Scratch Module 1

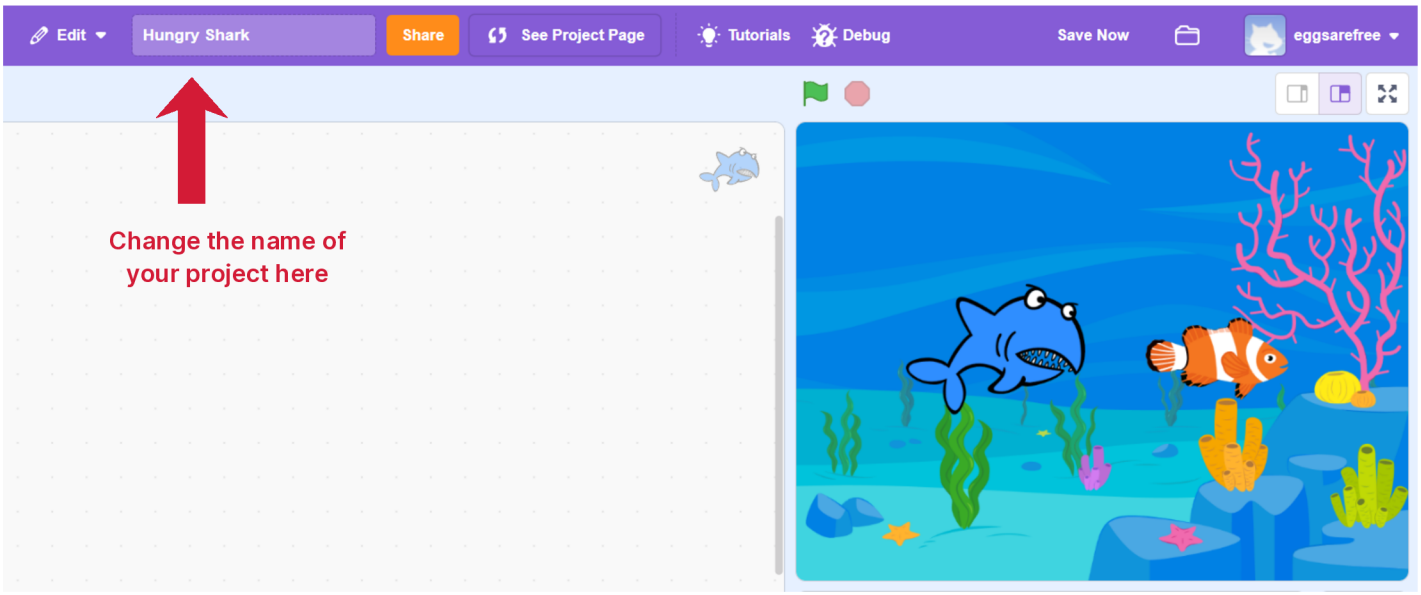
Hungry Shark

Code your shark to eat as many fish as possible before time runs out!

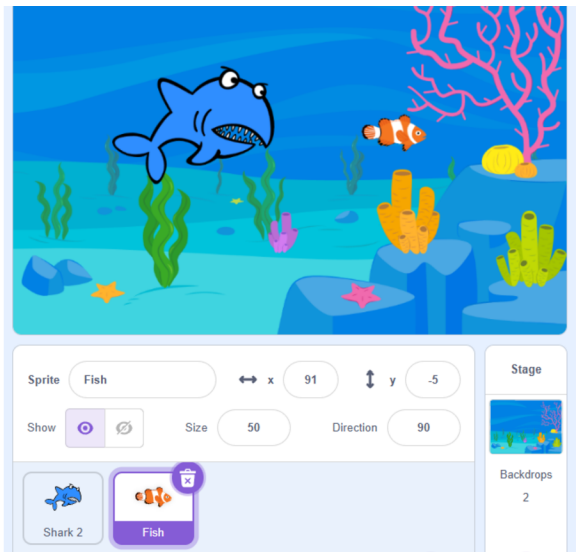
Step One — Setting up the stage

Let's set up the stage of our project. If you're unsure of any of the instructions, check out the first project "Lost in Space" to learn the basics of Scratch.

