CodeMonkey
LESSON PLANS

Beaver Achiever

Chapter 3

if/else Conditions

2345 Yale St., 1st floor
Palo Alto, CA 94306
info@codemonkey.com
www.codemonkey.com

Welcome back to Beaver Achiever! In this course your students will use block-based coding to help the beaver serve smoothies to different characters based on their preferences. They will also help the Beaver prepare drinks in a factory based on the fruits.
They will learn about conditional statements that can decide whether or not to execute code based on whether a certain condition is true.
Following this chapter, your students will complement their fundamental algorithmic knowledge with conditional execution.
At the end of the course, you can assign a quiz that includes 5 challenges to test your students' knowledge.

To learn how to set up a class, please read A Beginner's Guide to CodeMonkey. The guide can also be found in the Teacher's Resources Menu on your homepage.
Please email us at info@codemonkey.com for any questions you may have along the way.

Have fun!
The CodeMonkey Team

CODEMONKEY
LESSON PLANS

Table of Contents

Lesson 1 – Introduction & Warm-up Challenges

In this lesson you and your students are introduced to the smoothies stand. You will help the Beaver prepare and serve smoothies to its friends.

This lesson will introduce new game scenery and new blocks.

To remind your students how to log in and the game mechanism, please go to lesson 2 on chapter 1 - Sequencing & Loops.

Objectives

In this lesson, students will:

- Learn new blocks - When customer arrives, add, blend & serve
- Understand the meaning of the event - when customer arrives
- Complete challenges 1-6

U.S. Standards Addressed

CSTA-K12 Computer Science Standards	
★ 1A-NI-04	★ 1B-AP-08
★ 1A-AP-08	★ 1B-AP-10
★ 1A-AP-10	★ 1B-AP-11
★ 1A-AP-11	★ 1B-AP-13
★ 1A-AP-12	★ 1B-AP-15
★ 1A-AP-14	★ 1B-AP-16
★ 1A-AP-15	★ 1B-AP-17
★ 1A-IC-18	

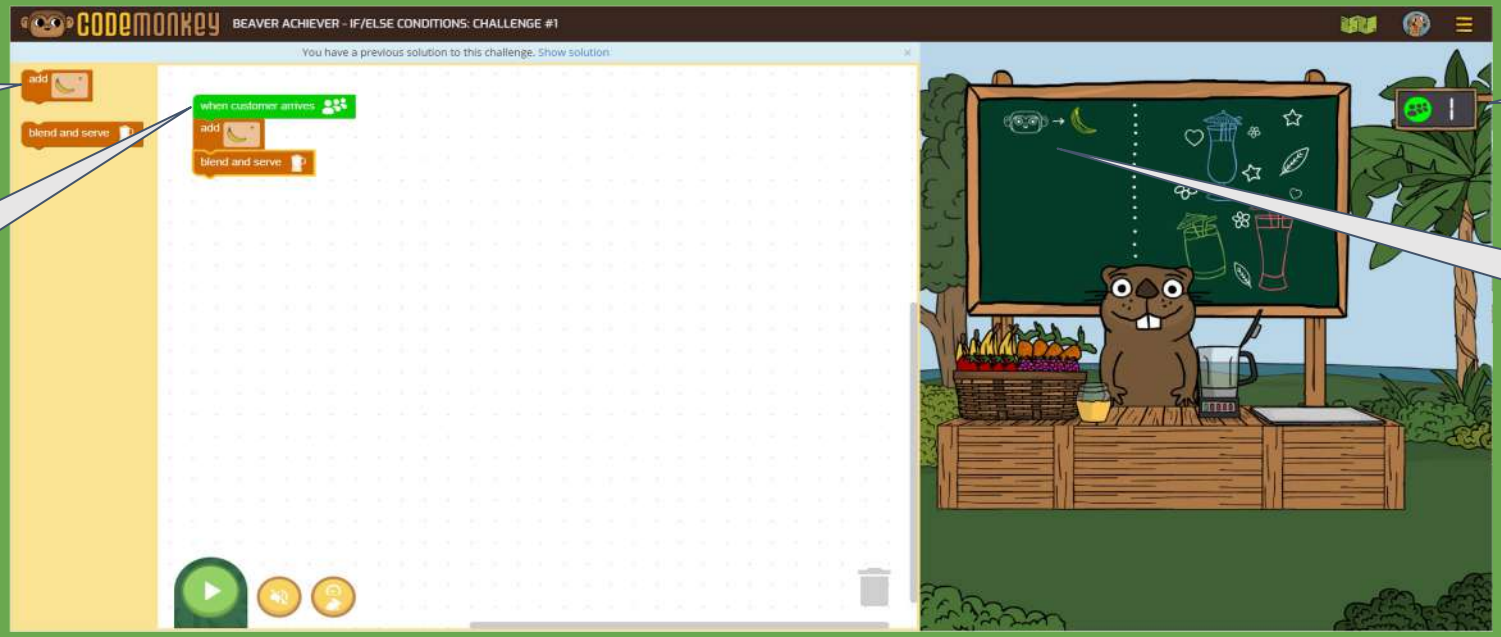
Part 1: 10 Minutes

Introduction

Walk through	**10 mins.**

Open challenge #1 - Present the new scene and describe what is the theme of the challenges in the first part of this chapter - helping the beaver preparing smoothies based on customers' preferences and serving smoothies.
Challenge #1 is a guided challenge that introduces the new blocks, with a simple programming challenge - serving a single customer.
As the chapter progress, the challenges will advance.
See the image below for detailed explanations.

new blocks:
<add>
<blend and serve>



Number of expected customers

Customer's smoothie preference

When clicking on play, the Beaver will wait for a customer to arrive and only when a customer arrives, the Beaver will prepare the smoothie

Part 2: 30 Minutes

Playtime

Log-in	**3 mins.**
Go to app.codemonkey.com. Instruct your class on how to log in to their CodeMonkey accounts. If your students use usernames and passwords to login, make sure they store their usernames and passwords where they can easily access them in the future. Optional: hand out user log-in cards. If a student forgets their password, you can reset it by visiting the classroom dashboard, locating the student's username, and clicking on the edit button which will appear if you hover over the username.	
Guided Playtime	**12 mins.**
All students should complete challenges 1-3 with three stars. Solving these challenges, they will learn how to use the new mechanism of this chapter. Challenge #1 is the guided challenges you presented to the class. Challenge #2 - a different friend is arriving at the smoothies stand - point out to the students that the chalkboard is different and the add block already has the carrot selected. Challenge #3 - this time the Beaver's customer is a bear who likes smoothies with two ingredients: strawberries and honey. Ask the students how can they add two ingredients to a single smoothie.	

