Conditional Schedule

Educator's Guide

Overview

CS Hands-On is a 501(c)(3) nonprofit teaching computational thinking skills through technology-free lessons and activities. This curriculum is built to teach fundamental computer science concepts in an engaging, hands-on way. In this mission, students use if-then statements to create a daily schedule.

- ### Prerequisite Knowledge

  There are no prerequisites to this lesson.

- ### Lesson Details

  At Evaluatus, students will learn to evaluate judgements with Ellis. Students will learn the structure and syntax of an if-then statement. Following this, they will create a conditional schedule to write if-statements for decisions they make during certain times of the day.

  This lesson was developed for students ages 8 to 13, and can be modified for students of all skills and ages. This lesson takes roughly 30 minutes.

Learning Objectives

- ### Key Question

  How do we use if-then statements in our daily life?

- ### Key Terms

  If-then statement: A conditional statement used in computer science to trigger a set of instructions when a certain condition is true

- ### Curriculum Standards

  Students should be able to...

  - Explain how for if-then statements are created and used (Evaluation)
  - Read, write, and interpret for if-then statements (Literacy)
  - Draw and write a conditional schedule using if-then statements (Creative Arts)

  View standards addressed here

Lesson Plan

Materials

- Conditional Schedule worksheet (per student)
- Coloring tools (Markers, crayons, colored pencils)

Setup

- Hand out a Conditional Schedule worksheet to each student
- Set up your classroom to form students in groups

ANSWER KEY & LESSON ANNOTATIONS

Evaluatus
Mission 1

Name: _____ Date: _____

Conditional Schedule

A Day in the Life

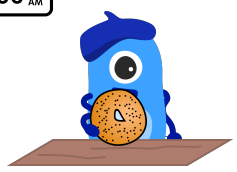
At Evaluatus, Ellis's daily schedule depends on many factors: the weather, what day of the week it is, etc. Let's find out how Ellis makes decisions during different times of the day!

What are If-then Statements?

If-then statements are a type of conditional statement used in computer science to trigger a set of instructions when a certain condition is true. Programming languages represent if-then statements using the format: **if** a condition is reached, **then** perform an action.

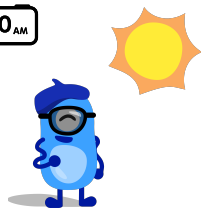
Follow Ellis around Evaluatus to learn how she uses if-then statements in her daily life!

8:00 AM



If Ellis is hungry,
then Ellis will eat a poppyseed bagel.

11:00 AM



If it's sunny outside,
then Ellis will wear sunglasses.

CS Hands-On Conditional Schedule 1

Reflect

Why are if-then statements useful?

If-then statements help us to make decisions that depend on a specific condition. For instance, if it's Sunday afternoon, then I will water my plants. This condition reasoning allows us to do an action if some condition is true.

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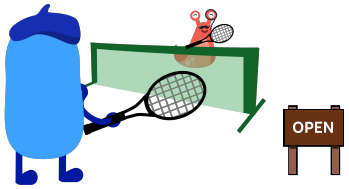
2:00 PM

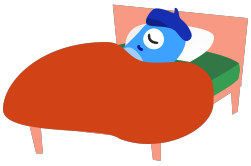


If the Evaluatus park is open,
then Ellis will play tennis with Pancho.

7:00 PM

If Ellis has finished her schoolwork,
then Ellis will read a book.

9:00 PM



If Ellis is sleepy,
then Ellis will go to bed.

CS Hands-On Conditional Schedule 2

Reflect

Apart from these everyday examples, students may be wondering how computers use if-statements.

Computers use if-statements everywhere! For instance, if I press the letter 'a' on my keyboard, then it will write the letter 'a' on my screen. Additionally, if I press the power off button, then the computer will shut down.

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Mission 1

Your turn!

Now that you're more familiar with if-then statements, you will be creating your version of a conditional schedule! Gather a set of colored pencils to draw and fill in the if-statements below.

