SCRATCH CHALLENGE
HUNGRY SHARK

Using the instructions below build a Scratch game where a shark chases and catches a fish to receive a score. Designed as a first starter for programming Scratch.
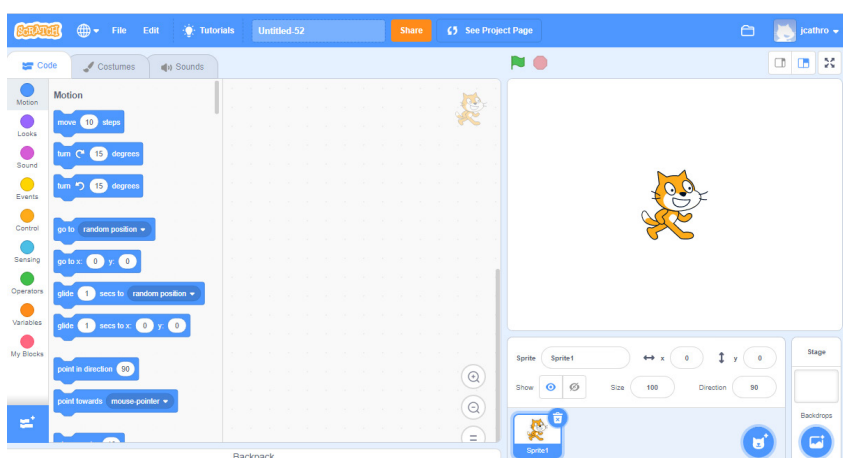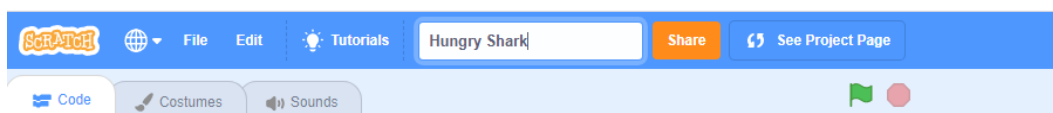
WHAT YOU NEED

- internet connection
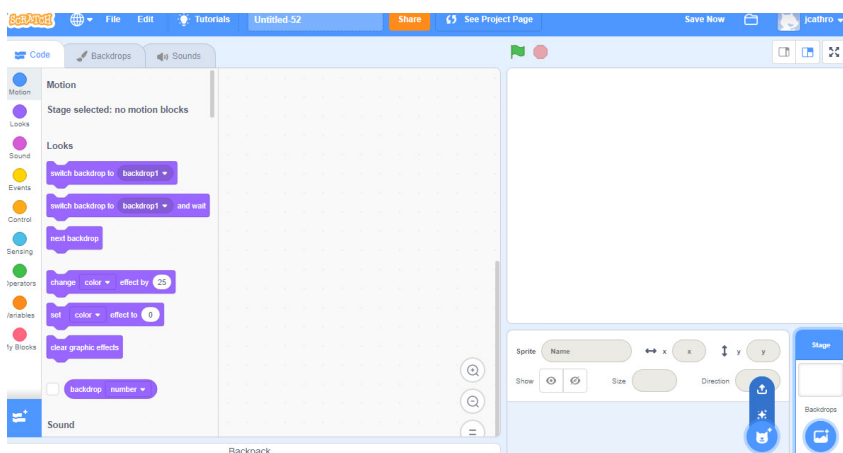- device with a keyboard and mouse
- download Scratch **https://scratch.mit.edu**

INSTRUCTIONS

STEP 1: SET UP

a) Start by creating a new project in Scratch. Make sure to give it a good name, such as Hungry Shark.