Part 2: 30 Minutes

Playtime cont.

Guided Playtime	10 mins.

challenge #4 - This challenge should look familiar; Ask the students which challenge it reminds them, what is the difference?
The students should pay attention to the number of customers on the top right of the screen, this time we are expecting 3 monkeys.
Let students code their solutions, how can the Beaver serve 3 customers?

Ask the students to suggest a solution – we are expecting many students to code the program presented on the right.
Before pressing play ask the students what they expect to happen when the first monkey arrives?

Known erred solution

Part 2: 30 Minutes

Playtime cont.

This is the point to discuss the <when customer arrives> block which is unique to this chapter.
This block is an event - Events in programming are the triggers for making action happen, like the <when play> in previous chapters.
Events are represented by the green blocks. In the scope of this chapter, we will use two different events <when customer arrives> and <when fruit arrives>.

The event <when customer arrives> detects when a single customer arrives, the blocks connected to the event block will run each time a customer arrives.
The entire program will end when there are no more customers (the number of customer will reach zero).

Playtime	5 **mins.**
Ask the students to complete challenges 5-6.	

Part 3: 5 Minutes

Debriefing

Summary	**5 mins.**

Today, we introduced an important term - **event**

1. Ask the students to share what they already know about events from their everyday experiences? for example, when the phone rings, when the school bell rings, when the bus arrives, etc.
2. Can you explain what “events” mean in programming?
3. What does an event mean to the computer? until when the computer waits for event to happen?

Lesson 2 – Are You a Monkey or a Bear?

In this lesson your students will help the Beaver serve different customers coming to the smoothies stand. The monkey who wants a banana smoothie, the bear who likes strawberry with honey smoothie, and many more. How can the Beaver make the correct smoothie to each character based on their preferences?

Today we will learn about the important concept of conditionals (if) that will help the Beaver prepare the right smoothie to each character.

Objectives

In this lesson, students will:

- Learn about conditionals and use them in their code
- Complete challenges 7-10

U.S. Standards Addressed

CSTA-K12 Computer Science Standards	
★ 1A-NI-04	★ 1B-AP-08
★ 1A-AP-08	★ 1B-AP-10
★ 1A-AP-10	★ 1B-AP-11
★ 1A-AP-11	★ 1B-AP-13
★ 1A-AP-12	★ 1B-AP-15
★ 1A-AP-14	★ 1B-AP-16
★ 1A-AP-15	★ 1B-AP-17
★ 1A-IC-18	

Part 1: 15 Minutes

Introduction

Game	**8 mins.**

The game: **Teacher Says** is very similar game to Simon Says. We will play this fun and active game to illustrate conditionals.
Explain the rules:

1. The teacher gives a command to the class
    a. **If** a command is starting a with “The Teacher says” means that the players must obey that command.
    b. Commands without the beginning “Simon says” means do not do this action.

Anyone who breaks one of these two rules is eliminated from the remainder of the game.
The winner is the last student to be playing.

Discussion	**7 min**

Ask the students if they have any idea how this game is connected to programming and the smoothie stand?
What was the game about?
The main element of the game was deciding when to obey the command and when they must ignore – it is about decision making.

Sometimes we want to write a code that decides what to do based on a certain condition.
We already know what to do when we have more than one customer, but all our customers wanted the same smoothie.
What if we have two customers that want different smoothies - a monkey and a bear?
Today we will learn a new fundamental coding structure that will help us deal such cases.

Part 1

For the Teacher

Conditional execution - if

As humans we understand conditional and control statements even implicitly.
But in programming we must define very specific instructions so that the computer can perform the task.

We spoke about conditional statements in loops - which control when to stop the loop execution (when the condition is true or false, depends on the type of loop).

In general, conditions allow us to perform different actions, depending on the condition being true or false.

Conditional statement - if - is a programming structure that controls the flow of the program - only if a certain condition is met the program will execute a certain sequence of code.

How does it work in Beaver Achiever?
For example, if the customer is a monkey, then prepare and serve a banana smoothie.

If the condition check is true, then the code inside the block is executed.
It is important to emphasize that if the condition is false, then the blocks within the if are not executed at all.

Whether true or false, the code can continue after the if statement with more instructions.

The if-block is pink, and the conditional statement is selected from the drop-down list.

Part 2: 25 Minutes

Playtime

Explanation & walk through	5 mins.

Open challenge #7 - This time the Beaver needs to serve 2 different characters - monkey and rabbit.
Ask the students to describe the complexity the Beaver is facing in this challenge.
Ask a volunteer to describe the instructions he would give to the Beaver in a free language (not coding) - is it somewhat like the Teacher Say game?

- When a customer arrives, what does the Beaver need to do?
- Check who is the customer
  - if it is a monkey - serve banana smoothie
  - if it is a rabbit - serve a carrot smoothie

- Ask the students how many if blocks they need to complete challenge #7
- Present the solution on the right and ask the students to describe what will happen when a monkey arrives? what will happen when a rabbit arrives?

Part 2: 25 Minutes

Playtime cont.

Playtime	**20 mins.**
All students should complete challenges 7-10 with three stars. Use the classroom dashboard to keep track of students' achievements. Use the time to walk around the class and help students who are struggling.	

Part 3: 5 Minutes

Debriefing

Summary	5 mins.

