

# SHARK BYTES



SUGGESTED TIME  
45 - 60 MINUTES

## OBJECTIVES

By completing this activity students will:

- + develop greater fluency with computational concepts (conditionals, operators, data) and practices (experimenting and iterating, testing and debugging, reusing and remixing, abstracting and modularizing) by working on a self-directed game project

## ACTIVITY DESCRIPTION

- In this activity, students will create a starter game project that can be revisited and extended during the Score, Extensions, and Interactions activities in the Scratch Creative Computing curriculum guide. Optionally, show the Shark Bytes example starter project, and have Shark Bytes handout available to guide students.
- Give students time to start building their games or let them remix one of the starter projects.
- Encourage students to get feedback on their games-in-progress. Allow students to walk around exploring each other's projects, asking questions, and giving feedback.
- Ask students to respond to the reflection prompts on paper or in a group discussion.

## RESOURCES

- Shark Bytes handout
- Shark Bytes example starter project  
<http://scratch.mit.edu/projects/43794712>
- Shark Bytes studio  
<http://scratch.mit.edu/studios/855882>

## REFLECTION PROMPTS

- + What was challenging about designing your game?
- + What are you proud of?

## REVIEWING STUDENT WORK

- + Do games include conditionals, operators, and data?

## NOTES

- + This game introduces some basic Game Artificial Intelligence for navigation - the fish is programmed to avoid collisions with the shark, but the starfish is not. Help students identify the code that makes this happen.

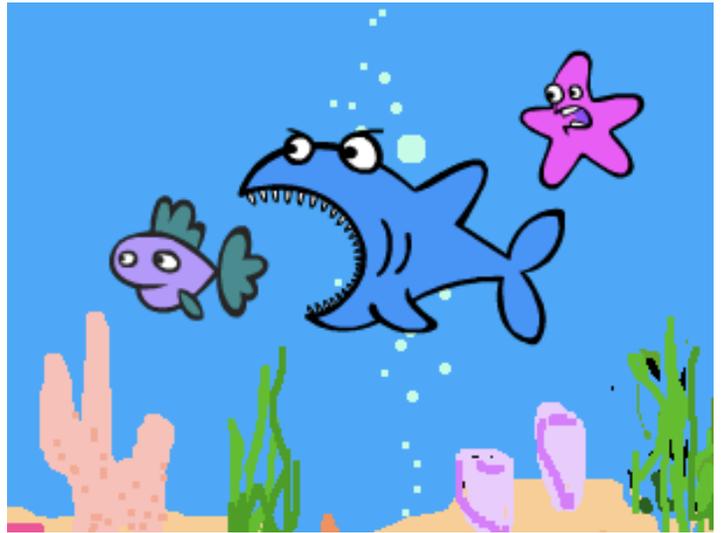
## NOTES TO SELF

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# SHARK BYTES

HOW CAN YOU USE SCRATCH TO BUILD AN INTERACTIVE GAME?

In this project, you will create a game. This game includes interactions between sprites, score and levels. It's a classic chase game where you help the shark catch the fish, but avoid the starfish.



## START HERE

- ❑ Create three sprites: one for the player to control (shark) one to catch (fish) and one to avoid (starfish)
- ❑ Make your shark sprite interactive.
- ❑ Bring your computer-controlled characters to life!

## THINGS TO TRY

- ❑ How do you add difficulty to your game? Creating different levels, using a timer, or keeping score are a few examples of things you could do.
- ❑ Use the make a variable block to keep score!

This controls the fish - if the shark is near it swims away.

This controls the shark - if touching the fish or starfish, the game ends.

This controls the starfish - it swims around the stage semi-randomly.

## BLOCKS TO PLAY WITH

when space key pressed	score	-	+	pick random 1 to 10
when up arrow key pressed	set score to 0	<	=	touching ?
when m key pressed	change score by 1	>	not	touching color ?
when I receive message1	show variable score	and		color is touching ?
	hide variable score	or		timer
				reset timer

## FINISHED?

- + Add your project to the Shark Bytes Studio: <http://scratch.mit.edu/studios/855882>
- + Help a neighbor!

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