STEMpedia

In this activity you will make a game in PictoBlox where the aim of the game is to feed the shark as many fish as you can by controlling it with evive's potentiometer.

## STEP-BY-STEP

1. Open PictoBlox, connect evive to your computer, and select the Board as evive.

2. Once you've selected the board, click on the Connect tab and connect the board. Click on **Upload Firmware** button.

## SETTING UP THE STAGE

3. Add the Underwater backdrop from the backdrop library by clicking on Choose a Backdrop.

4. Add the Fish and Shark2 sprite from the sprite library by clicking on Choose a Sprite. Delete the Tobi sprite.

## ASSIGNING MOVEMENTS TO SHARK

5. Make a variable Score to store the score value.

6. Make the script using **when flag clicked** hat block to do the following:

   a. The shark will start from a fixed center point and will keep on moving until game is over.

   b. User can only change the direction of the shark using **Point in direction** block.

   c. The potentiometer gives values in the range of 0 to 1023 and our shark can rotate only 360°. Therefore, we will map the potentiometer values using the following mathematical formula:

**Shark's direction = (Potentiometer value \*360)/1023.**



*STEP 3*

*STEP 4*





*STEP 6*

## FISH SCRIPTS

7. Select the Fish sprite and make the script to clone the fish every 1 second using **create clone of ()** block. To change the costume of the fish every time use **next costume** block.

8. Now The clone will show up at a random point on the stage and will move a random point in 2 seconds. After the movement, delete the clone. Make the script using **when I start as a clone** hat block.
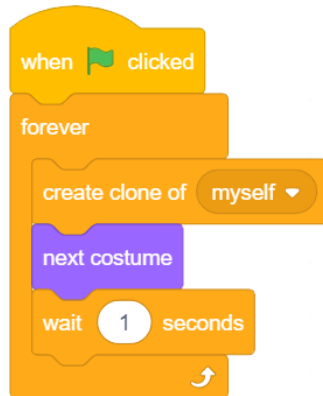


STEP 7
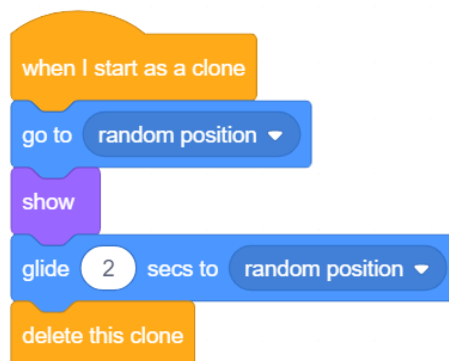
STEP 8

STEP 9-10

9. Every time the shark eats a fish, the **Score** should increase. Make another script using when I start as a clone hat block to detect when the clone touches the shark, then increase the score and delete the clone.

10. Broadcast *Eat* message to make the shark eating animation.

11. Select the shark sprite.

12. When the shark receives the message *Eat*, the shark sprite to makes a sound and look as if it has eaten the fish. Make a script for the same.
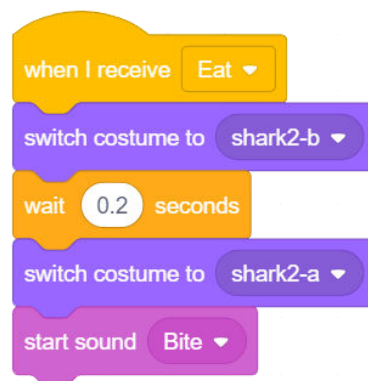


STEP 11-12

## ADDON

13. To make the game more challenging, you can time the game. Try adding another script for the timer!

14. Click on the Green Flag to play the game.