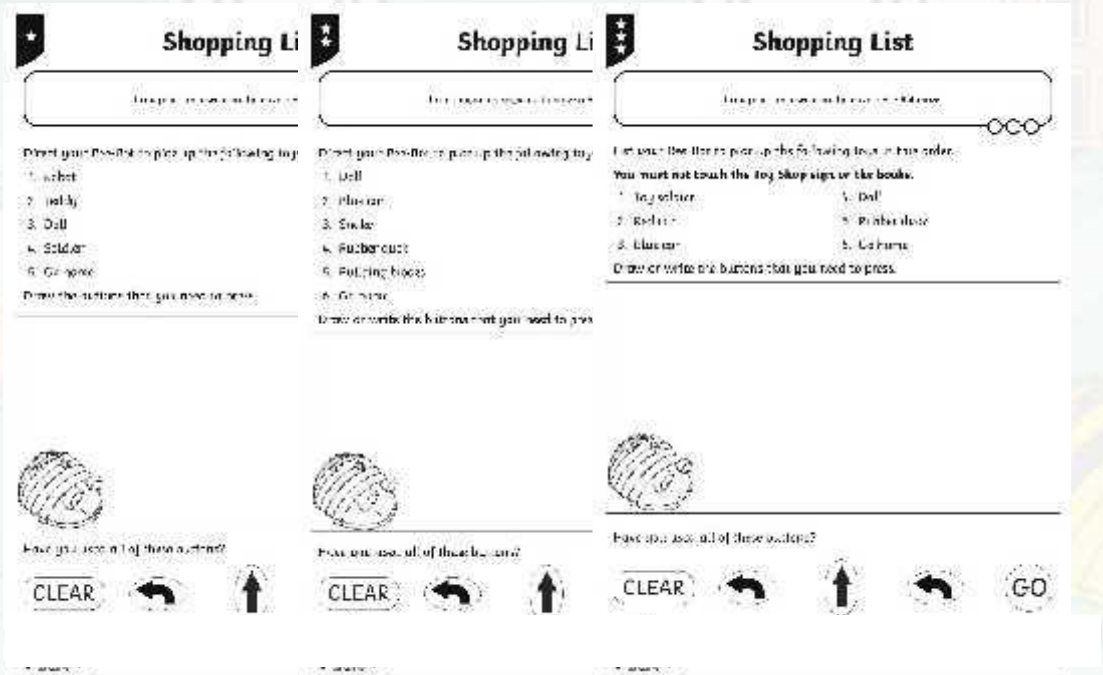
Now I want to go home.
Can you get the Bee-Bot back to the starting square?



Go Shopping

Now it's time to send your Bee-Bot shopping! Use your Shopping List to direct it around the mat.

Write your algorithm down and check it carefully before you press GO.



Try It Out

Help your partner to program the Bee-Bot using their algorithm.

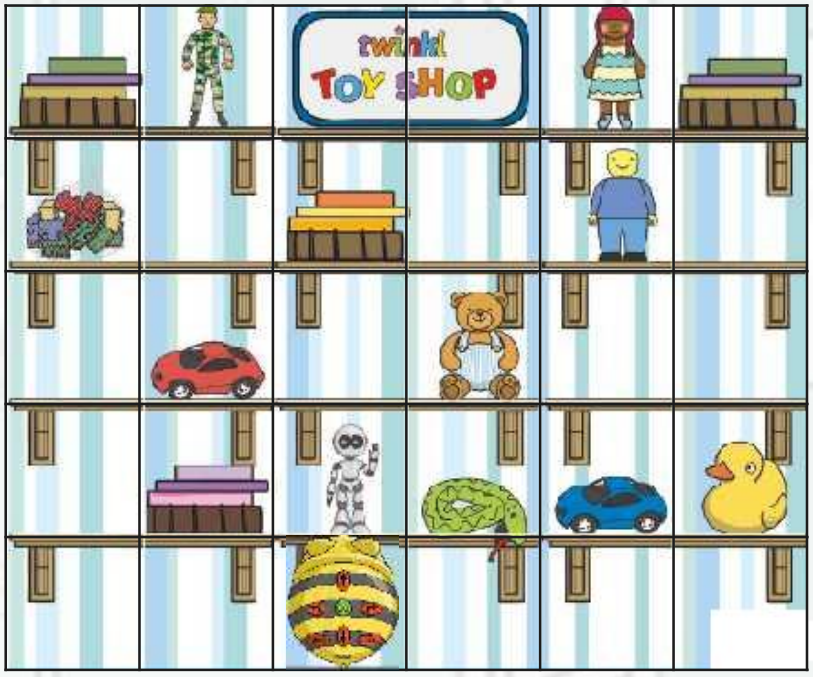
Does it work? What **bugs** does it have?

If not, help them to **debug** it!

Don't forget to use the CLEAR button when you swap turns!

What Did I Buy?

These are the buttons I pressed:



Which toys did I buy?

robot

snake

teddy

Aim

- I can program a sequence to make a Bee-Bot move.

Success Criteria

- I can plan and check an algorithm.
- I can evaluate and improve my sequence.

Programming Toys | Bee-Bot Toy Shop Part 2

I can program a sequence to make a Bee-Bot move.		
I can plan and check an algorithm.		
I can evaluate and improve my sequence (debug).		

Programming Toys | Bee-Bot Toy Shop Part 2

I can program a sequence to make a Bee-Bot move.		
I can plan and check an algorithm.		
I can evaluate and improve my sequence (debug).		

Programming Toys | Bee-Bot Toy Shop Part 2

I can program a sequence to make a Bee-Bot move.		
I can plan and check an algorithm.		
I can evaluate and improve my sequence (debug).		

Programming Toys | Bee-Bot Toy Shop Part 2

I can program a sequence to make a Bee-Bot move.		
I can plan and check an algorithm.		
I can evaluate and improve my sequence (debug).		

Programming Toys | Bee-Bot Toy Shop Part 2

I can program a sequence to make a Bee-Bot move.		
I can plan and check an algorithm.		
I can evaluate and improve my sequence (debug).		

Programming Toys | Bee-Bot Toy Shop Part 2

I can program a sequence to make a Bee-Bot move.		
I can plan and check an algorithm.		
I can evaluate and improve my sequence (debug).		

Programming Toys | Bee-Bot Toy Shop Part 2

I can program a sequence to make a Bee-Bot move.		
I can plan and check an algorithm.		
I can evaluate and improve my sequence (debug).		

Programming Toys | Bee-Bot Toy Shop Part 2

I can program a sequence to make a Bee-Bot move.		
I can plan and check an algorithm.		
I can evaluate and improve my sequence (debug).		

