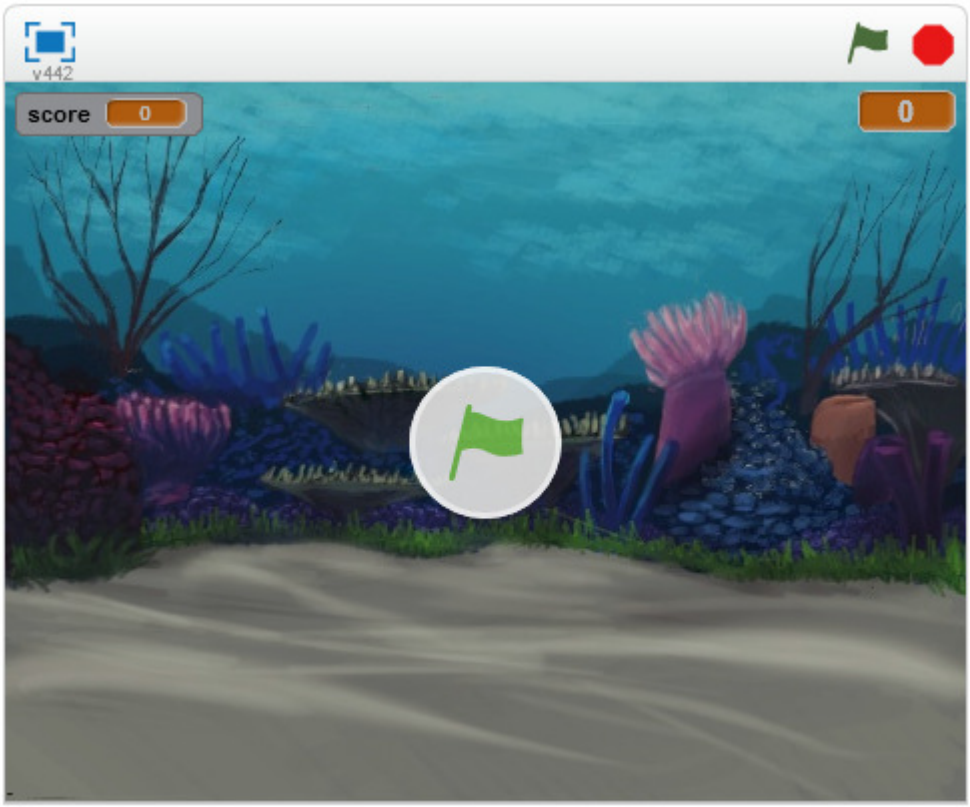
Gone fishing

Introduction

You are going to make a fish-catching game!



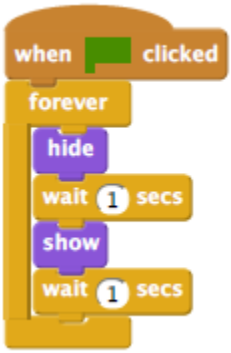
Step 1: Animating a fish

Activity Checklist

- Start a new Scratch project, and delete the cat sprite so that your project is empty. You can find the online Scratch editor at **jumpto.cc/scratch-new**.

- Add in a new fish sprite, and a suitable stage backdrop.

- Add this code to your fish, so that it repeatedly appears and disappears:



- Test out your fish's code, by clicking the green flag.

Save your project

Step 2: Random fishes

Your fish is really easy to catch, because it doesn't move!

Activity Checklist

- Instead of staying in the same position, you can let Scratch choose random x and y coordinates instead. Add a `go to` block to your fish's code, so that it looks like this:

- Test our your fish again, and you should notice that it appears in a different place each time.

Save your project

Challenge: More randomness

Can you make your `fish` `wait` a random amount of time before appearing? Can you use the `set size` block to make your `fish` a random size each time it appears?

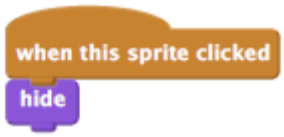
Save your project

Step 3: Catching fishes

Lets allow the player to catch fishes!

Activity Checklist

- To allow the player to catch a fish, add this code:



- Test out your project. Can you catch fishes as they appear? If you find it difficult to catch the fishes, you can play the game in fullscreen mode by clicking this button, at the top left of your screen:

Challenge: Adding a sound

Can you make a sound each time a fish is caught?