b) We then need to delete the cat sprite. We do this by clicking on the rubbish bin on the cat in the bottom of the screen
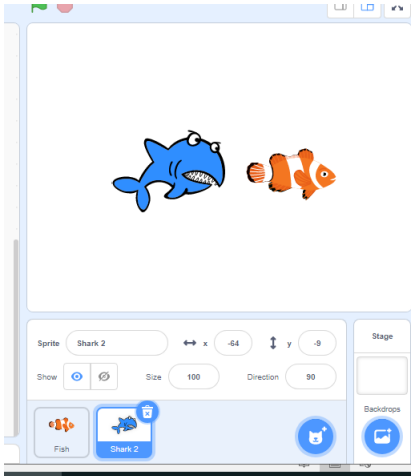

c) Select a new sprite
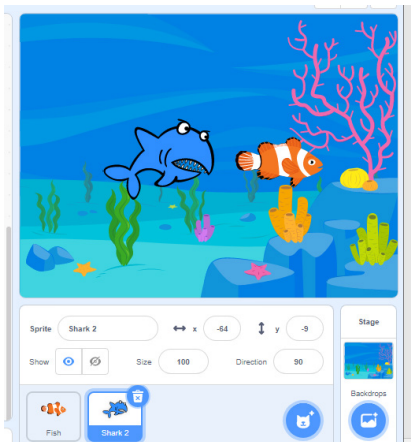
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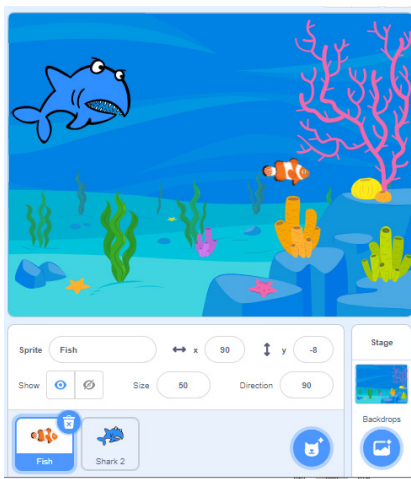*Te Whare Taonga o Te Arawa*
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d) Select a shark sprite

e) Select another sprite – Fish

f) Add a background by clicking on the backdrops button

g) Let's make the fish a little smaller. Make sure you have clicked on the fish sprite at the bottom of the page. Then click into size and change it to 50%
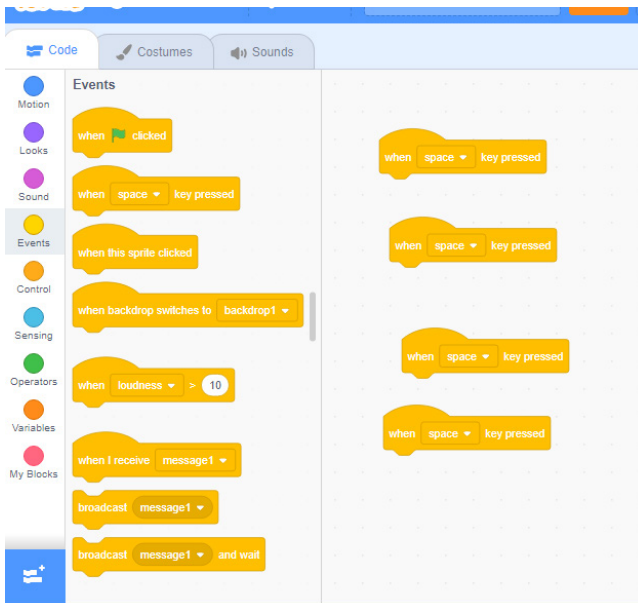
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STEP 2: CONTROLLING THE SHARK

This will allow us to move the shark to catch the fish

a) Click on "Events" and drag over the "when space key pressed". Do this 4 times.
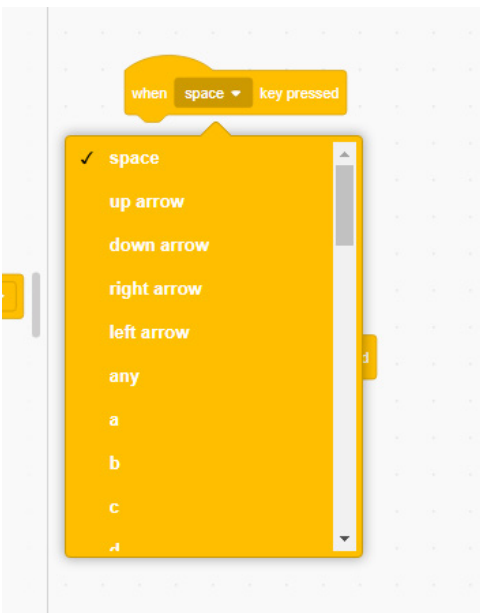
b) Select up from the drop down arrow on one of the "when space key pressed"

