ROZZY™ LEARNING COMPANY
STEM Career Adventures: Computer Programmer
Smart Exercise Device for Kids

🔍 Adventure Description:

In this adventure, you will think like a computer programmer and design a new smart device that will help kids.

Step 1: Background on Computer Programming and Smart Devices (5 minutes)

- Show **Discovery Picture: Types of Technology**.
- Ask explorers what all of these items have in common.
    - Explain that all of these items are smart devices. Smart devices are types of technology that can hold information. Most smart devices have applications, which are also called apps. Smart devices can be used in school or at home. Many adults use smart devices to help them know where to go when they are driving or even track how much money they spend.
- Show **Handout: What Can Smart Devices Do?** and, as a class, discuss different ways that smart devices are helpful.
- Ask explorers if they know who creates and builds smart devices.
- Then, explain to explorers that computer programmers are people who create apps for smart devices. It is a computer programmers job to design the apps and make sure they work (show **Discovery Pictures: Computer Programmer**).

Step 2: Choosing a Device to Create (15 minutes)

- Explain to explorers that they will be coming up with an idea for a smart device that kids will want to use. They will first sketch what their device will look like and then answer a few questions.
- Provide explorers with **Discovery Page: My Smart Device**. As a class, read through the steps explorers will take to design their device.

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o If explorers need help getting started, brainstorm a few ideas as a class. For example, explorers could design a special watch or pencil pouch that tracks where pencils are.

o What types of items would kids want to have during the day to help them keep track or pencils or stay hydrated? For example, kids could have a special water bottle or hat that tells them when to drink water.

o How will the device work? Will it show kids where pencils are on a map? Will it tell kids when they need to drink water?

Step 4: Build a Prototype (15-20 minutes)

• Explorers will now build a prototype (small example) of what their smart device will look like.
• Provide explorers with art supplies and building materials to create their prototypes.

Extra time?
• Have explorers share their devices with the group and explain how the device will work.

Materials List

Provided online:
• **Discovery Picture: Types of Technology**
• **Handout: What Can Smart Devices Do?**
• **Discovery Pictures: Computer Programmer**
• **Discovery Page: My Smart Device**

Not provided:
• Art supplies and building materials
• Plastic water bottles
• Pieces of fabric