8:00 AM

If _____ ,

then _____

_____

_____

10:00 AM

If _____ ,

then _____

_____

_____

12:00 PM

If _____ ,

then _____

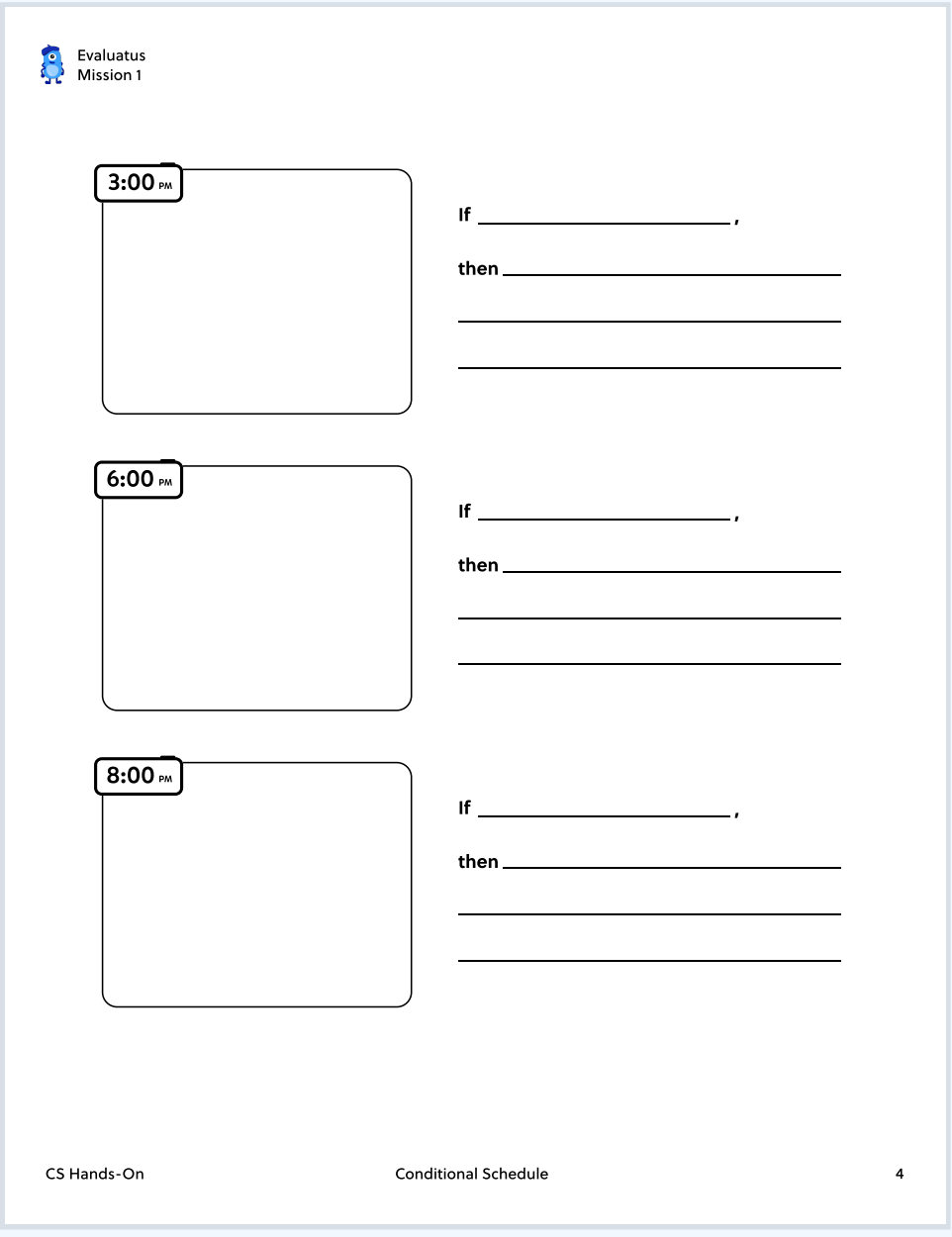
_____

_____

CS Hands-On Conditional Schedule 3

Extension

Before beginning the activity, it may be helpful to over some if-then statements with the class as a whole. Brainstorm a few if-then statements that you use every day!


Evaluatus
Mission 1
3:00 PM
If _____ ,
then _____
_____
_____
6:00 PM
If _____ ,
then _____
_____
_____
8:00 PM
If _____ ,
then _____
_____
_____
CS Hands-On
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Wrap up & reflect

Group students into pairs and have them discuss the following reflection questions. Afterwards, have students share their ideas as a class.

- What would the world look like without if-then statements? What would it look like with if-then statements?

  Ex. Without if-then statements, we would not be able to make decisions based on certain conditions. In the scenario of our daily schedules, we would not be able to make choices, leading us to do the same thing every day. That would be boring!