Regent Studies | www.regentstudies.com

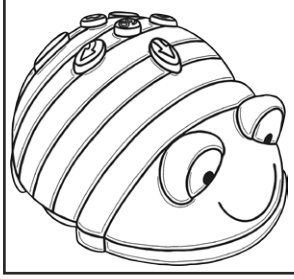
Shopping List

I can program a sequence to make a Bee-Bot move.

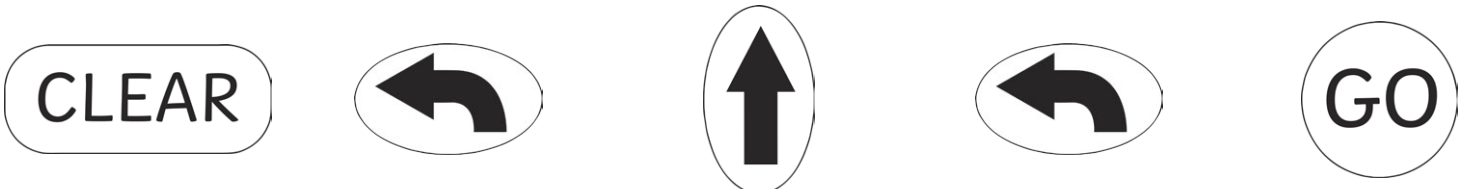
Direct your Bee-Bot to pick up the following toys in this order:

1. Robot
2. Teddy
3. Doll
4. Soldier
5. Go home

Draw the buttons that you need to press.



Have you used all of these buttons?



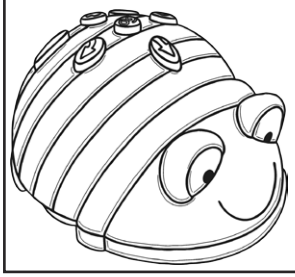
Shopping List

I can program a sequence to make a Bee-Bot move.

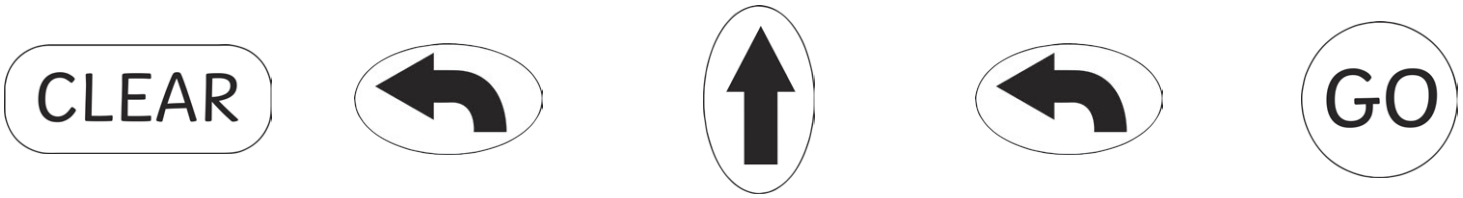
Direct your Bee-Bot to pick up the following toys in this order:

1. Doll
2. Blue car
3. Snake
4. Rubber duck
5. Building blocks
6. Go home

Draw or write the buttons that you need to press.



Have you used all of these buttons?



Shopping List

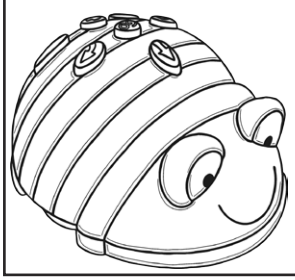
I can program a sequence to make a Bee-Bot move.

Get your Bee-Bot to pick up the following toys in this order.

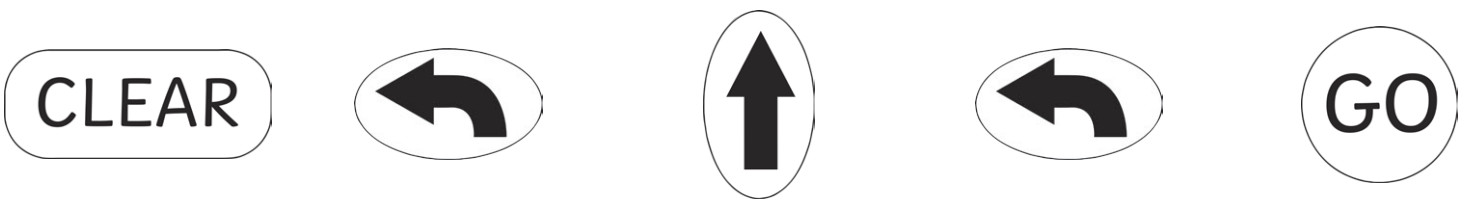
You must not touch the Toy Shop sign or the books.

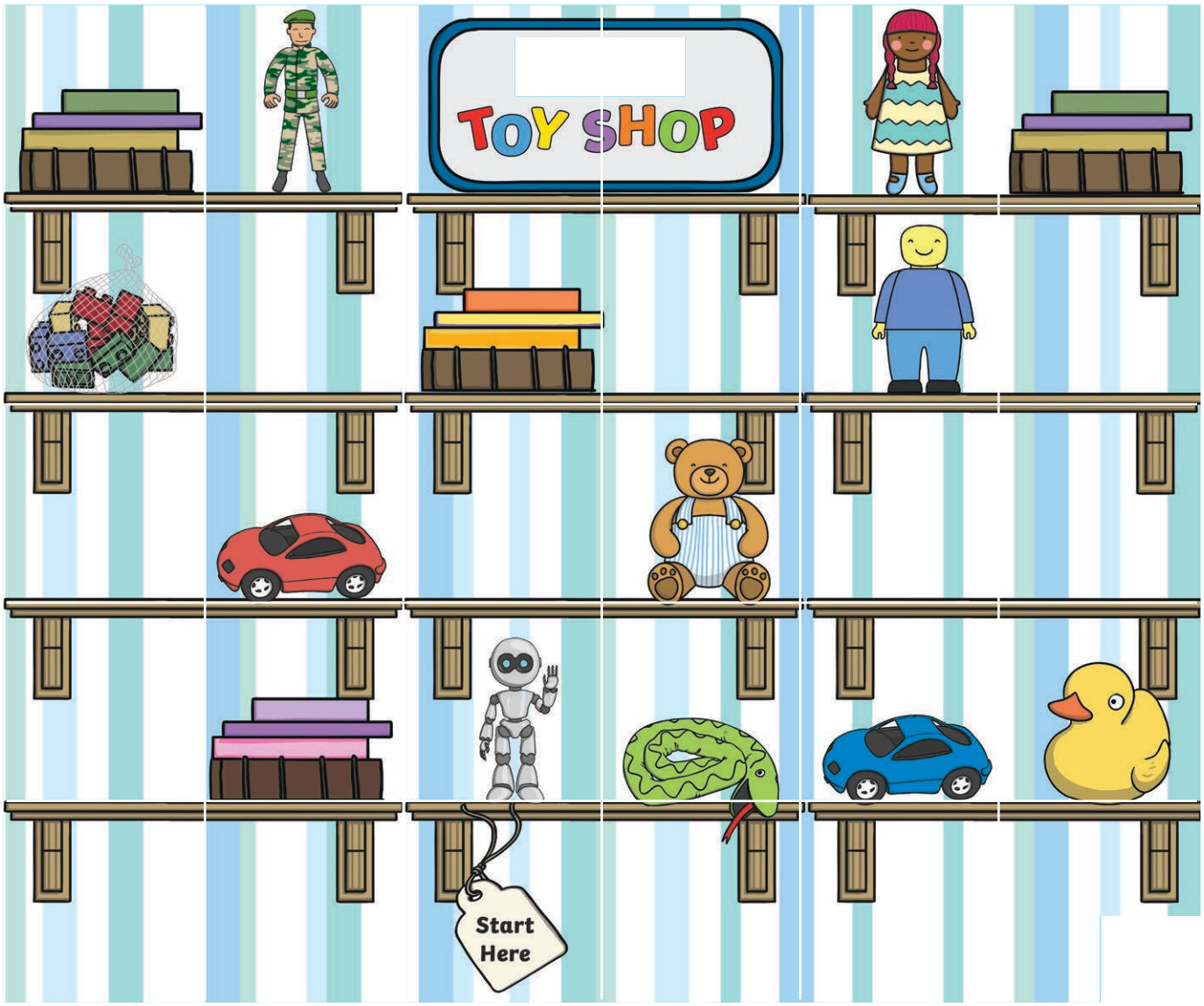
1. Toy soldier
2. Red car
3. Blue car
4. Doll
5. Rubber duck
6. Go home

