

Introduction to the GO Application

3rd-5th Grade

Lesson Plan 1

Introduction:

Why does robotics play an important part in education? With a great emphasis being placed on science, technology, engineering, and mathematics in our education system, robotics play an important part in motivating and exciting students about these subjects. As students design and program a robot they are exposed to STEM concepts as well as learning how the robot interacts with its environment. They learn about these concepts in a real-world application and are required to apply them over and over again. These hands-on, minds-on activities help students understand how science and technology are useful in their world and make connections to careers they may not have considered.

Engagement: Prior to starting the complete lesson the teacher can start a conversation asking how we use robots today? Teacher can write the answers on a chart to keep displayed in the room if so desired.

Lesson Objective-

Today we will:

Learn what a robot is and what it can do.

So We Can:

Define robotics, list different uses for robots, drive dash using the GO application and explain how the tablet communicates with Dash.

Teacher Demonstration

Estimated Lesson Time: Approx. 20

1. Show students Dash and model how to turn the power on and off.
2. Explain that the tablet is communicating with Dash using Bluetooth. Mention that Dash will not move unless we tell it what to do.

Content Vocabulary

1. *Robot*- “a machine capable of carrying out a complex series of actions automatically, especially one programmable by a computer.” (Google)
2. *Coding*-A system of signals used to represent letters or numbers in transmitting messages. The instructions in a computer program. A way to communicate with the robot. (Google)
3. *Programming*- the action or process of writing computer programs.

3. Model how to connect Dash using the tablet and the “Go” application.
4. Model the different features of the “Go” application:
 - Joystick
 - Speed
 - Head Movement
 - “Eye” light control
 - Sounds
 - “Ear” and “Chest” light control have it go on and off.

Student Practice:

- Students will practice turning Dash on and connecting to their device.
- Students will use the joystick to drive dash in all directions.
- Students will navigate through the various tabs in the GO app to get familiar with what they do.

Extension Activity

Teacher puts various small objects scattered around the

floor. Create pairs that will work together. Teacher creates a base for each pair. You can use painters tape for creating the base.

Teacher models how to attach the pusher to Dash. The purpose of this extension is to practice driving Dash at different speeds to push the objects back to their base. The students will get needed practice driving Dash and using various speeds to be more accurate. If the teacher wants they can give each object a point value for its difficulty. The students will strategize with their partner to see which objects they want to go for. Teacher can create a strategy for the flow of the activity. One person from each team will operate Dash at a time and after a designated period of time they will switch.

Depending on the level of understanding your students show you can also use one of the listed extension activities to extend their practice for this lesson day.