Ask students to come up with a situation in real life where they use conditions:

- Conditions are everywhere even if we do not explicitly notice
- For example, if there is snow tomorrow, we will not have school
- A condition can either be true or false, but never both

Ask the students how can they instruct the Beaver when we know that only two characters are expected to arrive?

- if it is a monkey… do something
- if it is a rabbit… do something else

OR

- if it is a monkey… do something, otherwise… do something else

Lesson 3 – Make the Right Decision

In this lesson we are introduced to the power couple - if-else.

In this lesson your students will continue to use if statements and learn another conditional called if-else.

Objectives

In this lesson, students will:

- Practice using if statements
- Use if-else statements
- Complete challenges 11-15

U.S. Standards Addressed

CSTA-K12 Computer Science Standards	
★ 1A-NI-04	★ 1B-AP-08
★ 1A-AP-08	★ 1B-AP-10
★ 1A-AP-10	★ 1B-AP-11
★ 1A-AP-11	★ 1B-AP-13
★ 1A-AP-12	★ 1B-AP-15
★ 1A-AP-14	★ 1B-AP-16
★ 1A-AP-15	★ 1B-AP-17
★ 1A-IC-18	

Part 1: 20 Minutes

Introduction

Activity	**5 mins.**
Split the class into two groups and arrange each group to seat in a separate side of the class. Each group will receive an instruction card - Group 1 - If you have a pet raise you right hand Group 2 - If you have a pet raise your right hand otherwise raise your left hand Ask the groups to keep quiet, tell them to look at their card and follow the instruction without speaking.	
Discussion	**3 mins.**
Tell the students that both groups were asked the same question: if they have a pet. Ask them if they can tell what is the difference in the outcome? • In group 1 students that do not own a pet did not have to follow any instruction • In group 2 students that do not own a pet had to raise their left hand	

Part 1: 20 Minutes

Introduction cont.

Explanation	**7 mins.**

An if statement guides the computer what to do when a certain condition is true.

When we use an if-else statement, we are telling the computer what to do in case the condition is true (within the “if”), and what to do in case the condition is false (within the “else”).

We are telling the computer what to do in both cases, and it will decide what to do while the code is executed.

Important:

- If statement always holds the conditional statement
- If statement can be a stand-alone statement (without else) or with else
- Else statement can not be a stand-alone statement and will have a single if it refers to
- Else statement does not have a conditional statement, it refers to the false case of the if statement

Today we will learn how to instruct the computer to decide what to do when the condition is true and when it is false.

Part 1: 20 Minutes

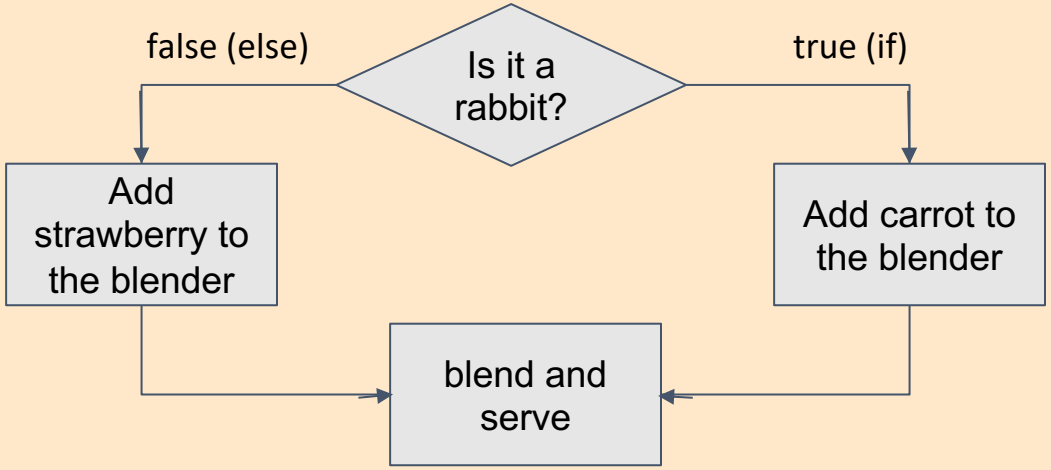
Introduction cont.

Explanation & walk through	**5 mins.**

Open challenge #11 - and solve it together with the class.

We recommend analyzing the solution bottom up - this will be a good example for how to approach complex problems that require division into simpler or known sub-problems, this is a common practice in programming and computer science.

Let's analyze the situation - the Beaver is expecting two type of customers - rabbit and raccoon. The only difference is the fruit to blend, after adding the fruit both cases continue to blend and serve.
Let's draw a diagram:



Part 2: 20 Minutes

Playtime

Playtime	**8 mins.**
Ask the students to complete challenges 11-13 with three stars.	
Guided Playtime	**7 mins.**
Open challenge #14 - we have 3 characters coming today - one of them likes bananas and the two others likes strawberry. Try to complete the sentence: If the customer is a _____ add _____ otherwise add _____. When we define the conditional statement correctly, we will solve the problem in a more efficient and readable code.	
Playtime	**5 mins.**
Ask the students to complete challenges 14-15 with three stars.	

Part 3: 5 Minutes

Debriefing

Summary	5 mins.

Ask your students to think of different scenarios from their life where they have to follow conditional instructions, like if they had to choose between two items/activities/actions, for example:

- if the sun is shining go out to play otherwise clean up your room
- if you have homework complete them now

Pay attention that some scenarios can fit into an if statement, and some should be in an if-else statement.

Lesson 4 – It is Either This or That

Selling smoothies is not a simple task. In this lesson the students will learn how to use nested conditions. They will use nested if and if/else blocks to choose the correct fruit to serve to each customer based on their preferences.

