

EasyCode Sample Lessons: Grades 3-8

Let's Get Started: Challenges 0 – 5

This lesson introduces students to the fascinating world of computers and to the EasyCode platform. Some of your students may be familiar with the terms “coding” and “programming” and feel comfortable working with computers. For others, learning to code may be an intimidating experience. As educators, our goal is to help students learn and explore a variety of subjects, including computer science. We want to create an environment where students can learn from their mistakes and build their foundational knowledge to create something new. (Estimated time: 45 minutes)



Primary Objectives

- Students can define coding and computer programming.
- Students become familiar with the EasyCode platform.
- Students complete challenges 0 - 5 on the EasyCode platform.

Warm Up (8 Minutes)

Discussion - 2 minutes

Discuss the following with your students:

- How many of you have ever used a computer?
- Have you ever created something on a computer, like a presentation, a drawing, or maybe even a game?
- Let two or three students tell the class what they created.

Explain - 1 minute

In order for all of our favorite applications and games to work on a computer, we have to give instructions to the computer. Computers can't think for themselves, they do whatever we tell them to do. Giving instructions to the computer is called computer programming or coding.

Warm-up Activity - 3 minutes

Play a short game with your students to illustrate instructions. Place an object somewhere visible in the classroom. Ask your students to give you instructions to guide you from where you are standing in class to the object.

What instructions did the students use, e.g., step, turn right, turn left?

Discussion - 2 minutes

Do computers speak the same language as humans?

Computers have their own languages; they can't understand human language as we understand it. HTML, JavaScript, and Python are just a few of the languages computers speak. Each language is different, but they all have something in common: they require a certain way of thinking, clear instructions, and structure. Basically, learning a coding language is just like learning a new language.

Activity (25 minutes)

Accessing EasyCode for the first time - 3 minutes

Today you will start learning basic coding principles through a game called EasyCode. The language we will learn is called CoffeeScript.

Help the students get in to the assignment:

1. Log in to Learning.com.
2. Go to the Let's Get Started assignment.
3. Click the EasyCode button.

Walk-through - 12 minutes

Click the EasyCode button to go to your EasyCode account.

Walk your students through the basic appearance of EasyCode:

Game Overview

1. Click on the "play now" button on the homepage.
2. Watch the short introduction animation.
3. Read the instructions out loud.
4. EasyCode is built of levels called challenges. This is what a challenge looks like.
5. The editor on the right is where you'll write your code. You can also use the buttons at the bottom for easy access.
6. On the left is the stage, this is where you'll see your code come to life. Your goal is to complete every challenge by helping the monkey catch the banana.
7. The monkey on the lower left corner is Gordo, he will give you instructions and sometimes even hints if you're stuck. At any time, you can click on Gordo to see the instructions again.



Challenges and Stars

1. In every challenge, you will execute the code by clicking on the "run" button to see what the starting code will do.
2. The code on the right says step 15, so when we'll click on "run" the monkey will step 15 steps forward.
3. Click on run.
4. We completed the first challenge. After every completed challenge, you'll get a star score rating your solution. 3 stars is the highest score and is rewarded for catching all the bananas, implementing new learned topics, and writing short code. If you get less than 3 stars, a hint will help you get them all. You can try to solve a challenge as many times as you want, it will not affect your stars score!
5. Click on replay to see your solution again.
6. Edit the solution to change it from step 15 to step 5 step 10.
7. Click run again to execute your solution again. Show the students that this solution only got 2 stars, and draw their attention to the hint that tells them how to get the 3rd star.
8. Click replay again, fix the solution to get 3 stars, and execute it again by clicking run.

Tips for the Challenges

1. Let's move on to the next challenge, click on next challenge.
2. Read the instructions out loud.
3. The code on the right says: step 10. Let's click on run and see what happens.
4. The monkey didn't walk far enough, and the hint told us to try: step 15. Let's change the number 10 to 15, and click run again.
5. It's always a good idea to use the code that was there. Before we try to change the code, click run to see what happens, read the hint, and then try to solve. It doesn't matter that you ran code that doesn't solve the challenge. Besides, the code is there as a starting point, so don't delete it.
6. Another good strategy for when you're stuck is to start again from the beginning. You can reset your code by clicking on the reset button.
7. Click the replay button, and then click the reset button to show your students how to reset the code to what it was in the beginning.
8. Solve the challenge again by editing the code and clicking run to execute the solution.
9. Show your users how to go back to challenge 0 by clicking on the map (top right corner) and clicking on challenge 0. Note that unlike you as a teacher, your students will not be able to skip forward beyond the first challenge that they have not solved yet.
10. Open challenge #2 and show the ruler animation. Follow the instructions to measure the distance between the monkey and the banana, and then use that distance to fix the code. Make sure your students understand how to use the ruler.

Play Time - 10 minutes

All students should complete challenges 0 to 5 with at least two stars. Use the teacher dashboard to keep track of students' achievements. To get to a group dashboard, click the 3-bar menu icon to the left of the map in the upper right corner of the screen and choose Groups. Then, click on the group name in the list of groups to see the group dashboard.

If students are having trouble confusing right and left, draw their attention to the watch on the monkey's left wrist. Tell them that turning in that direction is left.



Wrap-up (8 minutes)

Discussion - 5 minutes

Ask the students the following questions:

- What instructions did you learn today?
- What did you like most about EasyCode?
- Besides instructions, what else did you learn today?
- How do you get 3 stars in a EasyCode challenge? Does it matter how many times I tried to solve the challenge? Explain that in programming, the best solutions often start as less than the best solutions that the programmer continues to try to improve.
- What do you do when you are stuck? (the following two questions are related)
 - In a challenge, how do you display the instructions again?
 - In a challenge, how do you reset the code to what it was in the beginning?

Review - 3 minutes

Open challenge 6 and have the class solve it with you as a group. They will solve it by themselves in the next lesson.

Extension Assignment (20 minutes)

Assignment

Have the students choose another location at their school such as the cafeteria, gym, library, computer lab, office, etc. Tell the students they will create instructions using the code they learned today to tell another student how to get from the classroom to another location in the school. They can only use the code they used today in the challenges. Then, they will give the instructions to a fellow student to test their code.

Show an example of such a sequence on the whiteboard as a model.

Part 1

1. Click the button below to go to EasyCode and complete challenges 0 to 5.
2. Try to get 3 stars on challenges 0 to 5 if you have not already.

Part 2

1. Choose somewhere other than your classroom in your school (gym, library, cafeteria, etc.).
2. In the space below and using only code you used today, create directions from your classroom to the other place.
 - Start by leaving blanks for the number of steps.
 - When instructed by your teacher, figure out exactly how many steps you need and add them to your directions.
 - Save your directions.
3. Turn in your assignment.