Lesson 1.1: What is a Computer?

Objectives

In this lesson, students will:
- ❖ Explore problems that computers help us solve
- ❖ Identify basic tasks that are common to all computers
- ❖ Apply a basic definition of a computer to identify objects as either computers or not

Agenda

1. What Problems do Computers Help Us Solve?	5 mins
2. Computer or Not?	15 mins
3. Present Your Categorizations	20 mins
4. Wrap Up and Reflections	10 mins

Preparation

- ❏ Projector and speakers for video
- ❏ Print student activity worksheet: one page 1 per team and one page 2A or page 2B per team so that half the teams have page 2A and the other half 2B.

Resources & Links

- ❏ What makes a computer a computer video: https://tinyurl.com/yxncvzx5

1. What Problems do Computers Help Us Solve?

Engage students in an interactive class discussion and record ideas on the board as they are called out:

In the modern-day, we use computers almost constantly. What kinds of problems do computers help you solve? How do they help you solve problems?

2. Computer or Not?

Place students in groups of 3 or 4.

Distribute the activity worksheet as well as scissors, markers / colored pencils, poster paper, and glue/tape for making posters. Each team receives a copy of page 1 and either page 2A or 2B.

Instructions to give to students:

- Draw a line down the middle of your poster, label one side "Computer" and the other "Not a Computer"
- Discuss as a group which of the objects in your set (from the activity guide) belong in each category
- Once your group is in agreement tape your objects to the appropriate side
- Develop a list of characteristics your group used to determine whether an object is a computer or not

Before the end of the time, bring the class back together and ask them to place their posters at the front of the room.

3. Present Your Categorizations

Have each group briefly present their posters, focusing their discussion on the following points
1. What rules or definitions did you use to categorize your objects?
2. Which item was most difficult for you to categorize? How did you eventually make the decision of where to place it?

Invite the audience to respectfully question any categorizations if they disagree with the presenting group's decisions.

Remarks

As you can see, it's not always clear whether something is a computer, and even experts sometimes have different points of view. Let's have a look, however, at a definition that we'll use throughout this course.

Play the following video:

What makes a Computer a Computer: https://tinyurl.com/yxncvzx5

Allow students to revise their posters using the definition they have just learned.

4. Wrap Up and Reflections

Reflection Points (as a class discussion)
- Did any group change their mind about whether something was a computer after watching the video?   - What about the definition convinced you?   - What 4 things are common to all computers? (1 - Take input, 2 - Store information, 3 - process information, 4 - output the results)   - What are 2 things computers help us do faster than by hand?

Student Activity Worksheet - Page 1

Cut out the following pictures and attach them to your poster.

All images from code.org Unit 1, lesson 4.

Page 2A

Cut out the following pictures and attach them to your poster.

All images from code.org Unit 1, lesson 4.

Page 2B

Cut out the following pictures and attach them to your poster.

All images from code.org Unit 1, lesson 4.