1. Change the name of your project to "Hungry Shark" so you can find it next time
2. Delete the "Scratch Cat" sprite and add both a shark and fish sprite



3. Add an underwater backdrop so your stage looks like the picture above



4. Click on the fish sprite and change the "Size" input from 100 to 50 which makes the fish 50% smaller

Hungry Shark

Step Two — Controlling the shark

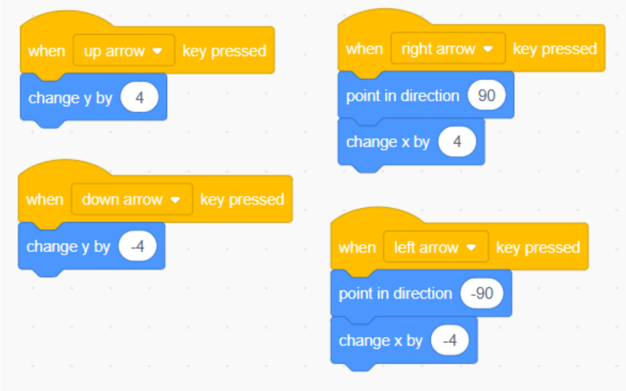
1. Drag four “When ‘space’ key pressed” blocks to the Scripts area from “Events” blocks



2. Click on the word “space” to change each the blocks to “up arrow”, “down arrow”, “right arrow”, and “left arrow” as each of these will control the movement

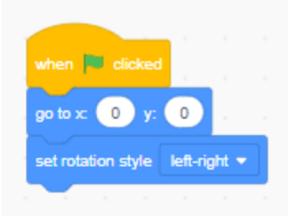
3. Drag “Change y by 10” and “Change x by 10” blocks to the key pressed blocks like below

4. Make sure to add the “point in direction” blocks so that your shark faces the other way when moving left and right



5. Make sure the values match - this allows the shark to move along the x- and y- axis to change movement

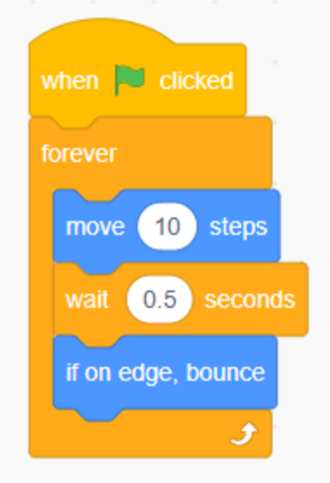
6. Next, we also need to add the code below so our shark starts in the middle of the screen and doesn’t go upside down



Hungry Shark

Step Three — Moving the fish

Our fish doesn't do anything at the moment so we need to make it move around and disappear if the shark catches it.



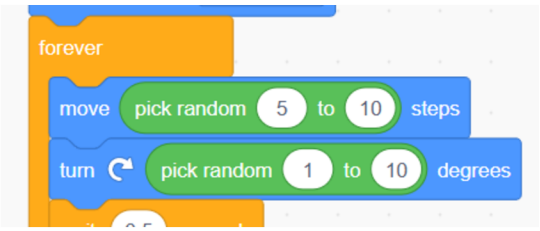
1. Click the fish sprite and add the following code — adding the "wait" and "if on edge bounce " block slows down the fish and makes sure it doesn't run off the page

2. Test your code. Notice anything funny when the fish hits the edge?



3. Add "rotation style" block so the fish doesn't go upside down when it hits the edge
4. Add "turn" block to make it turn a little bit each time and make it harder to catch it
5. Test your code

6. We can make it harder by using "pick random" blocks so that it will move randomly



7. The fish doesn't get eaten when the shark catches it — we need to first check if the fish is touching the shark by adding the "if then" block and add the "touching 'Shark'"



8. We want the fish to disappear and then reappear somewhere else on the screen every time it touches the shark.



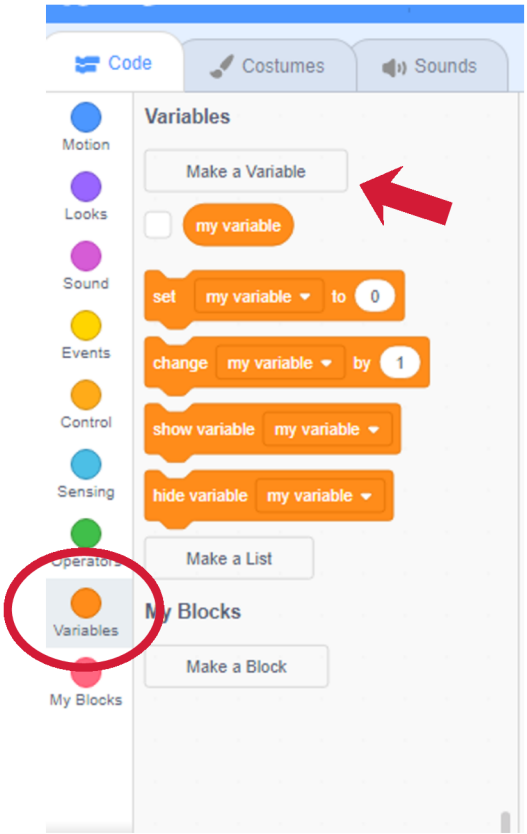
9. The fish won't show up at the beginning of the game so we also need to add "show" at the top of the code