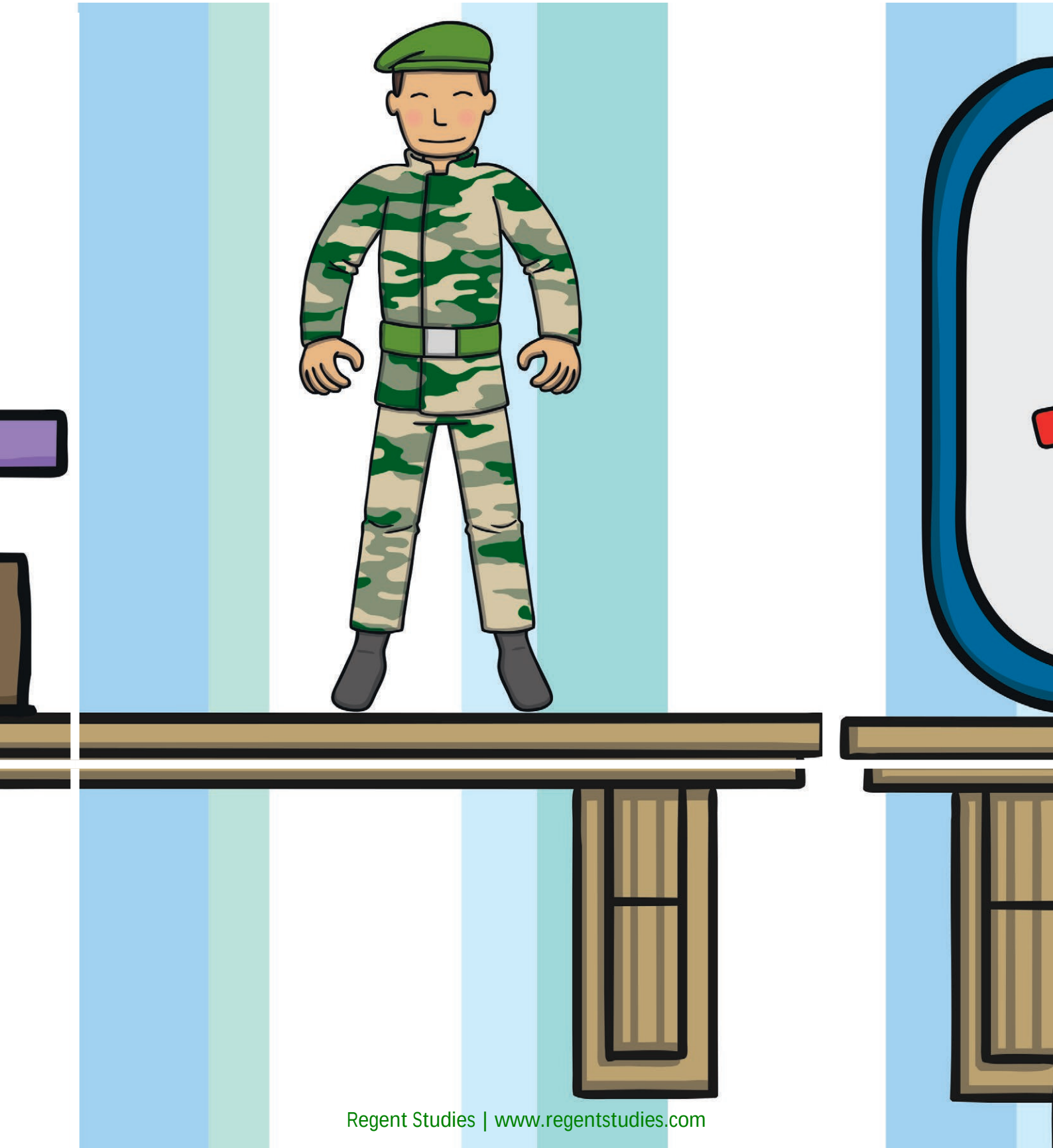
Draw or write the buttons that you need to press.