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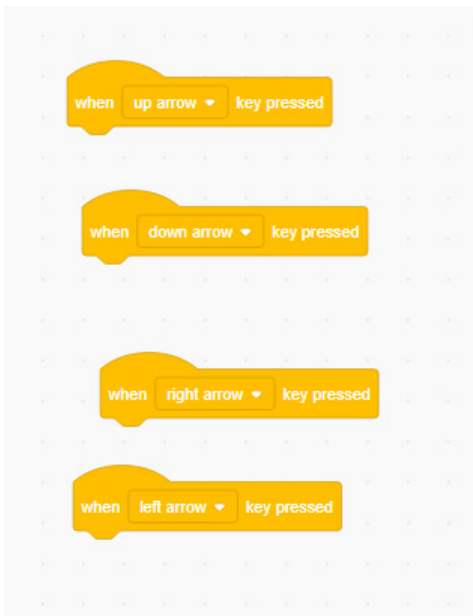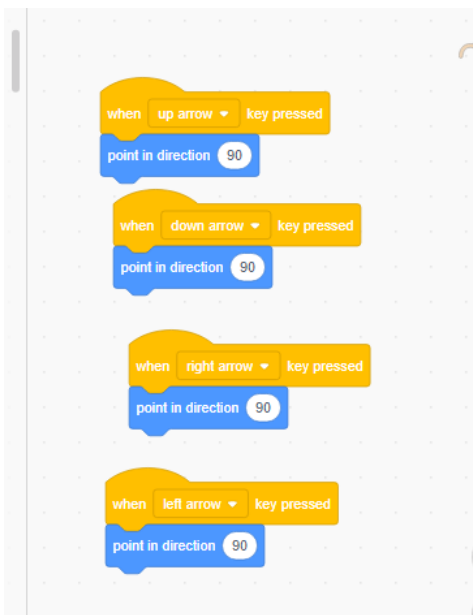
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c) Repeat for each of the blocks of code so that you now have up, down, left and right

when up arrow ▾ key pressed

when down arrow ▾ key pressed

when right arrow ▾ key pressed

when left arrow ▾ key pressed

d) Now we are going to click on "motion" and drag over and connect up "point in direction 90" to each of the arrow keys.

when up arrow ▾ key pressed
point in direction 90

when down arrow ▾ key pressed
point in direction 90

when right arrow ▾ key pressed
point in direction 90

when left arrow ▾ key pressed
point in direction 90

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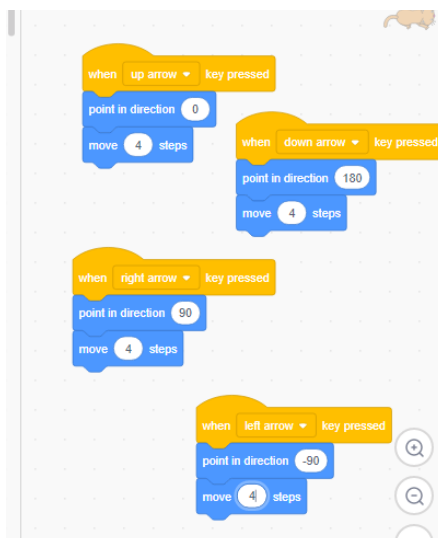ART | CULTURE | HERITAGE

e) Update the numbers to match the image below. This means that when we push the up key the shark will turn to point to the top of the screen.
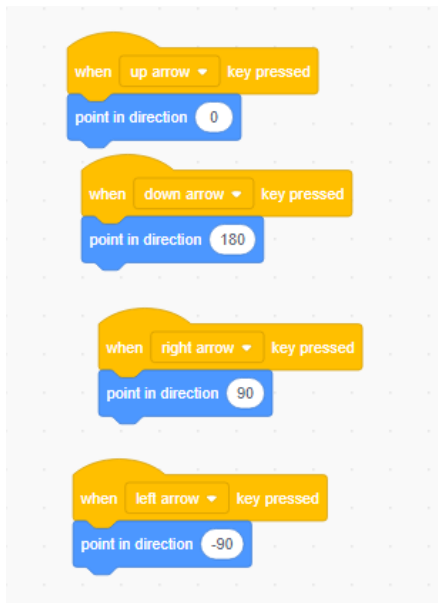
f) We will now add the "move 10 steps" block to each of our arrow keys. We will change the number from 10 to 4. This means our shark won't move so far when we press the key.