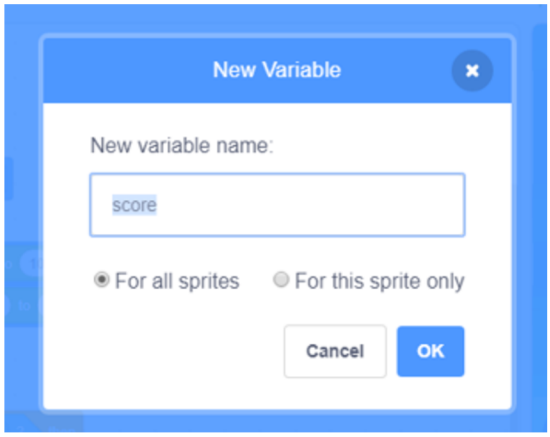
10. Test your game by clicking the green flag and check if everything's working. If not, double-check all your code.

Step Four — Adding a score

1. Let's add a way to see how many fish we catch. Click on the "Variables" code category and then "Make a Variable".

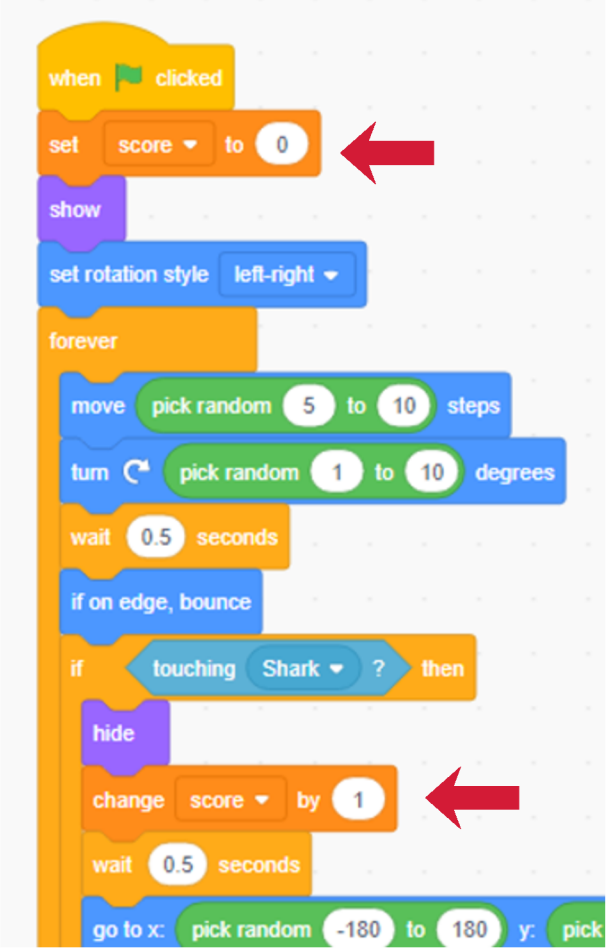


2. A variable is like a bucket that we store things in. In this case, we want to store "score".



Hungry Shark

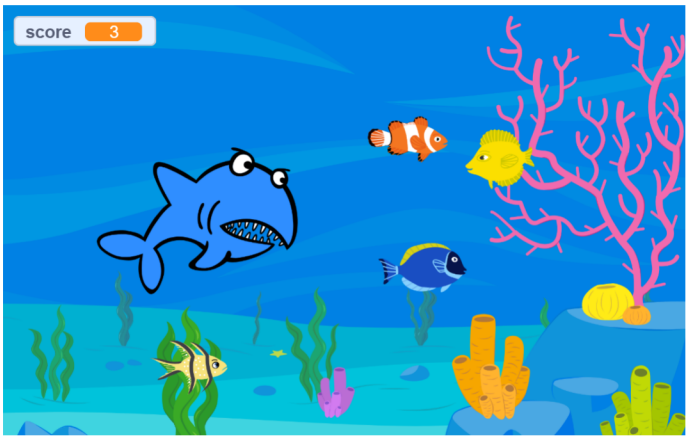
3. We need to “set score to 0” when the game starts and “change score by 1” every time the fish touches the shark. This adds 1 point to our “score” bucket.



4. Test your code. If it’s not working as you expected, look back at the instructions carefully.

Extra for experts!

1. You can “duplicate” (right-click) your fish sprite to make more fish for your game
2. Change the “costume” of the duplicates so all the fish look different!



Congratulations, you’ve finished your project!

You’ve completed your Scratch project. If you’re completing this for **Children’s University** let one of our librarians know and we’ll sign you off for 1 hour of coding activity.