

Intermediate Game Production

using Scratch 1.4

More Fish

By the end of each task I should know how to...

Task 1 - add another fish sprite that moves differently

Task 2 - add a poisonous starfish that the shark should avoid

Task 3 - increase the number of steps a fish sprite moves while the game is being played.

More Fish

As your games become more complex you will probably find that you add more and more sprites.

Each sprite can be made to behave differently from the others by simply having different scripts.



It is also possible to change the behaviour of sprites while the game is playing.

To do this we have to replace fixed numbers with variables.

For example, to change the glide speed when the shark catches the fish, we would create a variable to store the Speed.

Other Variables blocks can then be used at other places in your scripts to change what is stored in the Speed variable.

glide 1 secs to x: mouse x y: mouse y

```
set Speed to 1
forever
  glide Speed secs to x: mouse x y: mouse y
  if touching Sprite2 ?
    change Speed by 1
```

This would add 1 second to the glide speed .

You should attempt **at least one** of the tasks below. 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 a second smaller fish that is harder to catch. When the shark touches this fish 5 points should be added to the score.

Task 2 - Add a starfish sprite to the game. Make the star fish move slowly round the screen. If the shark touches the starfish the player should lose 10 points.

Task 3 - Each time the shark touches the original fish (sprite 2), the fish should move slightly faster making it harder to catch.

More Fish (solutions)

Task 1

First Import another fish sprite.   

```

when green flag clicked
  go to x: 0 y: 0
  forever
    turn pick random 1 to 359 degrees
    repeat 20
      move 5 steps
      if on edge, bounce
  
```

Now create a script to control the second fish (note - to make it harder to catch, the fish moves further (move 5 steps) with each step and turns more often (repeat 20).

```

when green flag clicked
  forever
    glide 1 secs to x: mouse x y: mouse y
    if touching Sprite2?
      change Score by 1
      switch to costume shark1-b
      wait 1 secs
      switch to costume shark1-a
    if touching Sprite3?
      change Score by 5
      switch to costume shark1-b
      wait 1 secs
      switch to costume shark1-a
  
```

Finally, add another IF block to the shark to add 5 points to the score when the shark catches the fish (sprite 3).

Task 2

Add the starfish sprite to the game.   

Create a script to make the starfish move slowly around the stage. Remember the way the sprite moves is controlled by the random, repeat and move numbers.

```

when green flag clicked
  go to x: 0 y: 0
  forever
    turn pick random 1 to 180 degrees
    repeat 200
      move 1 steps
      if on edge, bounce
  
```

Another IF block is added to the shark script to *change* the score by -10 when the shark touches the starfish.

```

if touching Sprite4?
  change Score by -10
  switch to costume shark1-b
  wait 1 secs
  switch to costume shark1-a
  
```

Task 3

To control the speed of the fish during the game replace the number of steps it moves with a variable. I've called my variable Fish Speed.

The speed can then be set to 2 at the beginning of the game when the green flag is clicked.

```

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

Finally (in the shark script), add a variable *change* block to add 3 to the number of steps the fish moves when it is touched by the shark.

```

if touching Sprite2?
  change Score by 1
  change Fish Speed by 3
  switch to costume shark1-b
  wait 1 secs
  switch to costume shark1-a
  
```