Objectives

In this lesson, students will:

- Practice using if statements
- Use if-else and nested if statements
- Complete challenges 16-20

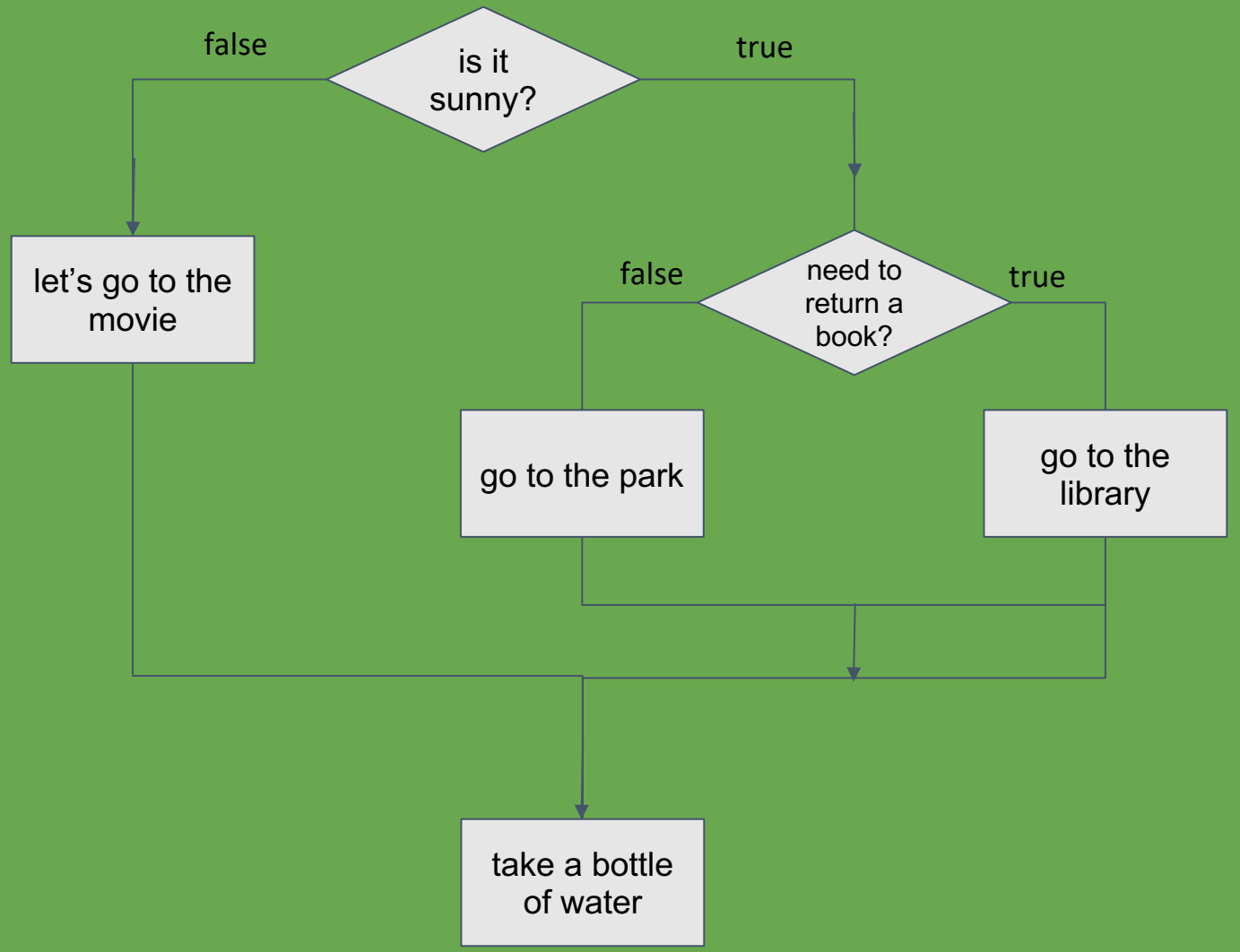
U.S. Standards Addressed

CSTA-K12 Computer Science Standards	
★ 1A-NI-04	★ 1B-AP-08
★ 1A-AP-08	★ 1B-AP-10
★ 1A-AP-10	★ 1B-AP-11
★ 1A-AP-11	★ 1B-AP-13
★ 1A-AP-12	★ 1B-AP-15
★ 1A-AP-14	★ 1B-AP-16
★ 1A-AP-15	★ 1B-AP-17
★ 1A-IC-18	

