Name _____ Date _____

ON ONE CONDITION...

Instructions for Educators

This worksheet contains four exercises that students can complete individually or in groups. The first three parts will be done on paper, and part 4 includes an online activity:

Part 1: Students fill in the blanks to create conditional statements from daily life.
Part 2: Students write conditional statements to reflect given scenarios.
Part 3: Given conditional statements and an input for the program, students run through the conditional and determine what action the program would take.
Part 4: Students complete an interactive activity on ***Code.org*** called Bee Conditionals. The activity uses code in the form of blocks. Students will drag blocks together to control the bee's actions. They'll return to the worksheet to flesh out one of the conditionals they created in the activity.

You can begin this sequence by reviewing vocabulary from the video and interactive lyrics as a class:

Conditionals:	statements that only run under certain conditions, or when certain criteria are met
Condition:	something that must be true in order for something to happen
Program:	a series of steps to complete a task that a computer can understand
Control Flow:	the order in which a program carries out instructions
Control Flow Statements:	code that directs the program to run in different ways depending on what else is happening
Coding:	the process of writing instructions for a computer in a language that it can understand
Syntax:	a set of rules for how a coding language is written
Pseudocode:	language that's more precise than English but less precise than a coding language that a computer can understand

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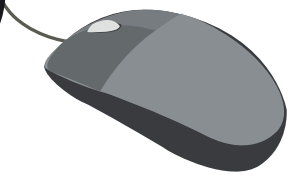
ON ONE CONDITION...

Student Worksheet



Part 1

We use the concept of conditionals in our daily lives! Complete each conditional statement below with an action the person should take if the condition is true and an action the person should take if it's false. The first one is done as an example:

If Sierra has soccer practice later, she should pack her gym clothes.

Else, she should leave her gym clothes at home.

A

If Angel wakes up and notices that it's raining, he should _____

_____

Else, _____

B

If Yuri has a test tomorrow, he should _____

_____

Else, _____

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Part 2

Read each scenario below, and write a conditional to represent how it works. Write it in English or in any form of pseudocode or real code that you want.

A

A restaurant has a machine to package food that customers order. It follows these instructions:

- **If the customer asked for ketchup, it puts five packets of ketchup in the bag and seals it.**
- **If the customer didn't ask for ketchup, it just seals the bag.**

Conditional: _____

_____

_____

Bonus

Rewrite your conditional to include an **else if** condition using the following information:

- **If the customer asked for extra ketchup, it puts 10 packets of ketchup in the bag and seals it.**

Conditional:

_____

_____

_____

_____

_____

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B

You're writing a program that will cause your phone to do different things depending who's calling you. The program will check to see who is calling and then decide what to do:

- **If your friend Drea is calling, automatically answer the call.**
- **If anyone else besides Drea is calling, play your voicemail message.**

Conditional: _____

_____

_____

Bonus

Rewrite your conditional to include an **else if** condition using the following information:

- **If your friend Drea is not calling, but your mom is calling, automatically send a text message that says, "Hi, mom."**

Conditional:

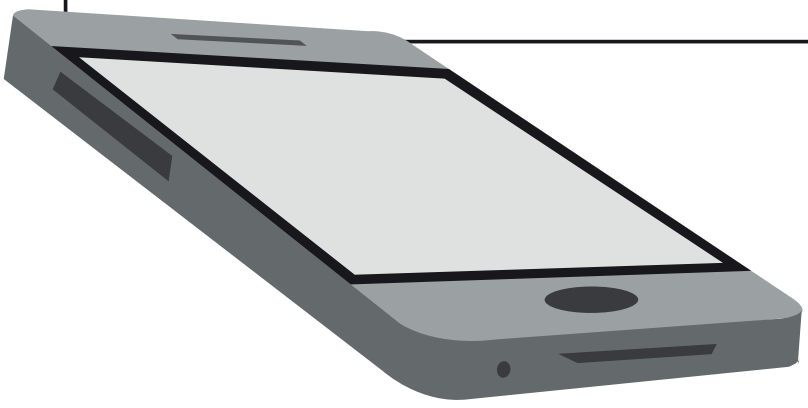
_____

_____

_____

_____

_____



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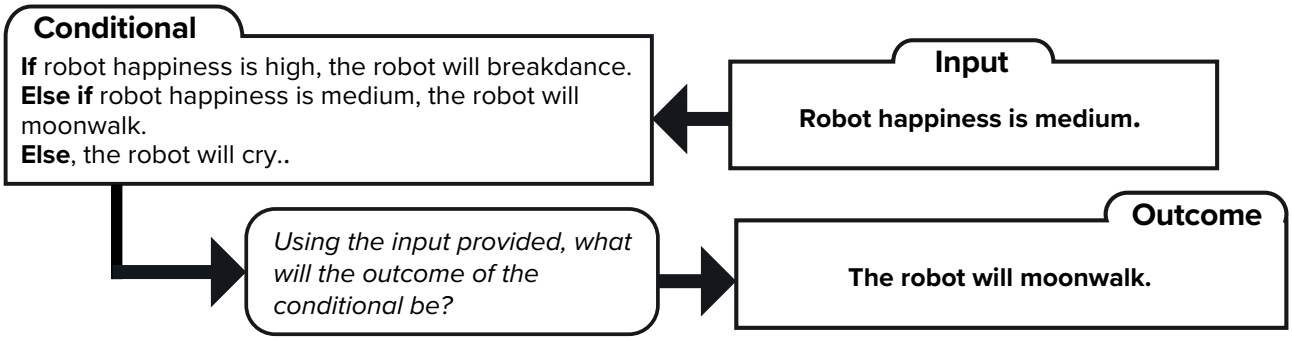
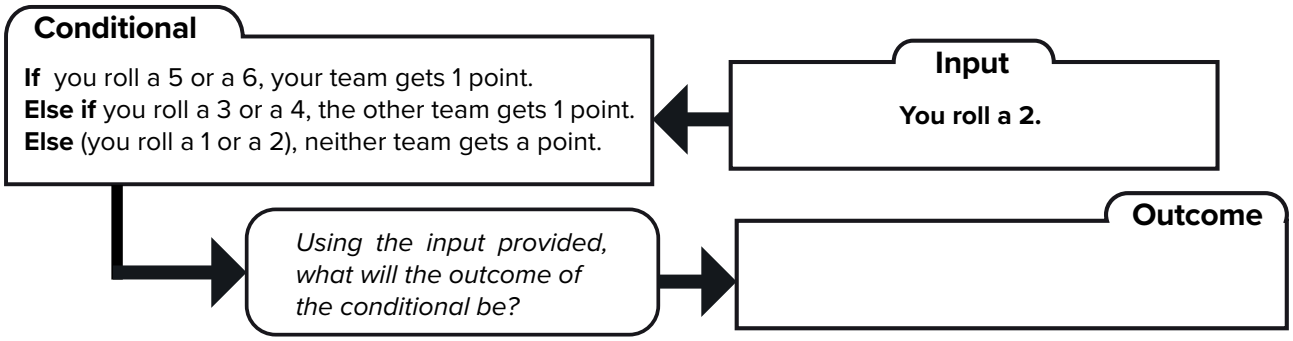
Part 3

Below, we've written two conditionals and provided the input that the program would use. Go through each conditional with the input provided and figure out what the outcome would be.

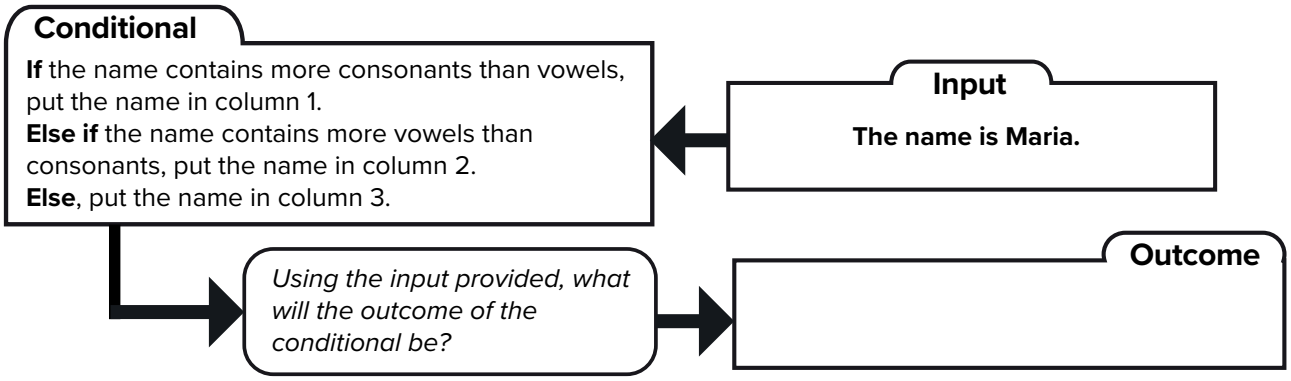
Here's an example. This conditional determines what a robot will do depending on what its level of happiness is:



A You're playing a game where you roll a die and win points depending on the number you roll.



B A program sorts names into different columns depending on the letters it contains.



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Part 4

Practice using conditionals in an online activity on ***Code.org!***

In this activity, you'll control a bee's actions and direct it to do things like get nectar from flowers and make honey from the nectar. This game uses code in the form of blocks. You'll drag blocks together to make the bee take actions like "move forward" and "turn right." You'll use blue blocks for conditional statements, and you can adjust the condition and the action the program will take if the condition is true.

Go to **http://tinyurl.com/pdqllm9** to play "Bee Conditionals."

This activity uses another key concept that you'll find across coding languages: looping. Looping is the action of doing something over and over a certain number of times. The game uses a pink block for a loop, and you can change the number of times you want the action to be repeated.

After you finish playing, pick one of the **if statements** you created in the activity and write it below. Come up with **else if** and **else statements** for this conditional and add them below the **if statement**. Consider: what do you want the bee to do if the **if condition** isn't true? What if the **else if condition** isn't true?