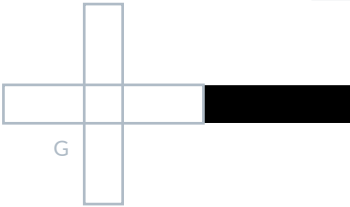
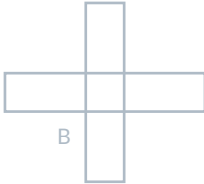
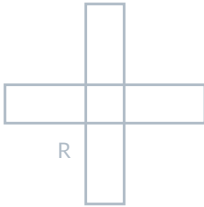
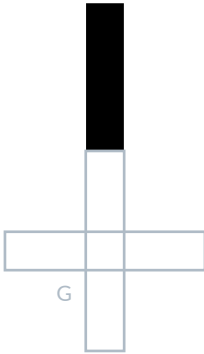
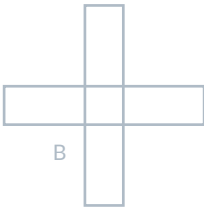
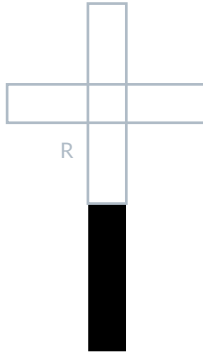
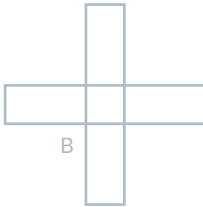
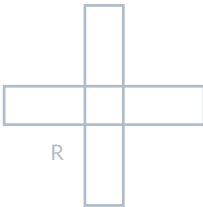
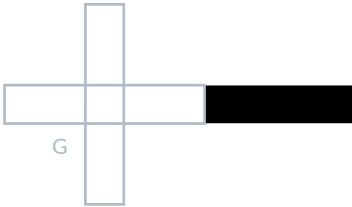
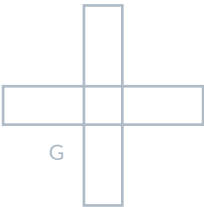
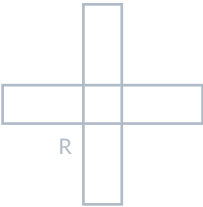
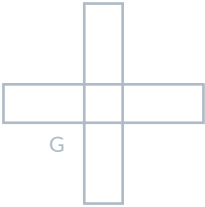
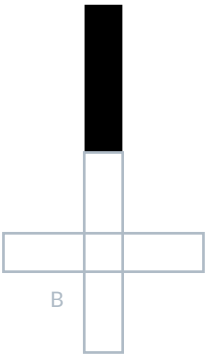
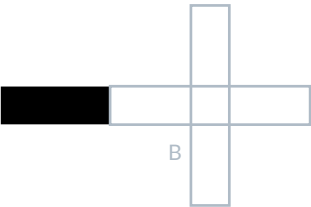
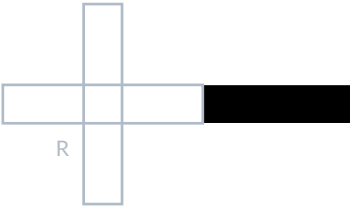
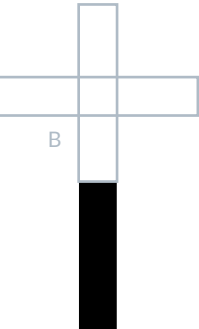
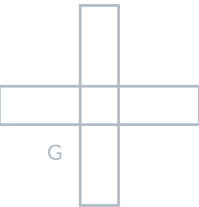
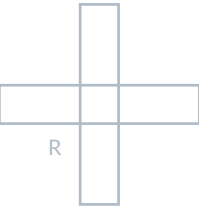


Think Like a Model: Large Language Model
Activity Sheet 1

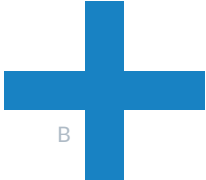
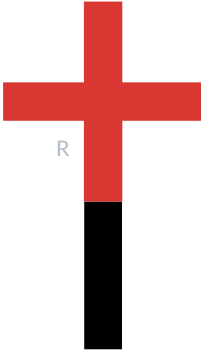
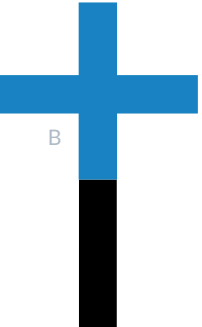
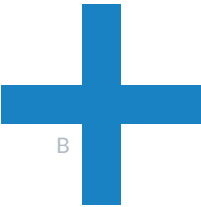
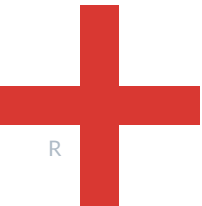
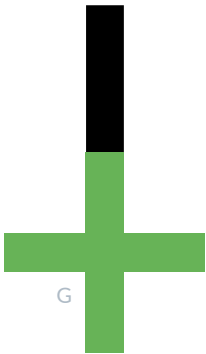
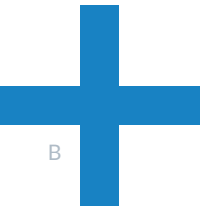
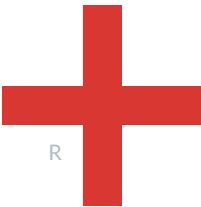
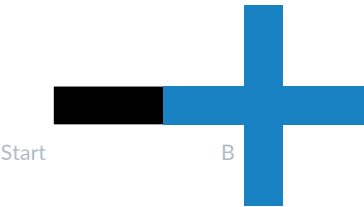
Name: _____
Date: _____

Start



Think Like a Model: Large Language Model
Activity Sheet 2

Name: _____
Date: _____



Think Like a Model

Activity Sheet 3

Name: _____

Date: _____

Engage: Fill in the blank.