Part 1: 10 Minutes

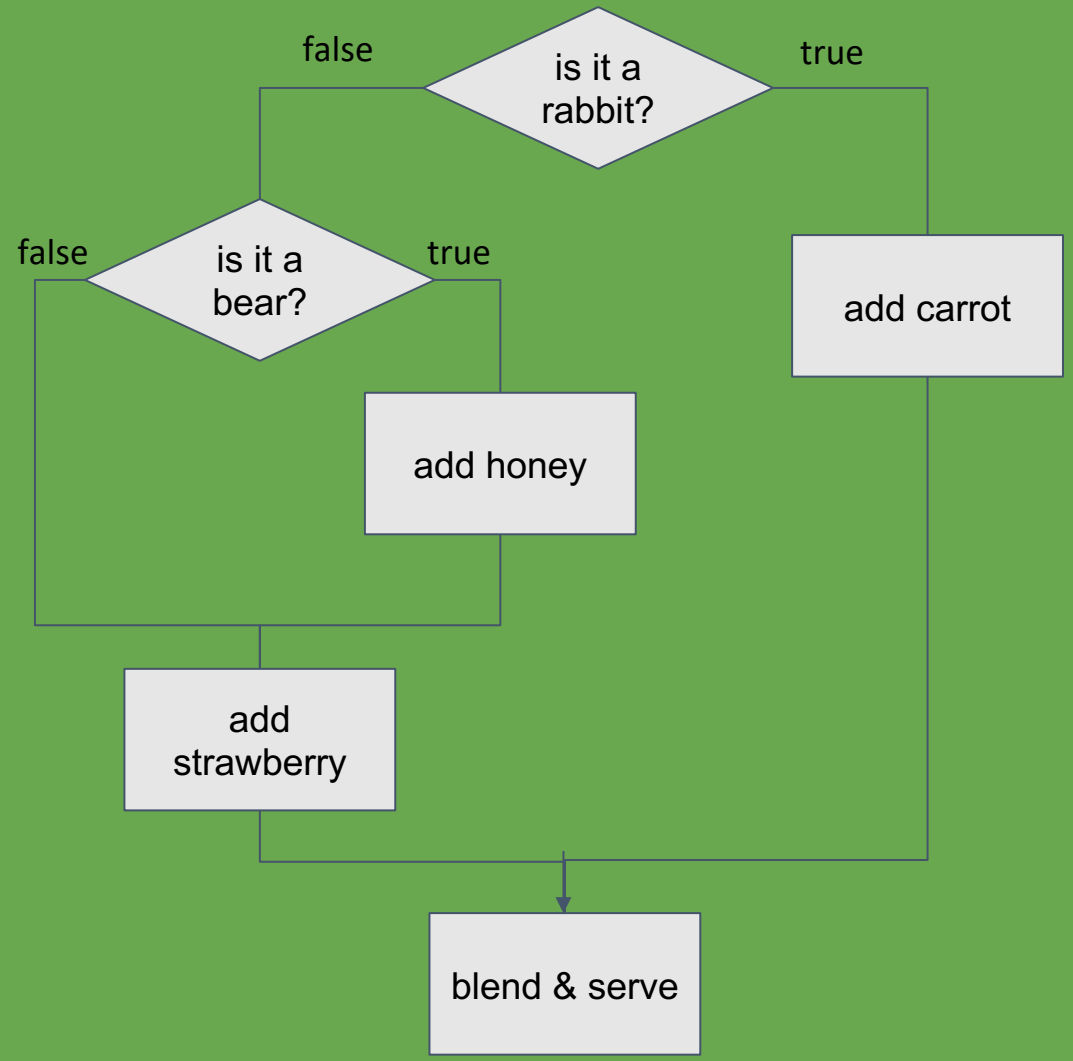
Introduction

Explanation	**10 mins.**
Sometimes we need to make complex decision, when one decision brings with it additional decisions to make. Take a look at the diagram on the right, and answer? 1. In which case do you need to take a bottle of water? 2. You went to the park - what does it mean? 3. It is not sunny, where would you go?	
Nested if means that both the if and the else can include additional if/if-else	
Open challenge #19 - ask the students to draw a flowchart that will solve the challenge (see next slide).	



Part 1: 10 Minutes

Introduction cont.



Part 2: 30 Minutes
Playtime

Walk through	**10 mins.**
Open challenge #16 - this is a recap of the previous lesson, but there is a restriction - the students can only use if/else block. Ask the students if they think this is a good solution. if they say yes, go directly to challenge #17, otherwise - ask how to improve the solution.	
Open challenge #17 - this is the same challenge as the previous one, however, the if block can be used - what will be the solution?	
As programmers we have a lot of coding structures and tools available for us – it is our responsibility to analyze the problem and write the most efficient/readable solution.	
Playtime	**5 mins.**
Ask students to complete challenges 16-18	

Part 2: 30 Minutes

Playtime cont.

Playtime	**15 mins.**
All students should complete challenges 19-20 with three stars. Use the classroom dashboard to keep track of students' achievements. Use this time to walk around the class and help students who are struggling.	

Part 3: 5 Minutes

Debriefing

Summary	5 mins.
Computer programs use conditionals to select the correct flow of the code to solve the problem. When we solve a problem that require multiple decisions and selection one of many paths, the program uses nested conditionals. For novice programmers, drawing flowcharts is a great tool to analyze the problem and the solution, encourage students to use it before going directly into programming.	

Lesson 5 – Let's Build a Factory

Welcome to the second part of this chapter, which is taking place in a smoothie factory.

The Beaver is managing the blending line-of-business - the Beaver collects the fruits arriving on the conveyor belt and splits them between the blenders according to the blenders' specifications.

This chapter will deepen the understanding and programming fluency with conditionals and will introduce Boolean logic.

Objectives

In this lesson, students will:

- Use if block with new conditional statements
- Use a new event - when a new fruit arrives
- Complete challenges 21-27

U.S. Standards Addressed

CSTA-K12 Computer Science Standards	
★ 1A-NI-04	★ 1B-AP-08
★ 1A-AP-08	★ 1B-AP-10
★ 1A-AP-10	★ 1B-AP-11
★ 1A-AP-11	★ 1B-AP-13
★ 1A-AP-12	★ 1B-AP-15
★ 1A-AP-14	★ 1B-AP-16
★ 1A-AP-15	★ 1B-AP-17
★ 1A-IC-18	

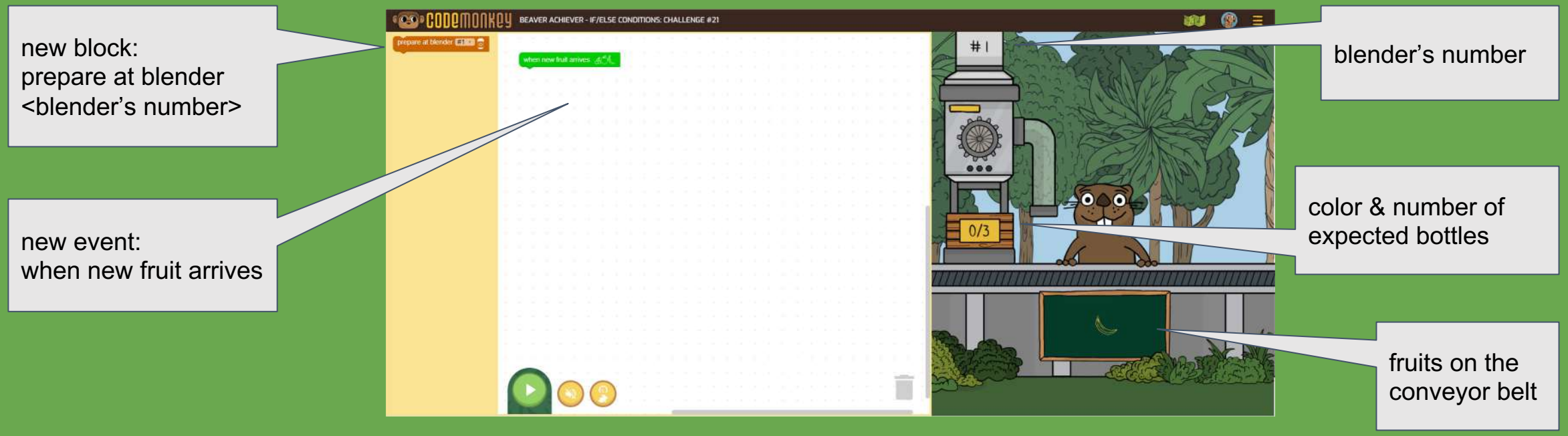
Part 1: 10 Minutes

Introduction

Walk through	10 mins.

