

Intermediate Game Production

using Scratch 1.4

Setting Difficulty

By the end of each task I should know how to change the difficulty of the game by ...

Task 1 - allowing the player to control the speed of the fish

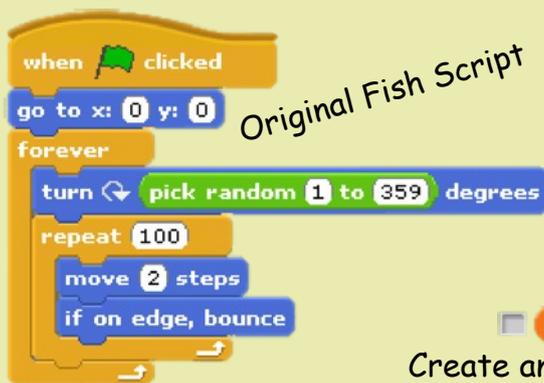
Task 2 - allowing the player to control the speed of the shark

Task 3 - allowing the player to control how often the fish turns.

Setting Difficulty

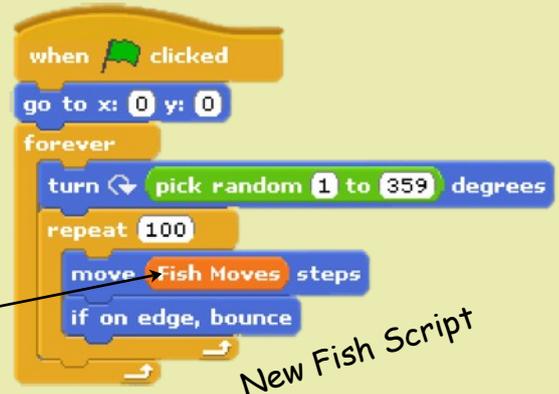
To change how difficult the game is, we have to control certain aspects of the game. For example, if the fish moves slower or the shark moves faster it's easier to catch the fish.

To allow the player to change the speed of the fish, during the game, we can use a variable.



Original Fish Script

```
when green flag clicked
go to x: 0 y: 0
forever
  turn pick random 1 to 359 degrees
  repeat 100
    move 2 steps
    if on edge, bounce
```



New Fish Script

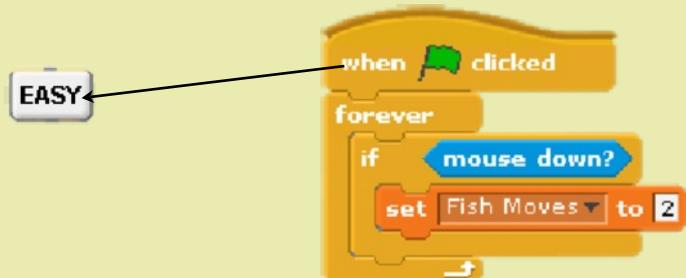
```
when green flag clicked
go to x: 0 y: 0
forever
  turn pick random 1 to 359 degrees
  repeat 100
    move Fish Moves steps
    if on edge, bounce
```

Fish Moves

Create and add a variable to the move block.

By adding a button to the game we can give the player a way of changing what is stored in the Fish Moves variable.

Add a new button sprite and edit it the add the word "easy" over the middle of it. A script on the button will then change the speed of the fish when the player clicks on the button.



EASY

```
when green flag clicked
if mouse down?
  set Fish Moves to 2
```

You should attempt **all** the tasks below in order. Remember - these tasks are designed to make you solve problems yourself. Do not look at the solutions unless you absolutely have to!

Task 1 - Add two button sprites to the game (one "easy" & one "hard"). Copy and change the above script so that each button makes the fish move at different speeds.

Task 2 - Create another variable to control how long the shark takes to glide towards the mouse pointer. Add more blocks to each button to change the speed of the shark when they are pressed.

Task 3 - Repeat the above to control how far the fish moves before turning.

Setting Difficulty (solutions)

EASY

```

when clicked
  forever
    if mouse down?
      set Fish Moves to 2
  
```

HARD

```

when clicked
  forever
    if mouse down?
      set Fish Moves to 12
  
```

Task 1

Create a Fish Moves variable. Create and edit an "easy" button and add the script shown. Repeat these steps for a "hard" button.

Remember, to set the Fish Moves to different values in the easy and hard buttons.

Task 2

For every number you want to control with the two buttons another variable has to be created. To control the shark's gliding speed create a *new variable*. **Glide Speed**

Add the *Glide Speed* to the shark's glide block.

```

glide Glide Speed secs to x: mouse x y: mouse y
  
```

Now add another *set* block to each button.

Try different glide speeds until you are happy with how easy and hard they make the game.

HARD

```

when clicked
  forever
    if mouse down?
      set Fish Moves to 12
      set Glide Speed to 2
  
```

Task 3

Once again create another variable.

Add the variable to the fish script.

Finally add a third *set* block to the easy and hard buttons.

Number of Moves

```

when clicked
  go to x: 0 y: 0
  forever
    turn pick random 1 to 359 degrees
    repeat Number of Moves
      move Fish Moves steps
      if on edge, bounce
  
```

EASY

```

when clicked
  forever
    if mouse down?
      set Fish Moves to 12
      set Glide Speed to 2
      set Number of Moves to 50
  
```

Remember to experiment with the values.