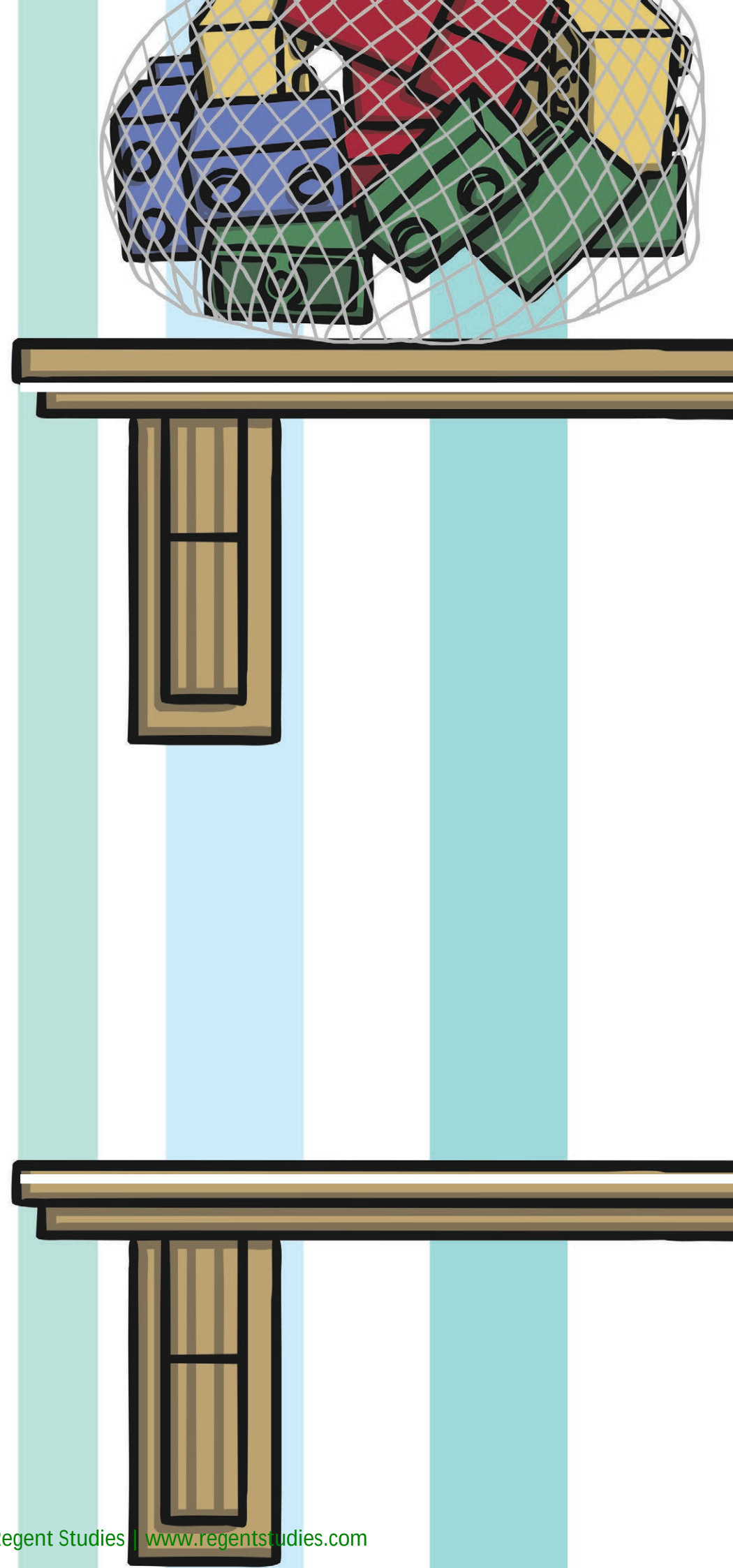
Have you used all of these buttons?