During finals week, many students stay up late to _____

When the algorithm saw only cat photos, it started labeling all animals as _____

The model predicted the missing word in: 'The mitochondria is the _____ of the cell.'

In Ozobot Blockly, open **Share Code k9bgp3**. Run the program and observe Ozobot's actions. What does Ozobot do?

At green intersections, Ozobot _____

At red intersections, Ozobot _____

At blue intersections, Ozobot _____

At line ends, Ozobot _____

After passing all intersections, Ozobot _____

What types of blocks are used in the program?

- | | | | |
|--|------------------------------------|----------------------------------|------------------------------------|
| ☐ Movement | ☐ Loops | ☐ Sounds | ☐ Functions |
| ☐ Line Navigation | ☐ Math | ☐ Sensors | ☐ Lists |
| ☐ Light Effects | ☐ Variables | ☐ Timing | ☐ Arrays |
| | | | ☐ Logic |

Look at the **learnColorPattern** function. Explain the purpose of each block below:

Repeat while _____

Think Like a Model
Activity Sheet 4

Name: _____

Date: _____

Follow line to next intersection or line end _____

Move forward at speed (speed) mm/s until line is found, and then follow the line _____

If there is a line end, do _____

Change numberOfCrossings by 1 _____

Evaluate:

① How does this program simulate training a Large Language Model?

② What data is being collected (learned)?

Think Like a Model
Activity Sheet 5

Name: _____

Date: _____

③ How can you make a prediction about which color might come next?

④ How is this similar to how LLMs predict which token comes next?

Think Like a Model

Activity Sheet 3 – Possible Solution

Name: _____

Date: _____

Engage: Fill in the blank.

During finals week, many students stay up late to _____ study _____

When the algorithm saw only cat photos, it started labeling all animals as _____ cats _____

The model predicted the missing word in: 'The mitochondria is the _____ powerhouse _____ of the cell.

In Ozobot Blockly, open **Share Code k9bgp3**. Run the program and observe Ozobot's actions. What does Ozobot do?

At green intersections, Ozobot _____ slows down, notes the color, and continues on the pathway _____

At red intersections, Ozobot _____ slows down, notes the color, and continues on the pathway _____

At blue intersections, Ozobot _____ slows down, notes the color, and continues on the pathway _____

At line ends, Ozobot _____ moves to the next line _____

After passing all intersections, Ozobot _____ stops at the line end, blinks the color pattern, and says _____ the colors it passed. _____

What types of blocks are used in the program?

- | | | | |
|---|---|--|---|
| ☒ Movement | ☒ Loops | ☒ Sounds | ☒ Functions |
| ☒ Line Navigation | ☒ Math | ☐ Sensors | ☐ Lists |
| ☒ Light Effects | ☒ Variables | ☒ Timing | ☒ Arrays |
| | | | ☒ Logic |

Look at the **learnColorPattern** function. Explain the purpose of each block below:

Repeat while _____ This is a loop block that tells Ozobot to repeat all the blocks inside it while the number of crossings is less than the max crossings which is 18. This means that the bot will _____ continue until it has crossed 18 intersections _____

Think Like a Model

Activity Sheet 4 – Possible Solution

Name: _____

Date: _____

Follow line to next intersection or line end This is a line navigation block that programs Ozobot to follow a line until it gets to an intersection or the end of a line.

Move forward at speed (speed) mm/s until line is found, and then follow the line This movement block tells Ozobot to look for a line to follow as it is traveling across a surface at a given speed.

When it finds a line, it will follow it.

If there is a line end, do This logic block tells Ozobot what to do when it finds the end of a line.
There are other blocks inside this block that tell the bot to look for the color of the line it is following and then instructions on what to do depending on the color of the line.

Change numberOfCrossings by 1 This math block tells the variable called number of crossings to increase by 1 after every intersection.

Evaluate:

① How does this program simulate training a Large Language Model?

Ozobot is crossing colors in a certain pattern that can be repeated, just like large language models look for patterns in the information they are trained on.

② What data is being collected (learned)?

In this example the data being collected is surface color.

Think Like a Model

Activity Sheet 5 – Possible Solution

Name: _____

Date: _____

- ③ How can you make a prediction about which color might come next?

I can predict what comes next by looking at the pattern. In this case blue will come next.

- ④ How is this similar to how LLMs predict which token comes next?

Ozobot is looking for patterns just like LLMs look for patterns to determine what comes next.

Whether that is Ozobot looking for a color or an LLM looking for which word is next the idea
is similar.