Open challenge #21 - present the new scene and describe the challenges in this part of the course - help the Beaver manage the assembly line. This is a simple challenge - with a single fruit arriving on the conveyor belt. Discuss the new event, and the distribution of fruits to blenders based on color coding.

Open challenge #22 – it is getting complicated with two fruits arriving on the conveyor belt, but only bananas will need to go in the blender. Ask the students, how can the Beaver control the fruits going into the blender? This is where an if statement comes to the rescue.



Part 2: 25 Minutes

Playtime

Playtime	25 mins.

All students should complete challenges 21-27 with three stars.
These challenges are all based on programming skills they learned in lessons 1-4.
Ask the students what is the difference between challenges 24-25 and 26-27.

Ask the students what is the difference between if and if-else?

In challenges 24-25 we could not have used an if-else block. Ask your students why is that?
The reason is that there are five types of fruits in each challenge. If we would have used an if-else block, the if part would have worked correctly but all other fruits would have been added to the second blender, resulting in an error.

In challenges 26-27 there are three or four types of fruits, but only two colors. Different fruits of the same color can can go to the same blender.

Part 3: 10 Minutes

Debriefing

Walk through	10 mins.

Ask your students to solve challenge 27 with only if blocks. Then ask them to compare between the two solutions – using only if blocks vs. using an if-else block.
The two solutions are presented on the right.

Now, ask your students:

1. If we were to add raspberry to the fruits arriving on the conveyor, which solution needs to be modified?
2. What will happen if we were to add pear to the fruits arriving on the conveyor, will the if-else solution still work?

Answers:

1. The solution with the if blocks only. In the if-else solution, the raspberry will be added to blender #1 (since it is not an apple) and since raspberry is also a red fruit, it will not cause an error.
2. No, but in the next lesson we will see a cool solution for that as well.

Lesson 6 – Group by Color

In this lesson your students will learn a new fundamental topic in computer science - Boolean logic, how to use it and why it is important.

Boolean logic is a wide topic, in the sense of this course we will focus on the Boolean operator OR.

Objectives

In this lesson, students will:

- Get familiar with Boolean logic
- Understand how to use conditional operators (OR) in conditional statements
- Complete challenges 28-35

U.S. Standards Addressed

CSTA-K12 Computer Science Standards	
★ 1A-NI-04	★ 1B-AP-08
★ 1A-AP-08	★ 1B-AP-10
★ 1A-AP-10	★ 1B-AP-11
★ 1A-AP-11	★ 1B-AP-13
★ 1A-AP-12	★ 1B-AP-15
★ 1A-AP-14	★ 1B-AP-16
★ 1A-AP-15	★ 1B-AP-17
★ 1A-IC-18	

LESSON SIX

Part 1: 15 Minutes

Introduction

PREPARE IN ADVANCE:
Fruit color cards for the entire class, one card per students. Posters for groups A, B, C as described below

Game	**8 mins.**	
Give each student a card with one of the following: banana - yellow apple - green pineapple - yellow carrot - orange pear - green Ask students to split into 3 groups in accordance with the groups' definitions written on the broad.		
Group A: you can join group A if your color is orange	Group B: you can join group B if your color is yellow	Group C: you can join group C if your color is green

Part 1: 15 Minutes

Introduction cont.

Discussion & Explanation	**7 mins.**

Ask the students to characterize the groups by fruit type - to define groups B & C they will need to use the term OR

OR is a *logical operator*: We use it with a conditional statement (for example, if, while/until loops) made of two different conditions.
The entire conditional statement will be True when at least one of the conditions is true.

We can implement in the challenges similar conditions to the ones we wrote for the groups.

Part 1

For the Teacher

Boolean Logic

When designing programs, there are cases where a condition needs to be checked in order to make a decision. Sometimes you want to check more than one condition.
Boolean logic is a fundamental part of computer science where all values are either true or false.
Boolean logic uses Boolean expressions.
A Boolean expression is one that has a Boolean value. The Boolean value is either True or False.

Conditional statements (in loops and if) use Boolean expression. For example, if fruit is banana, if customer is bear - the Boolean expression is a statement that is based as a comparison - in our case between the fruit or the customer that arrives to the value we check.

Programs use simple conditional checks to help make decisions, for example, if fruit is banana, if customer is bear.
This simple conditional check is based on the Boolean operator – equals (or in our case, is).

But life is not that simple, sometimes we want to make smarter decisions, for example, if a fruit is a banana **OR** a pineapple.

Part 1

For the Teacher

Boolean Logic

This is where Boolean logic comes to play - where we use advanced conditional checks based on OR, AND, NOT to evaluate whether statements are TRUE or FALSE.
In the scope of this course, we will learn the **OR operator.**
OR considers two (or more) conditions. The result is True if either comparison is True.