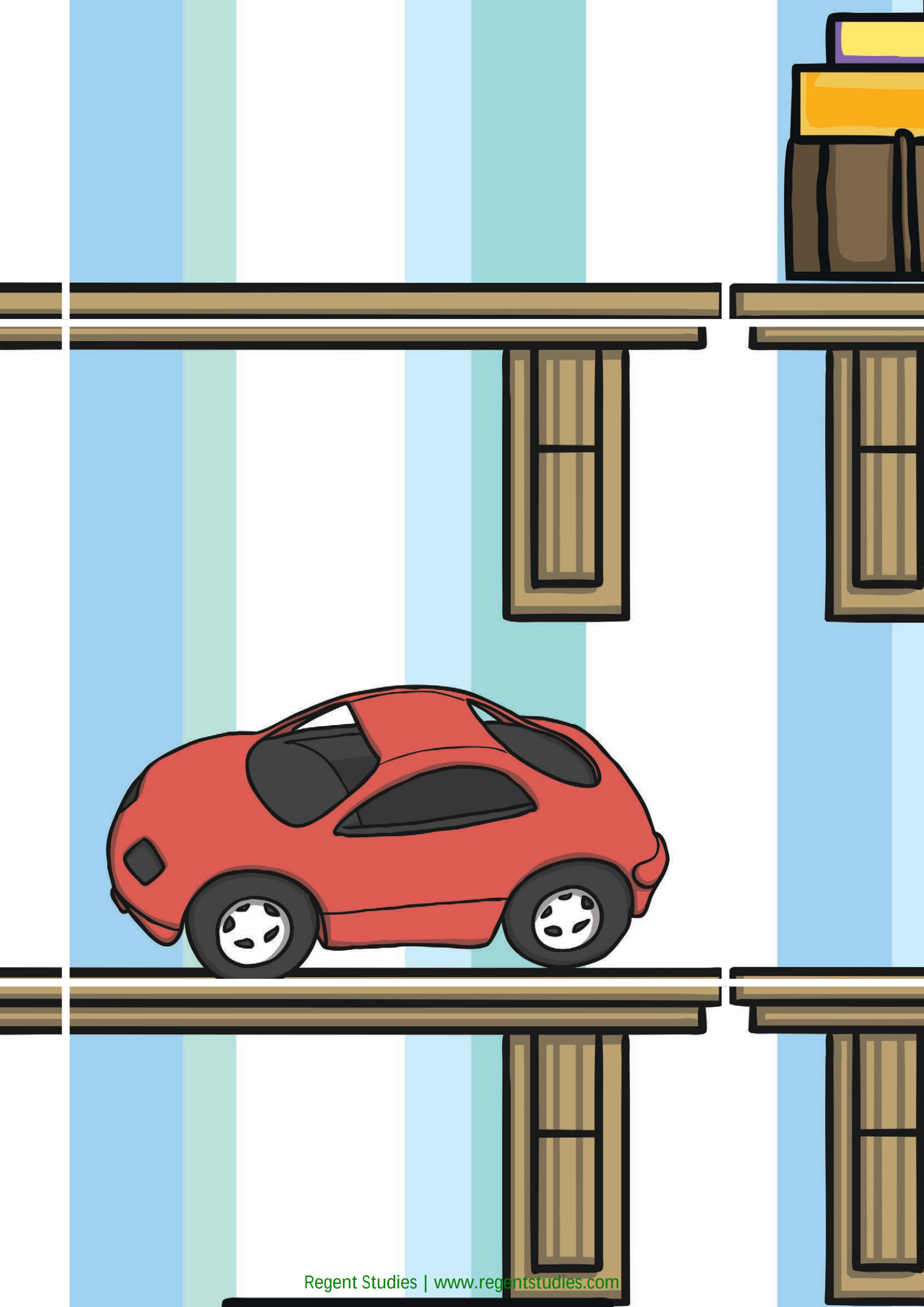


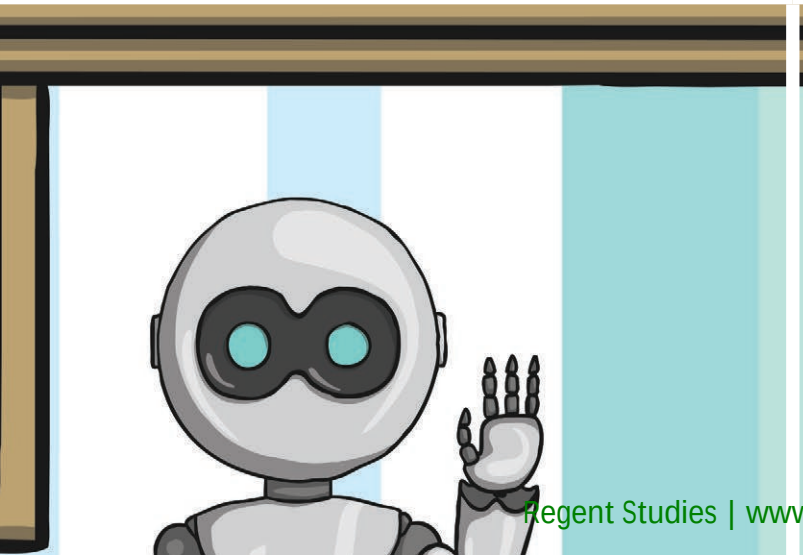

TOY SHOP
Start Here

