

Computer Scientist: Goods and Services

Adventure Description:

In this adventure, you will think like a computer scientist and design a robot for kids or teachers to use at school.

Activity

Step 1: Background on Computer Scientists, Goods, and Services (10 minutes)

- Show [Video: Goods and Services](#).
- As a class, discuss the difference between goods and services. Discuss how a good is an item that you can buy, sell, or use. A service is a job or a task that you do for someone else.
- Explain to students that computer scientists offer goods and services as part of their jobs. Show [Handout: Goods and Services from a Computer Scientist](#).
- Next, explain to students that computer scientists help build robots! Show [Handout: Learning about Robots](#). Discuss how a robot is a machine that performs a task. Robots have computer programs inside of them that tell the robot what to do. A computer scientist is in charge of creating the computer programs that go into the robot.

Step 2: Activity Set Up (5 minutes)

- Explain to students that they will imagine they are a computer scientist who is building a robot that can provide services!
- Provide students with [Handout: Steps to Build a Robot](#).
- As a class, go through the steps. Explain to students that they will build their own robot, which is an example of a good. Then they will teach people how to use their robot, which is an example of a service.
- Students can work individually, in pairs, or in small groups.
- Provide students with the following materials:
 - Scissors
 - Tape and/or glue stick
 - Assortment of art supplies (e.g., construction paper, tissue paper, pipe cleaners, pom pom balls)
 - Assortment of building materials (e.g., cardboard pieces, recycled boxes or jars)

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Step 3: Building a Robot (15+ minutes)

- Explain to students that they will now build their robot.
- Have students complete Steps 1-3 on their handout.
- While students are working, explain that the robot they are creating is a good. However, the task of creating the computer program in the robot is an example of a service. This is because creating the computer program is an activity. This activity requires knowledge of a special language called code. This language is not a language that you speak out loud, like English. Instead, it is a language that has numbers, letters, symbols that tell a computer what to do.

Step 4: Offering a Service (10-15 minutes)

- Explain to students that they will now teach others how to use their robot. When they teach others how to use their robot, they are offering a service!
- Have students volunteer to stand in front of the class and teach others how to use their robot. Encourage other students to ask questions and provide constructive feedback (e.g., suggestions that are said in a polite way and allow the creator to improve upon their design).

Materials List

Provided online:

- Video: Goods and Services
- Handout: Goods and Services from a Computer Scientist
- Handout: Learning about Robots
- Handout: Steps to Build a Robot

Not Provided online (each pair or group needs):

- Scissors
- Tape and/or glue stick
- Assortment of art supplies (e.g., construction paper, tissue paper, pipe cleaners, pom pom balls)
- Assortment of building materials (e.g., cardboard pieces, recycled boxes or jars)

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