In our game the Beaver need to check -

- if the fruit is banana **OR** fruit is pineapple
- if the fruit is apple **OR** fruit is pear

Let's look at an example from a card game like UNO™. In this game you have cards in 4 colors (red, blue, green, yellow) numbered 0-9. In the UNO™ game, if the card on the discard is a red 8, the player can check -

- if the card is red **OR** card is 8 then place it on the table

How can we check that at least one of the conditions is met?
Combining two conditions can be done by the OR operator
The operator OR will return:

- **True** if at least one of the values of the expressions (on either side of the operator) is true
- **False** otherwise

Part 1

For the Teacher

Boolean Logic

This table summarizes all the options of the OR operator:

Condition A Example: fruit is banana	Condition B Example: fruit is pineapple	Condition A OR Condition B Example: fruit is banana or pineapple
True	True	Ture
True	False	True
False	True	True
False	False	False

Part 2: 25 Minutes

Playtime

Playtime	**5 mins.**
Ask the students to complete challenges 28-29. These challenges are similar to the previous ones, however, there is one difference - grouping similar colored fruits into a single blender.	
Walk through	**5 mins.**
Open challenge #30 – introducing: OR. Ask the students to produce 2 different solutions for this challenge? What is the difference?	
3-star solution - using OR in a single if statement 	1-star solution - using two consecutive ifs – each one responsible for a different fruit 

Part 2: 25 Minutes

Playtime cont.

Playtime	**15 mins.**
All students should complete challenges 30-35 with three stars. Use the classroom dashboard to keep track of students' achievements. Use this time to walk around the class and help students who are struggling.	

Part 3: 5 Minutes

Debriefing

Summary	5 mins.

- Oftentimes in real life, we have to check multiple conditions before we perform an action.
- Ask the students for moments during the day where they use the OR condition
- For example:
  - To go to the pool, you need to have a membership or buy a one-time entrance ticket
  - For lunch I would like to have salad or pasta
  - I want to meet a friend; I will check if Alex or Daniel are available
- Why is the OR important?
  - We can formalize complex decision in a single conditional statement
  - Improve correctness of the code

Lesson 7 – The End is Near my Friend

This is the last lesson of Beaver achiever, but we are confident that you and your students will have more opportunities to code and program.

Meanwhile, in this lesson, we will dive again into nested if-else, this time with complex conditional statements that include the OR operator.

Objectives

In this lesson, students will:

- Practice boolean logic in nested conditions
- Complete challenges 36-40

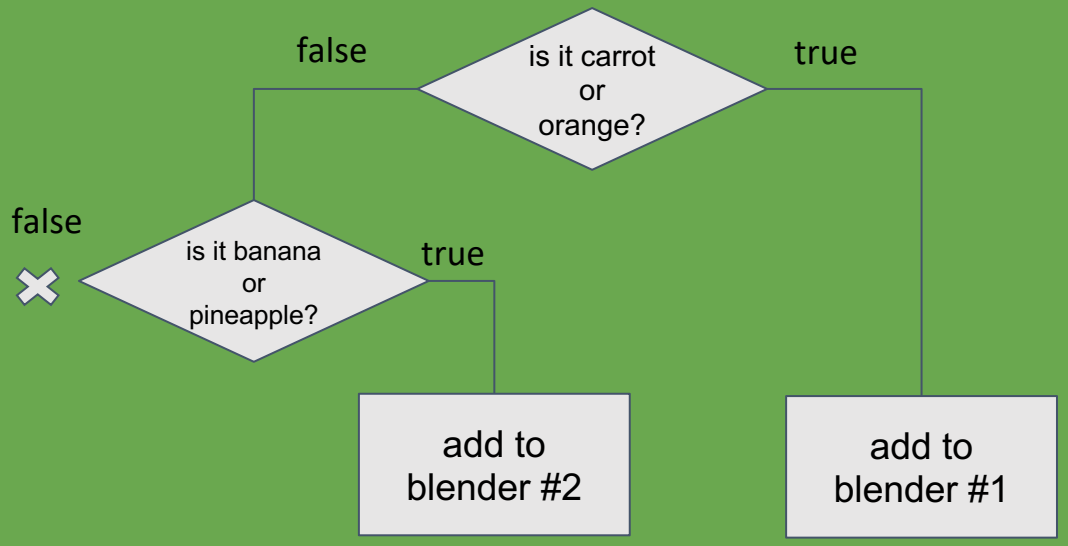
U.S. Standards Addressed

CSTA-K12 Computer Science Standards	
★ 1A-NI-04	★ 1B-AP-08
★ 1A-AP-08	★ 1B-AP-10
★ 1A-AP-10	★ 1B-AP-11
★ 1A-AP-11	★ 1B-AP-13
★ 1A-AP-12	★ 1B-AP-15
★ 1A-AP-14	★ 1B-AP-16
★ 1A-AP-15	★ 1B-AP-17
★ 1A-IC-18	

Part 1: 15 Minutes

Introduction

Recap	5 mins.
Present the image on the right (taken from challenge #36). Ask the students to draw a flowchart that describe the decision-making process.	
Which fruits are excluded from blending? Check the diagram to see they are not processed.	