g) Click the green flag and press the arrow keys to test

h) You might notice your shark turns upside down when we press the left arrow and heads up and down when pressing the up and down keys.
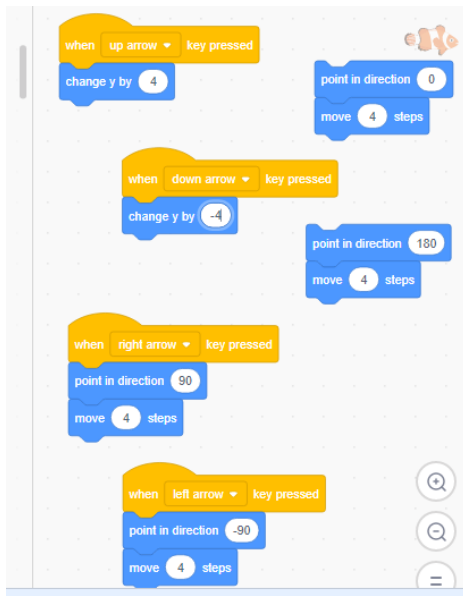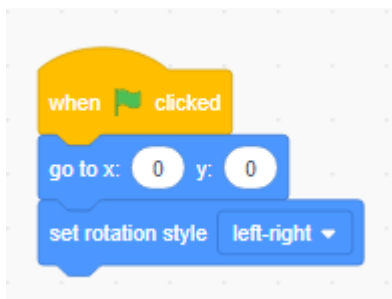
i) So let's change the up and down first: remove the "Point in Direction" and "Move" from those blocks

j) We want to add in the "Change y by" block. Update the numbers as below:

k) Next we need to add the following code so our shark starts in the middle of the screen and doesn't go upside down:

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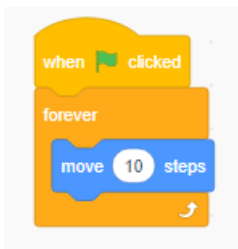🌐 rotoruamuseum.co.nz/share

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STEP 3: MOVING THE FISH

Our fish doesn't do anything at the moment. We want to make it move around and then disappear if the shark catches him.

a) Click the fish sprite add the following code:

b) Let's slow him down a little so that we can catch him and make sure he doesn't run off the page. Just add the pieces of code that are different to what you have already.
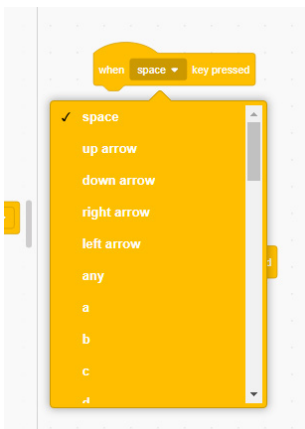
c) Test your code

d) We will need to add the set rotation style block so he doesn't go upside down. We will also add code to have him turn a little bit each time. This will make him harder to catch.
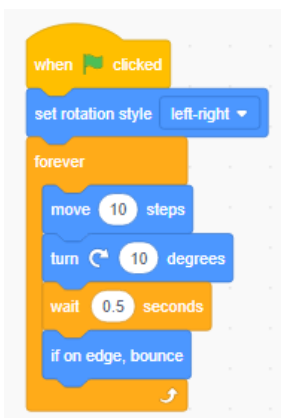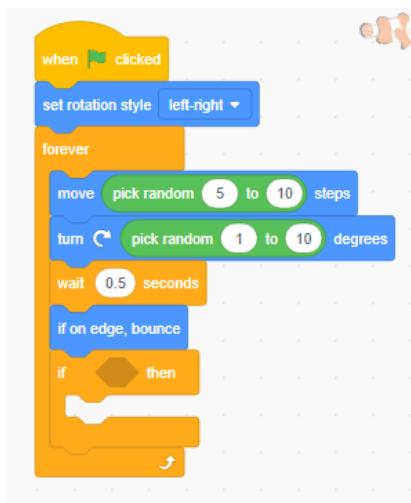
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e) Test your code

f) Now let's make it even harder. We can use the "pick random" block so that he will move randomly.

