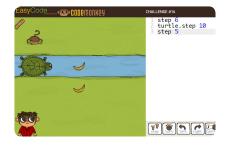# EasyCode Sample Lessons: Grades 3-8

## I Have a Plan: Challenges 11 - 15

This lesson revolves around planning. Everything we do in the physical world has to be planned, even if we sometimes do things automatically. We can cross the road without checking if it's clear, but that may result in a very dangerous outcome. Computers are the same. If we want to create a game or a program, we have to plan ahead and organize our instructions in the correct order.

*(Estimated Time: 45 minutes)*



### Primary Objectives

- Students will review what they learned in the previous lesson.
- Students will discuss the concept of planning and its importance in coding.
- Students will understand the importance of accuracy when providing instructions.

## Warm Up (20 minutes)

### Discussion - 2 minutes

From the previous lesson's objectives, review the first two ways to turn. Ask for two volunteers and instruct each of them to explain and demonstrate one of the ways to turn that were learned in the previous lesson:

- Direction (e.g. turn right, turn left)
- Degree (e.g. turn 45, turn 30, turn 180)

Write the responses, with the examples, on the board as a reference for all students.

### Explain - 3 minutes

Introduce the third way to turn: by using turnTo. When using turnTo the computer identifies that there is another object present, besides our beloved monkey. When its name is called, it knows which way to turn.

### Warm-up Activity 1 (Whole Group) - 5 minutes

To check for understanding of turn to, play a short game similar to Simon Says. Give instructions to your students to "turn to" a specific place or a specific student. They should only turn when you say "turn to" and not when you say "turn".

### Warm-up Activity 2 (Small Group) - 5 minutes

In this lesson, students will learn about the importance of planning. Have students work in small groups to answer the prompt, "What do you do in the morning to get ready for school?"

Have students use a bubble map to brainstorm answers to the question. The main center bubble would contain the question. Once they have brainstormed, have students work together to create an ordered list of what they do in the morning to get ready for school.

## Discussion - 5 minutes

Ask students to think about why they placed the items in that order and as a whole discuss the reasons.

It is necessary for students understand the importance of planning. We plan our day and the order in which we do things. Sometimes, we do this without thinking and sometimes we plan every step.

Explain to your students that when we write code, we have to consider that computers read the code from TOP to BOTTOM, and we have to think ahead about the order of instructions. When we have just one object, this isn't a big problem (in our case, the monkey is the object). But what happens when we want to control another object? How do we know who should be instructed to go first?

In this lesson's challenges, your students will meet our trusty turtle and will have to use his help to get more bananas. In order to do so, they will have to think ahead and plan how to write the code.

## Activity (15 minutes)

### Access EasyCode - 1 minute

Ask the students to:

1. Log in to Learning.com.
2. Go to the I Have a Plan assignment.
3. Click the EasyCode button.

If a student is having trouble remembering his or her login information, use your **Learning.com** roster or provide students with log in cards.

### Walk-through - 6 minutes

Click the EasyCode button to go to your EasyCode account.

Open challenge #12 and show the animation. It explains how to use objects on the screen. After the animation, walk your students through the following steps:

1. Hover over the bridge and show that the word bridge appears on the screen.
2. The name of that object is bridge.
3. Highlight the word banana in the editor.
4. Click on the bridge and show how the word banana is replaced by the word bridge.
5. Move the cursor by clicking on row 3 after the word turnTo.
6. Click the banana and show how the word banana is entered into the code.
7. Move the cursor to line 4 and write step 10.
8. Run the solution.
9. Click replay to go back to your solution.
10. Delete all the code to start from blank.
11. Now you will demonstrate how to use even more clicking instead of typing.
12. Hover over the block *step* at the bottom of the editor, show how a description shows up.

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13. Show the descriptions that show up when hovering over every block.

14. By clicking step, turnTo, bridge, and banana, reach the following solution: turnTo bridge, step 10, turnTo banana, step 10

15. Make sure you have only used the keyboard for typing the number and jumping to the next line.

16. Make sure your students understand how to use clicking and hovering for object on the stage (banana, bridge) and for blocks at bottom (turnTo, step).

### Play Time - 8 minutes

All students should complete challenges 11-15 with at least two stars. Use the teacher dashboard to keep track of students' achievements.

## Wrap-up (5 minutes)

### Discussion - 4 minutes

Open level 14 and ask your students: "How did you plan what to write in your code?"

Make sure to lead them to the correct answer, explaining the right train of thought needed when planning the code. We should first think about what steps should be taken to achieve our goal (in this case, get the banana), and then break the steps into separate statements, while deciding what should come first (should the turtle or monkey go first?). If we tell the monkey to move before the turtle is in the right place, he is going to fall in the water, and monkeys don't like water.

### Review - 1 minute

Use this opportunity to remind your students that a program is a set of instructions, or simple tasks provided to a computer. These instructions are called statements. Statements can be anything from a single line of code to a complex mathematical equation.

## Assignment (5 minutes)

After completing challenges 11 to 15, have the students reflect on what they have learned in the response area of the assignment and turn it in.

### Part 1

1. Click the button below to goto to EasyCode and complete challenges 11 to 15.
2. Try to get 3 stars on challenges 11 to 15 if you have not already.
3. If you have extra time, complete as many of the skill challenges as you can from the Skill Mode tab, trying to get 3 stars on each.

### Part 2

After completing challenges 11 to 15, reflect on what you have learned. Use the space below to write a paragraph explaining the importance of and the process to follow when planning the code.