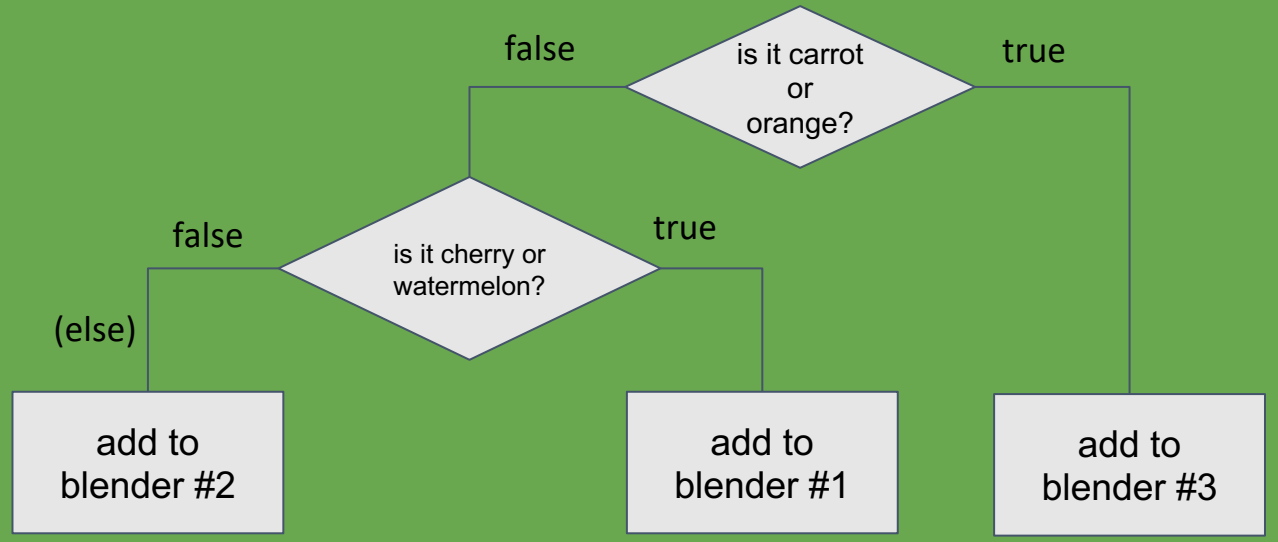


Part 1: 15 Minutes

Introduction cont.

Analyze	**10 mins.**

After discussing the decision-making process for challenge #36, present the image taken from challenge #39. In this challenge the Beaver has 3 blenders, and all the fruits will go into blending.
Ask the students how many if-block they need to solve challenge #39? Encourage them to use a flowchart to analyze - explain the power of else - which is a decision path that complements the if.
Emphasize the difference between challenge #36 & challenge #39 - both have 2 if blocks, however, the second if has an else which allow us to add additional process to the program.



Part 2: 25 Minutes

Playtime

Playtime	**25 mins.**
All students should complete challenges 36-40 with three stars. Use the classroom dashboard to keep track of students' achievements. Use this time to walk around the class and help students who are struggling.	

Part 3: 5 Minutes

Debriefing

Summary	5 mins.

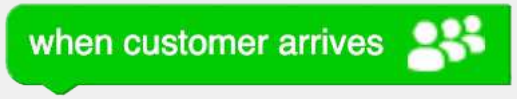
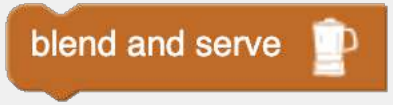
Congratulations! You have completed this course.

We encourage you to go back to challenge #20 and ask the students to write in their notebooks a solution that includes OR. What would be the difference between the original solution to the advanced one?

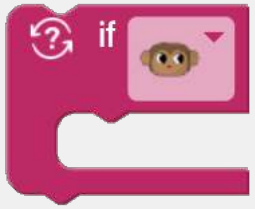
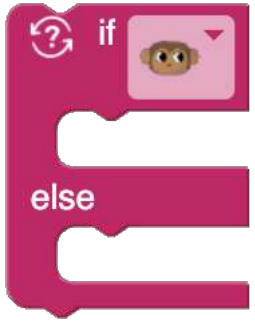
Quiz

Quiz	
Now that your students completed the course, you can assign a quiz for them to take. The quiz includes 5 challenges that will test their knowledge on: • If statements • If-Else statements • Nested if-else • Or You can assign quizzes to your class from the Quizzes tab on your teacher dashboard.	

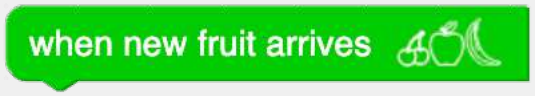
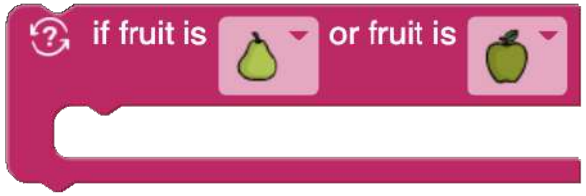
Reference Card

Block	Description
	When Customer Arrives - every time a new customer arrives the code starts executing from this block. If there are multiple customers in line, then the code will run multiple times.
	Add – makes the beaver add the ingredient chosen in the dropdown to the blender.
	Blend and Serve – makes the beaver blend all the ingredients in the blender and serve the smoothie. Should always be the last block in the program.

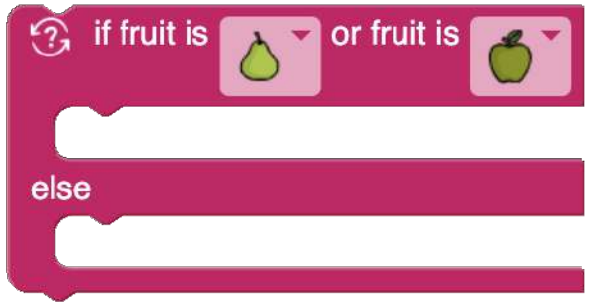
Reference Card

Block	Description
	If – makes the beaver execute the blocks placed inside the if-block when the conditional statement is true (the current customer is the character chosen in the dropdown).
	If-Else – makes the beaver execute the blocks placed inside the if-block when the conditional statement is true (the current customer is the character chosen in the dropdown). Otherwise execute the blocks placed in the else-block notch (when the conditional statement is false).

Reference Card

Block	Description
	When New Fruit Arrives - every time a new arrives the code starts executing from this block. If there are multiple fruits in line, then the code will run multiple times.
	Prepare at Blender – makes the beaver add the fruit that arrives to the blender chosen in the dropdown list (blender's number).
	If - makes the beaver execute the blocks placed inside the if-block when the conditional statement is true (the current fruit is the fruit chosen in the dropdown).
	If with OR - makes the beaver execute the blocks placed inside the if-block when the conditional statement is true (the current fruit is either one of the fruits chosen in the dropdown).

Reference Card

Block	Description
	IF-Else – makes the beaver execute the blocks placed inside the if-block when the conditional statement is true (the current fruit is the fruit chosen in the dropdown). Otherwise execute the blocks placed in the else-block notch (when the conditional statement is false).
	IF-Else – makes the beaver execute the blocks placed inside the if-block when the conditional statement is true (the current fruit is either one of the fruits chosen in the dropdown). Otherwise execute the blocks placed in the else-block notch (when the conditional statement is false).

Great Job!