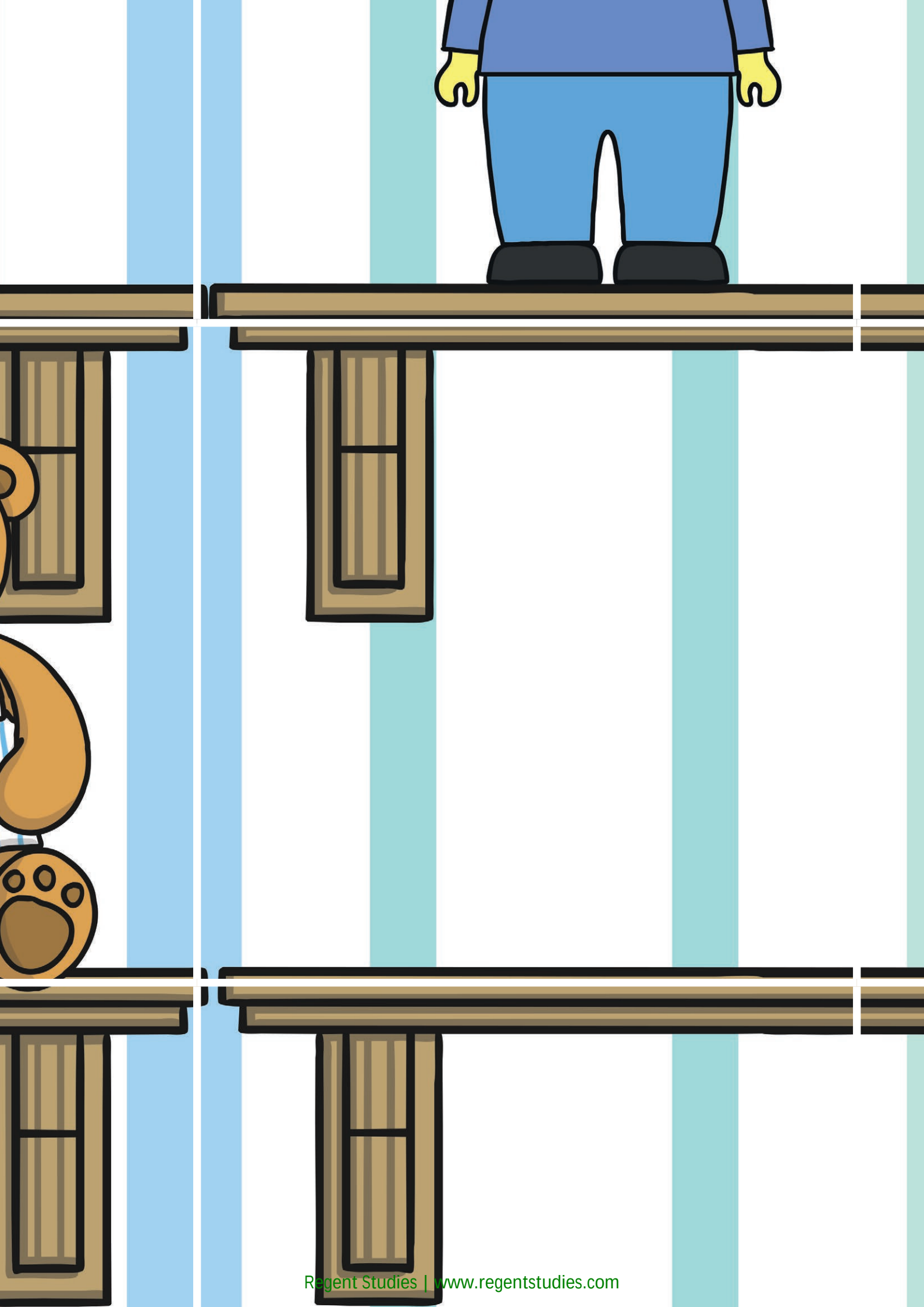


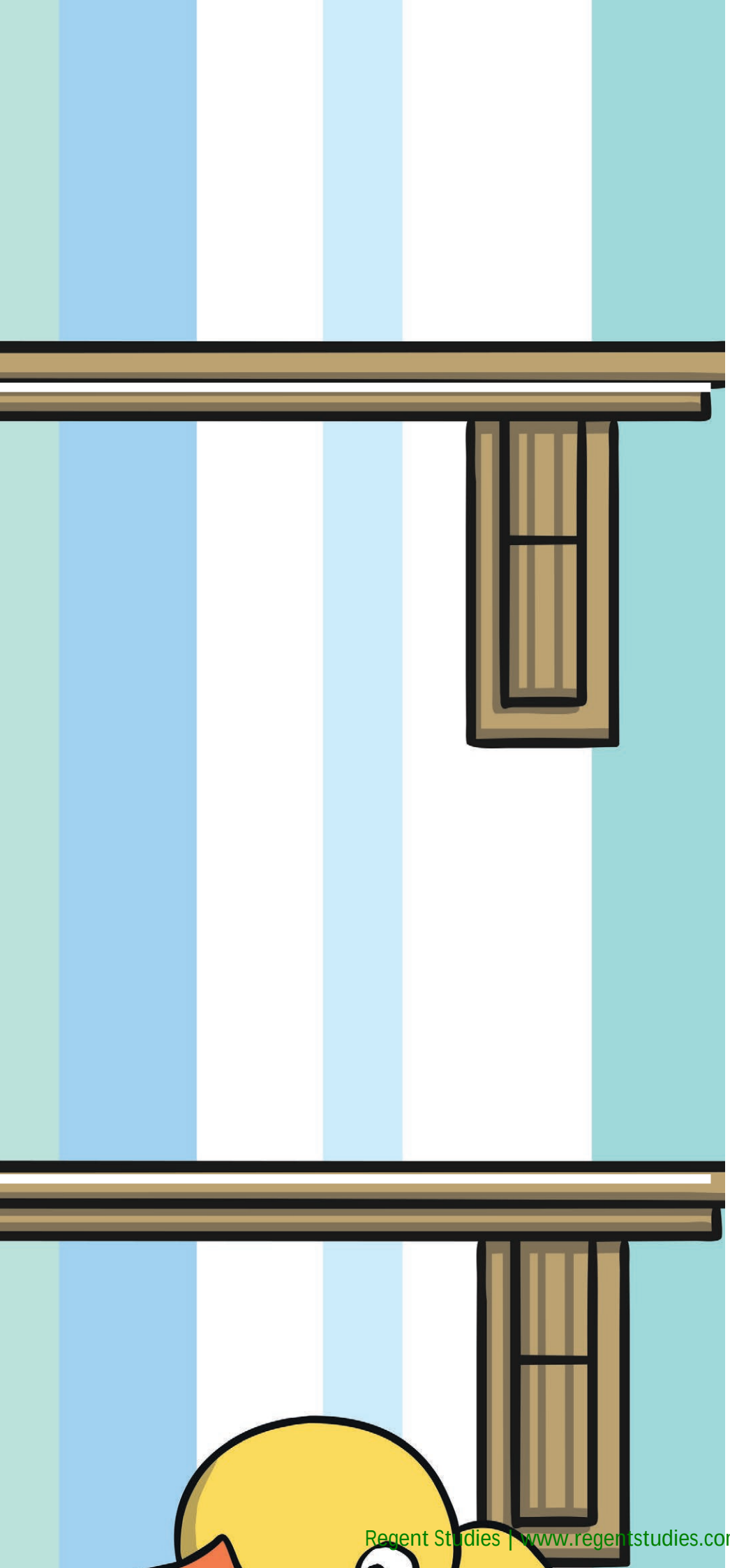
TOY SHOP



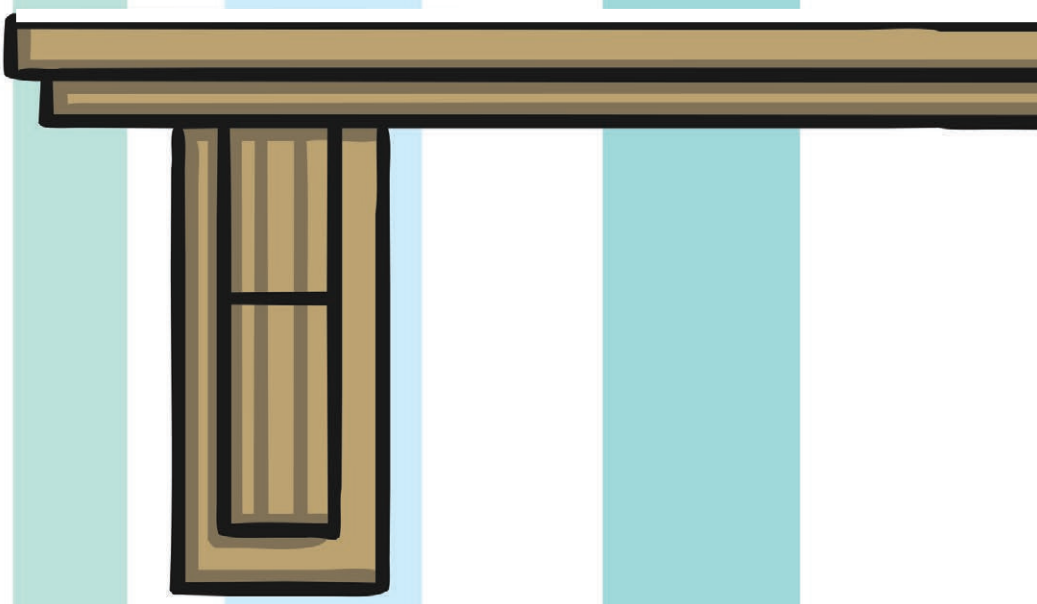