Save your project

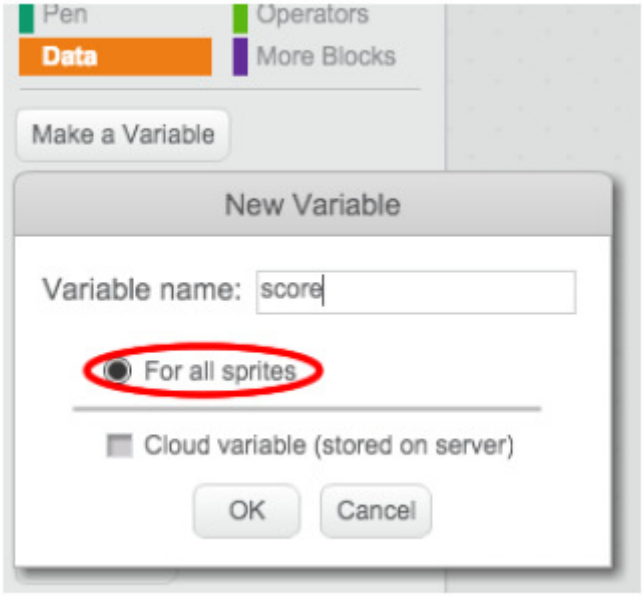
Step 4: Adding a score

Let's make things more interesting by keeping score.

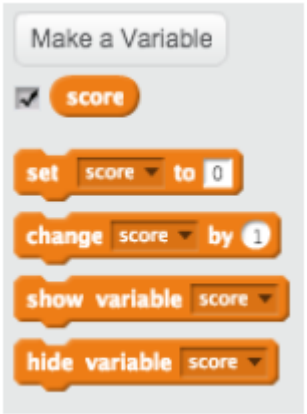
Activity Checklist

- To keep the player's score, you need a place to put it. A **variable** is a place to store data that can change, like a score.

  To create a new variable, click on the 'Scripts' tab, select Data and then click 'Make a Variable'.



Type 'score' as the name of the variable, make sure that it is available for all sprites, and click 'OK' to create it. You'll then see lots of code blocks that can be used with your score variable.



You'll also see the score in the top-left of the stage.

- When a new game is started (by clicking the flag), you should set the player's score to 0:

- Whenever a fish is caught, you need to add 1 to the player's score:

- Run your program again and catch some fishes. Does your score change?

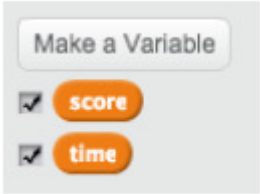
Save your project

Step 5: Adding a timer

You can make your game more interesting, by only giving your player 10 seconds to catch as many fishes as possible.

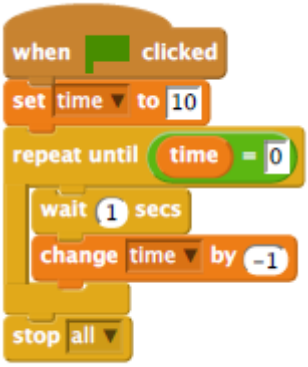
Activity Checklist

- You can use another variable to store the remaining time left. Click on the stage, and create a new variable called ‘time’:

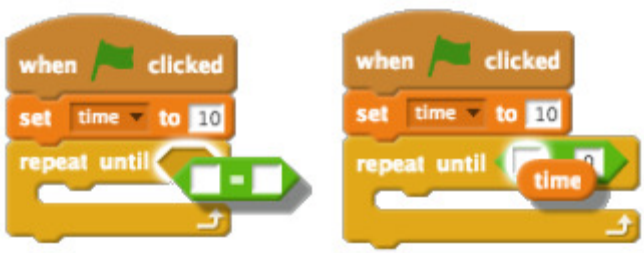


- This is how the timer should work:
    - The timer should start at 10 seconds;
    - The timer should count down every second;
    - The game should stop when the timer gets to 0.

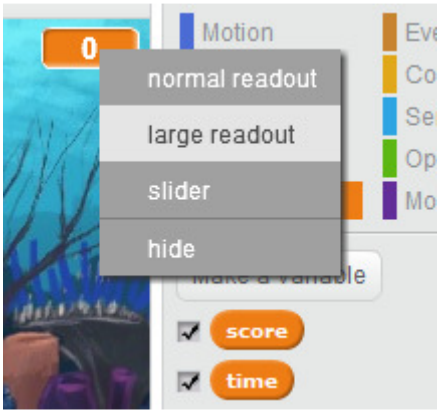
Here’s the code to do this, which you can add to your **stage**:



This is how you add the  code:



- Drag your ‘time’ variable display to the right side of the stage. You can also right-click on the variable display and choose ‘large readout’ to change how the time is displayed.



- Ask a friend to test your game. How many points can they score? If your game is too easy, you can:
    - Give the player less time;
    - Make the fishes appear less often;
    - Make the fishes smaller.

Test your game a few times until you’re happy that it’s the right level of difficulty.

Save your project

Challenge: More objects

Can you add in other objects to your game?

You'll need to think about the objects you're adding. Think about:

- How big is it?
- Will it appear more or less often than the other sprites?
- What will it look/sound like when it has been caught?
- How many points will you score (or lose) for catching it?

If you need help adding another object, you can reuse the steps above!

Save your project