g) Finally our fish doesn't get eaten when the shark catches him. To do this, we need to check if the fish is touching the shark and then do something.

h) Add the if, then block to the forever loop

i) Now let's add the code to check if the fish is touching the shark. We want the fish to disappear, and the reappear somewhere else on the screen

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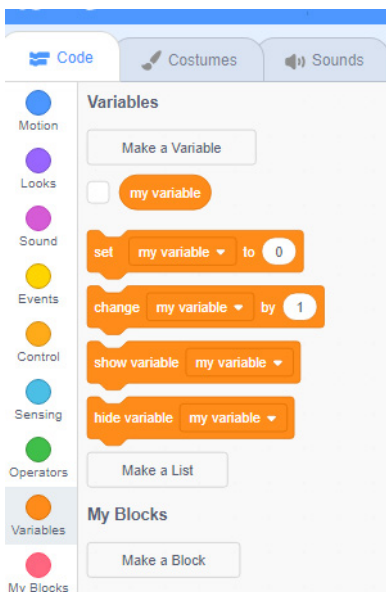ART | CULTURE | HERITAGE

j) You need to add one more piece of code right at the top "Show" otherwise your fish won't show up at the beginning of the game

k) Test your game

STEP 4: ADDING A SCORE
Let's add a way to see how many fish we have caught.

a) Click on the variables blocks.

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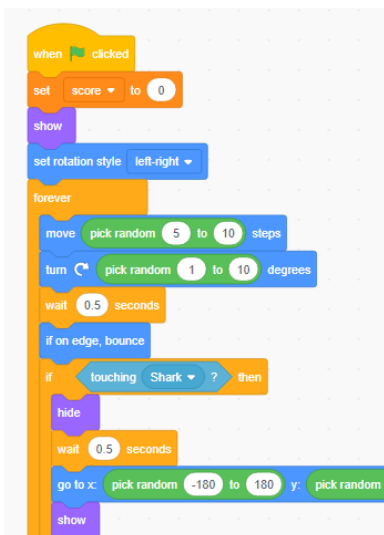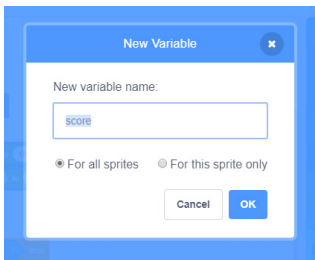
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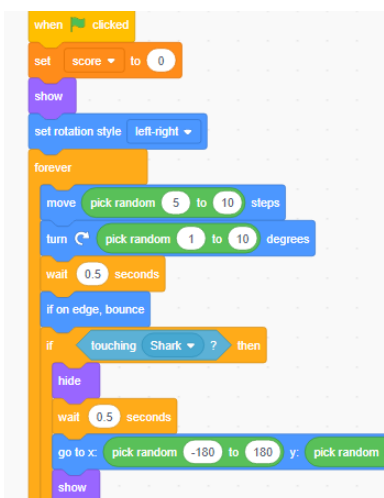LAKES COUNCIL

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b) Click on "Make a Variable". A variable is a bucket we store things in. In this case we want to store the score.

c) Now, we need to set the score to zero when the game starts - we can do this on the fish sprite.

d) And then we want to add one to the score every time we collide with the shark. So add the "change variable" block into the IF block on the fish

e) Test your code

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STEP 5: MAKE IT BETTER

- Can you make this a two player game? Have someone control the fish using a, s, w, d?
- Can you add a start and end screen?
- Can you make the player win when they get to a score of 10?
- Can you make the shark look like he is chomping as he moves around?

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