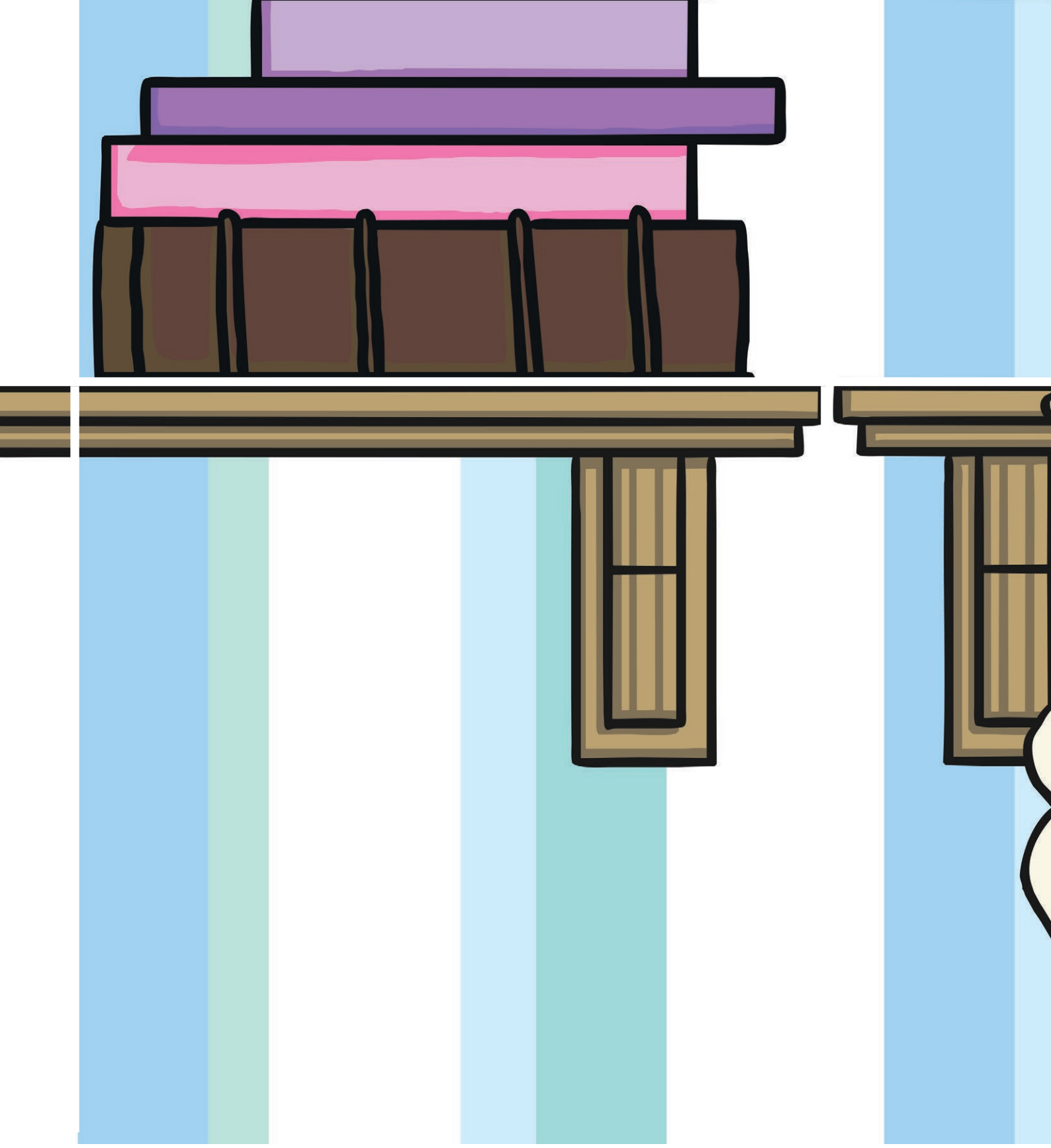


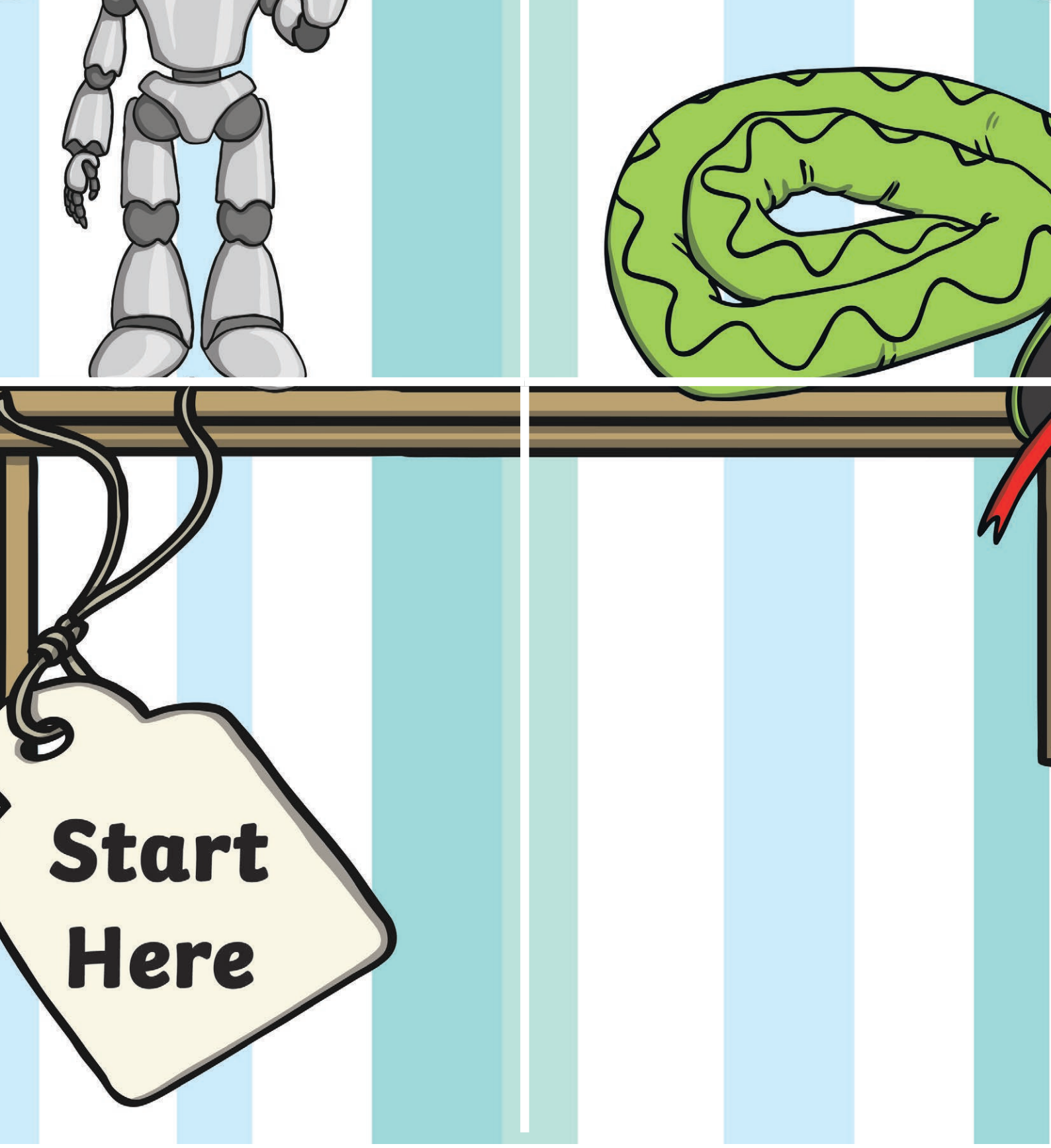
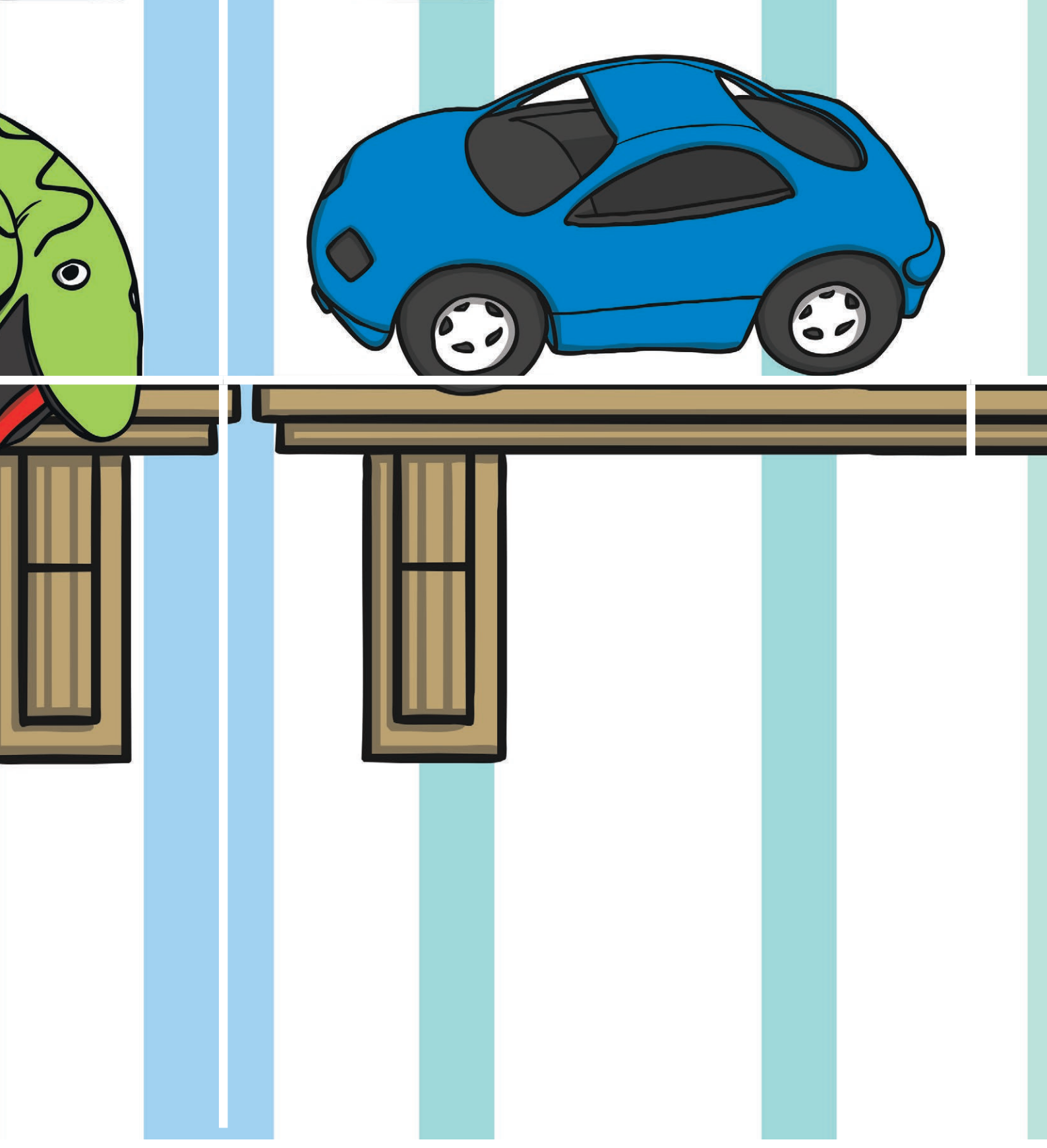
