Advanced

Want to make edits? Make a copy first! Learn more here.

Secret Message

Playground: Art Canvas

Challenges:

Level 1: Uncover the secret message using the coordinates below. Use the *Turn to heading* block and the Pen on the VR Robot, to move from one coordinate to the next in the project below.

First Letter

1. Move forward 400 mm
2. Turn left 90 degrees
3. Move forward 800 mm
4. Pen down
5. Turn to 166 degrees
6. Move forward 825 mm
7. Turn to 14 degrees
8. Move forward 825 mm
9. Pen up
10. Turn to 90 degrees
11. Forward 200 mm

Second Letter

12. Pen down
13. Forward 400 mm
14. Pen up
15. Turn to 270 degrees
16. Forward 400 mm
17. Pen down
18. Turn to 180 degrees
19. Forward 800 mm
20. Pen up
21. Turn to 0 degrees
22. Forward 400 mm
23. Pen Down
24. Turn to 90 degrees
25. Move 400 mm
26. Pen up
27. Turn to -90
28. Forward 400 mm
29. Turn to 180 degrees
30. Forward 400 mm
31. Pen down
32. Turn to 90 degrees
33. Forward 400 mm
34. Pen up
35. Turn to 90 degrees
36. Forward 200 mm
37. Turn to 0 degrees
38. Forward 800 mm

Third Letter

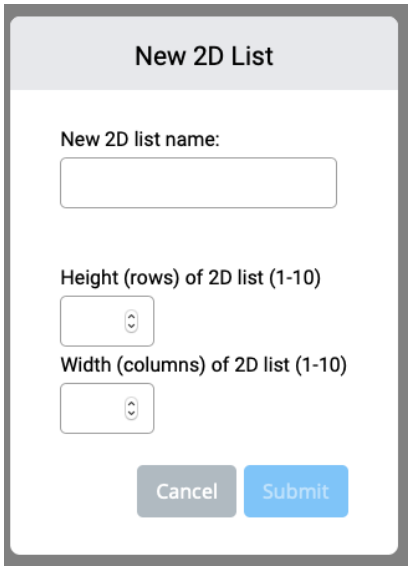
39. Pen Down
40. Turn to 153 degrees
41. Forward 894 mm
42. Pen up
43. Turn to 0 degrees
44. Forward 800 mm
45. Pen Down
46. Turn to 207 degrees
47. Forward 894 mm
48. Pen up.

Level 2: Create your own secret message and give it to a friend or classmate to try and decode!

Level 3: Using 2D Lists, create an algorithm to move through a list of secret message waypoints from elements in the 2D List.

Helpful Hints:

- Each square in the Art Canvas measures 20mm by 20mm.
- Having a problem finding your position? Check the VEXcode VR Dashboard.
- Be careful driving to the next set of coordinates - you may not draw the right letter if you don't **head** directly to the next set of coordinates.
- 2D Lists can hold up to 10 elements in each dimension. Use multiple 2D lists from the Variables category if needed for longer messages.



  - 2D Lists in VEXcode VR Text projects do not have the same limits on their dimensions.

```
my_2d_list = [
    [0,0,0],
    [0,0,0],
    [0,0,0]
]
```