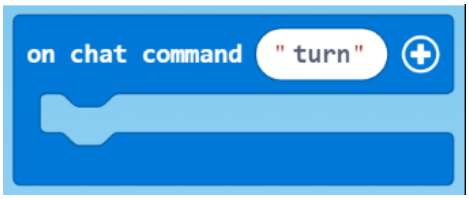
LESSON 2: CODE YOUR AGENT TO ROTATE

Section	Time
Introduce the code how to make Agent to rotate	5 min
Students need to complete activities in the world	10 min
Introduce the code how to make Agent to move	5 min
Students need to complete activities in the world	15 min
Multiplayer challenge	15 min

This code instructs your Agent to turn on the spot, which is very useful for orientating your Agent to perform tasks relating to movement.

Coding activity: Code your Agent to rotate

1. Start a new project and rename the **run** element of the on chat command block to **turn**.

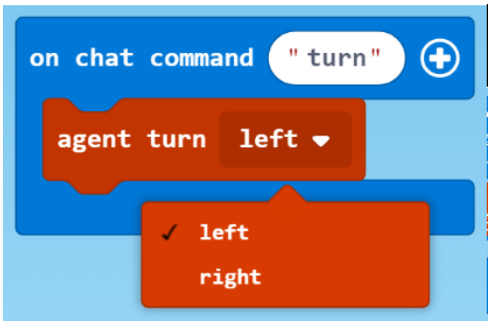


2. Now visit the AGENT toolbox drawer on the left-hand menu.

3. Drag and drop the agent turn [left] code block to the coding Workspace. Remember the block will look opaque until you attach it to something.

4. Drag the agent turn [left] code block into the on chat command code block to activate it.

5. You can decide which way you would like to make your Agent turn by clicking on the drop-down box marked **left** and choosing **right** instead.



6. Now test your code. In the game, press **T** to open the chat function. Type **turn** and watch your Agent turn right by 90 degrees. Repeat until you are happy with the position of your Agent.

You can do this anytime you need to orient your Agent. This is particularly good for solving mazes and following paths for building.

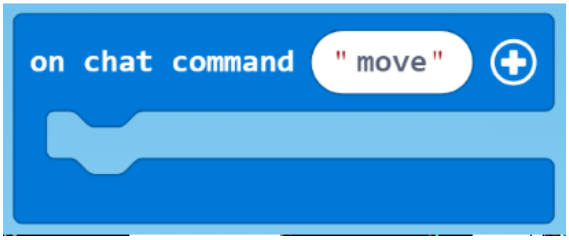
7. Now change the direction in the agent turn [right] block back to **left** and test your new code in the game.

CODE YOUR AGENT TO MOVE

This code is used to make your Agent move around in the game, one block at a time. It can be combined with the **turn**, **place on move** and **destroy on move** codes to have your Agent complete complex actions of multiple types.

Coding activity: Code your Agent to move

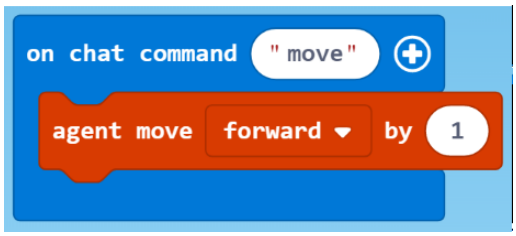
1. Start a new project and rename the **run** element of the on chat command block to **move**.



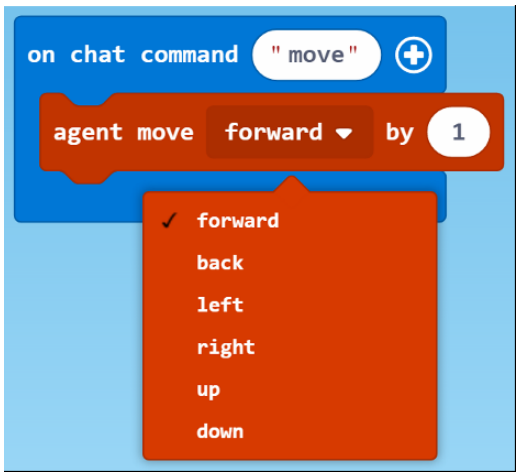
2. Now visit the **AGENT** toolbox drawer on the left-hand menu.

3. Drag and drop the agent move [forward] block to the main coding window. Remember it will be opaque until you attach it to something.

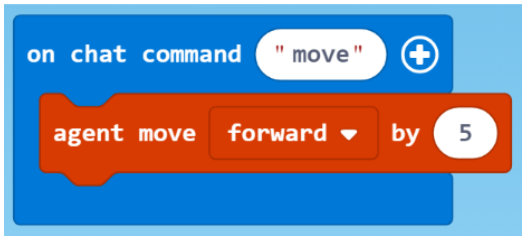
4. Drag the agent move [forward] block into the on chat command code block to activate it.



5. You can decide which way you would like to make your Agent move by clicking on the drop down box marked **forward** and choosing **up**, **down**, **left**, **right** or **back** instead. For this example, we will use **forward**.

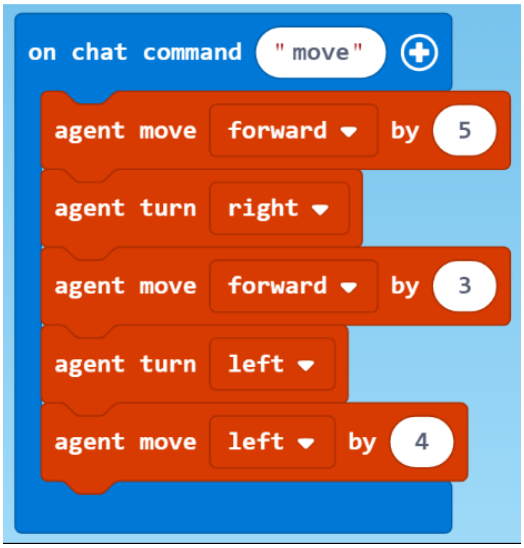


6. Change the numerical value from **1** to **5**.



7. Now test your code. In the game, press **T** to open the chat function. Type **move** and watch your Agent move forward by five blocks. Change the values and play around with the values until you are happy with the position of your Agent.

8. Now combine your **move** and **turn** codes together to make your Agent do both in sequence. Then test your code again.



You can do this anytime you need to orient your Agent. As with the **turn** command, this is particularly good for solving mazes and following paths for building. For example, you will need this to instruct your Agent to build a house for you.

Multiplayer challenge

*You can watch a video on how to join multiplayer world here.

Split your class into groups of 4-6 people. Select a team leader for each group. Each team member needs to pick a role:

- Time keeper
- Encourager
- Builder, etc.

As a team leader, students need to find the world called “Multiplayer Challenge” and open it.

- As other team members, students need to click on the tab “Friends” and find their team leader’s name.
- If they cannot see their team leader’s name, then they need to click on the If you experience trouble, click Servers
    - Server Name - This can be named anything you want. (Name it “Team Name”)
    - Server Address – ask your Team Leader
- *For Team Leaders: click Esc from the world, it will bring your IP address.

The objective of the challenge is to build a maze together and then attempt to write a code so that Agent can pass it. Some students can start cracking the maze from 1 end and other from the other end.