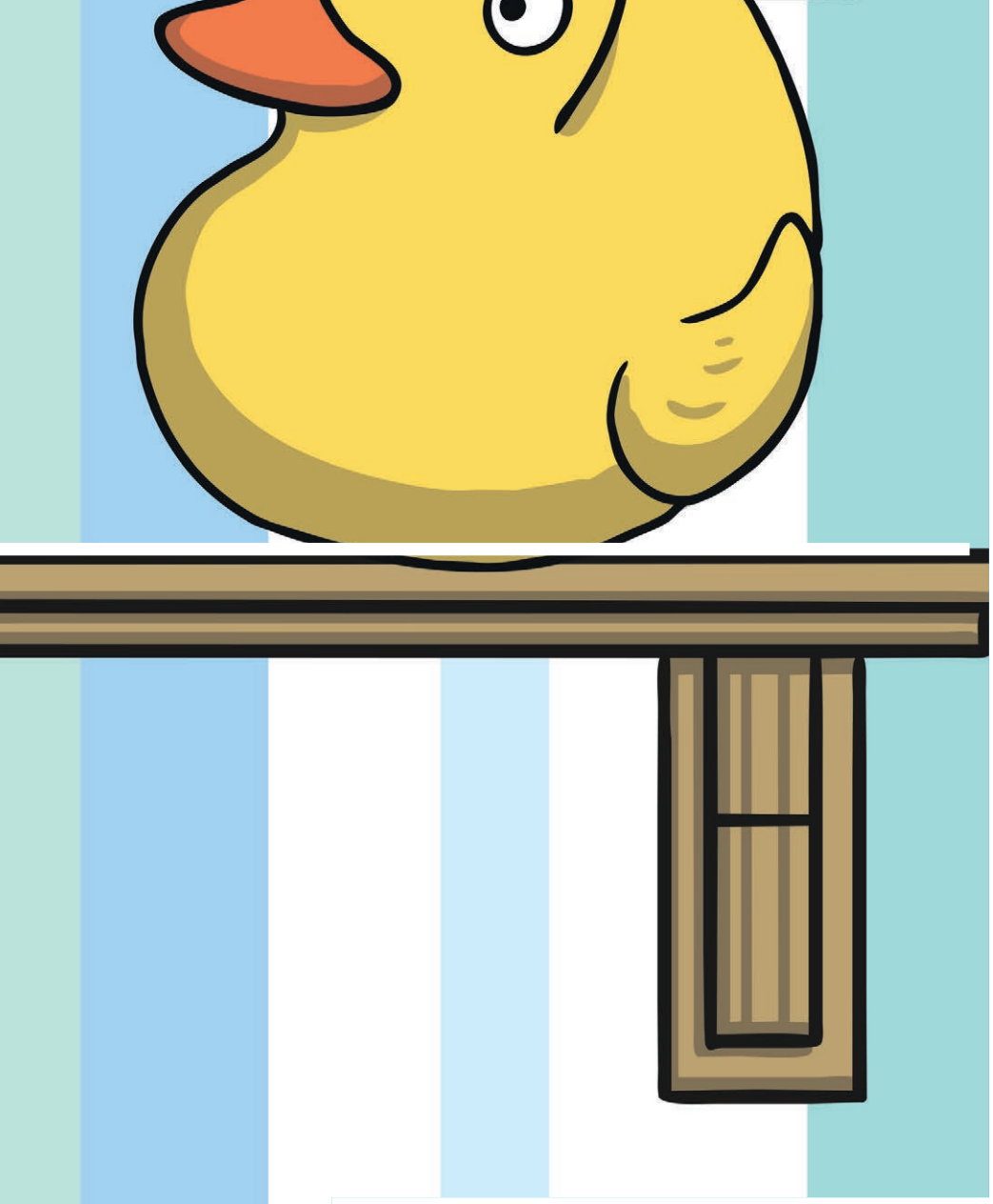




Regent Studies | www.regentstudies.com






Start
Here