

Unit 6, Lesson: Ups and Downs

Lesson Intro:

Theme of the Day
Today students are going to add a negative score to their game so their rocket ship will lose points when it hits an asteroid.

Learning Objectives	Concepts (Social & Cross Curriculum)
<ul style="list-style-type: none">• Students can add a negative scoring element to their games in order to increase difficulty.• Students can balance the positive and negative scores to make the game not too difficult or too easy.	<ul style="list-style-type: none">• Feedback• Game Design

Vocabulary	Guiding Questions
<ul style="list-style-type: none">• Scoring• Difficulty• Debugging	<ul style="list-style-type: none">• How will adding a negative score help make my game more enjoyable?• How can I balance the positive and negative scores to make my game fun and not too difficult?

Resources
<ul style="list-style-type: none">• Computers• Scratch access and logins• Game Study 2 sheet• Ups and Downs Guide• Space Bucks• CIC On-Ramp 3.6

Lesson Procedure:

Explore (15 min)

Don't Forget: Have the Game Study 2 sheet ready for students.

Mini-lesson: For today's exploration, students are going to play another game that someone else created. Students will play the game and think about what made it a good game, or what could make it better. Tell students to focus on the **scoring** of the game and the number of enemies that appear per level.

Students will use the Game Study 2 sheet to find and play the demo game for this exploration.

While they play the game, students should think about the questions on the Game Study 2 sheet. After 10 minutes, have a discussion with students about the game they played and the questions on the sheet.

Give out Space Bucks to students who are on task and independent.

Teacher-Guided Learning (10 min)

Don't Forget: Have the Ups and Downs Guide ready for students.

Mini-lesson:

Today students are going to change the scoring so that the rocket ship will both gain and lose points. This is how a player will win or lose the game.

Students will use the Ups and Downs Guide to do this.

Discuss the following questions with students:

In the game that you just played, there was definitely a level that was too easy. Which one was that? (*the first one*). If a game is too easy, the player will get bored very quickly.

What made the next levels more exciting to play? (*more enemies and getting coins*). Did the game get too **difficult**? How did that make you feel?

After the discussion, remind students that they will add and change their code to make their games enjoyable and winnable. They will do this by adding a negative score each time their rocket ship hits an asteroid.

If students finish their code, tell them that they will have a chance to be game testers and give feedback by playing other games.

While sharing their game with other designers, make sure they get feedback on the scoring that they made and on how hard their game is to win.

Preparation Note:

For this session, your students will need to know how to copy code in Scratch. It is as simple as clicking on the code, pushing **Control and C**, then **Control and V**, just like you copy sentences in a word processing document.

Partner/Team Practice (20 min)

Don't Forget: Have the Ups and Downs Guide ready for students.

Mini-lesson:

Explain to students that they will use the Ups and Downs Guide to add positive and negative scores to their games. They will also set the score, which allows the rockets to fire upon reaching a certain score. Remind them to follow the directions carefully and ask a friend if they run into a problem or need assistance.

While students are working, circulate to see how they are following directions and how they have changed the score variables. Encourage them to ask other students what they are using for their negative scores and to share their projects with others.

Remember:

- a) Students will need to know how to copy and paste the code in the second part of the directions. Circulate to help them if they are having trouble; have them push and hold the Control button before they push C or V.
- b) If students have been gone or are new to the class, they can remix "CIC On-Ramp 3.6" and will be caught up on code from previous lessons.
- c) Once students are done, they should pair up with other game designers to test each other's games and give feedback for improvement.
- d) Remind students to debug their code if it is not working.

Give out Space Bucks for independence, communication and creativity.

Reflect/Connect (5 min)

Don't Forget: N/A

Mini-lesson:

Gather the students to reflect on their designs and share how the day's work went.

Ask your students the following question:

What were some things you noticed about the game that could make it too difficult or too easy based on the score?

If time allows, have students continue to test and review other students' games.
Give Space Bucks for good communication skills.

Models:

Game Study 2 Sheet

GAME STUDY 2

HOW TO LOG INTO YOUR GAME

- 1** Sign into Scratch

- 2** Search for "CIC Game Study 2" and push enter

- 3** Click on "CIC Game Study 2"

- 4** Click on the "Remix" button

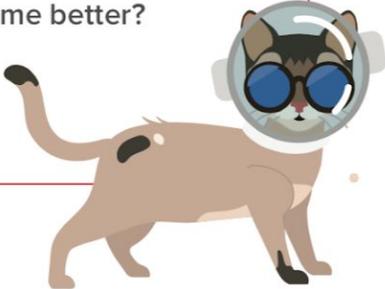
- 5** Click the green flag  to start your game!
- 6** Follow the game's directions

QUESTIONS

Was the game too easy?
Too difficult? Just right?

How did you win? Can you lose?
Can you gain points?

Why do we need enemies in our games?
How do they make the game better?





Ups and Downs Guide

UPS AND DOWNS GUIDE

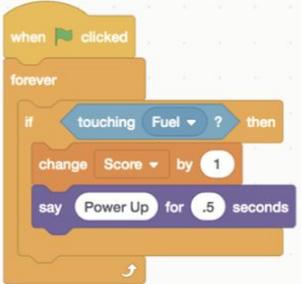
1 Load your saved project



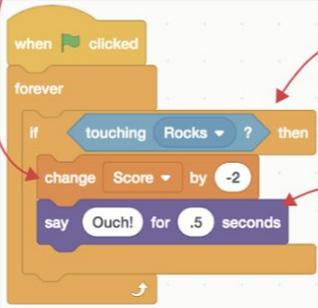
2 Click on the Rocket Ship Sprite



3 Copy this code to build the negative score code



4 Change the score block to negative points

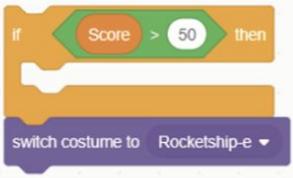
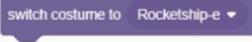
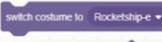


Change "if touching block" to Rocks

Change "say block" to Ouch!

ADD THE CODE BELOW TO MAKE YOUR ROCKETS FIRE!

5

IN	FIND	CHANGE	BUILD
Control 			
Variables 			
Looks 			
Operators 			

UPS AND DOWNS GUIDE

- 6 Move this block of code into your new code.

```
when clicked clicked
forever
  set rotation style left-right
  next costume
  wait .02 seconds
if Score > 3 then
  switch costume to Rocketship-e
```

- 7 Move that whole block into the "Forever" block

```
when clicked clicked
forever
  if Score > 3 then
    set rotation style left-right
    next costume
    wait .02 seconds
    switch costume to Rocketship-e
```

- 8 Set your Score! This changes the score the player needs to get to make the rockets fire!

```
when clicked clicked
forever
  if Score > 3 then
    set rotation style left-right
    next costume
    wait .02 seconds
    switch costume to Rocketship-e
```

- 9 Click the green flag to try out your game!

