

Lesson Idea

Overview: This kit is designed to allow intermediate students to explore, for themselves, the functions/possibilities/wonder of the individual robots contained in the kit.

You, the teacher, *DO NOT have to be thoroughly acquainted with all of the robots before you begin. *Open the box and release the robot magic to your students. You don't have to be the expert. Let your students teach you.*

It will be the student's job to research, play with and learn about the robots and then to present to their classmates what they have discovered. Your job is to facilitate and direct their inquiries and investigation.

**NOTE: Although you do not need to be thoroughly acquainted with all the robots, it will be beneficial to you to read all the info contained in this guide and to get acquainted with the robots by referring to the website/links provided that will give general overviews of the four robots contained in this kit.*

Materials needed:

- Robotic Exploration Kit (this kit)
- Insure that individual robots have been charged. The kit contains multi port charging bars/cords and extension cord.
- Access to computers and internet for research purposes (**BOOK AHEAD for at least 2 sessions**)
- 5 tablets/lpads/devices
- Paper for Ozobot tracks
- Lego and other building materials such as books, foam/wooden blocks, cardboard, etc (for extended activities, if interested)
- Space for Spheros and Dash and Dot to move about, (i.e. hallway, gym. Open area in classroom is usually quite adequate, but the more room the better. Also, this activity is usually LOUDER)
- To become better acquainted with each robot please refer to:

<http://www.learn71.ca/appliedskillsintermediate/>

Objectives:

- Students will use their natural curiosity to explore the robots contained in this kit.
- Students will work in small groups to ***explore* one specific robot from the kit. Each group will create a presentation to share with the class at the conclusion of the unit. The goal of the presentation is to teach others, (even you, the teacher) how their specific robot functions as well as to inform others of the robot's use/value in education and society in general.

***The student's exploration includes researching the robots online and hands-on/trial and error fun.*

Assessment

Teachers look for:

- Group collaboration skills
- Student online research skills/note taking
- Students testing their robot in multiple ways
- Clear explanations of what the robot does and it's value to education/society through a class wide presentation
- Accurate robotic vocabulary

Steps: Day 1

1. Set the individual robot kits out on separate tables. There are **four types of robots**, so you will need **four separate tabletop areas**.



2. Allow the students to circulate, touch, and manipulate the robots and accessories at each station. *It is assumed that students have been prepped on how to handle technology carefully.*

3. Have students decide on one robot to focus on, taking into consideration the following suggestions:

For a class of 30

❖ **Dash and Dot** can accommodate 2 groups of 2-3.

❖ **Cublelets** can accommodate 2 groups of 2-3

❖ **Ozobots** can accommodate 6 groups of 2-3

❖ **Spheros** can accommodate 3 groups of 2-3

****Teachers may need to assign robots. Groups of two students works best.***

Day 2/3

If possible, spend the next one or two sessions in the computer lab where students can research their respective robots. *Outline your expectation for their upcoming presentation to assist them in their note taking. Because the goal is to have students teach themselves about the robots, the teacher can be available to answer simple questions, BUT the focus is on students researching and answering their own questions.

Remind students that you are learning about technology too. If you, the teacher, do not know the answer to an inquiry, simply say, “I don’t know. Let’s investigate together.”

There are enough YOUTUBE videos and individual websites available to satisfy most enquiries.

*Suggestions for questions to research:

- ❖ How do you turn on the robot?
- ❖ What “language” does the robot speak?
- ❖ How do you charge the robot?
- ❖ How do you get the robot to respond?
- ❖ Does the robot require an app and/or personal device (IPad, iPhone or Android) to function?
- ❖ What value would the robot have for education?
- ❖ What value would the robot have for society?
- ❖ How much does the robot cost and where could you purchase one?
- ❖ What function does the robot perform that is most interesting/fun/surprising?
- ❖ What function do you wish the robot could perform?
- ❖ What kind of space is required to thoroughly use and enjoy the robot?
- ❖ What are some of the negative reviews about the robot?

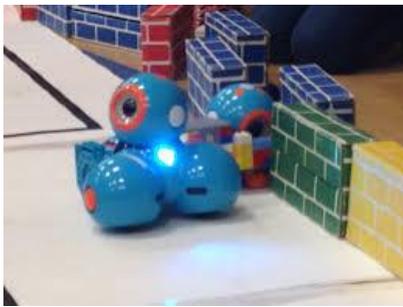
Day 4

With the knowledge acquired through their research, **it is time to play.** Allow the students to set up, become familiar with and play with their robot. The goal for these sessions is for the student to become comfortable with the robot and the language it speaks.

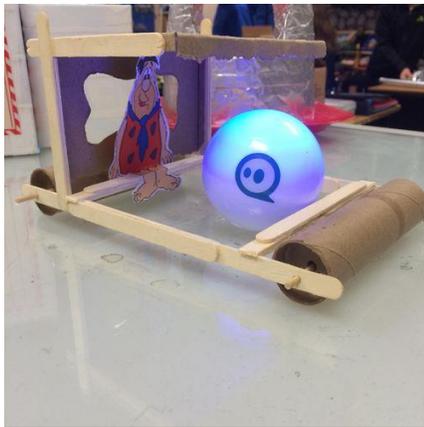
Expect noise and laughter.



This activity can be extended over several sessions



Extensions to their play can be accommodated by supplying **Leg**o (Cubelets and Dash and Dot have Lego adapters included in their kits to allow students to build around the robot to create a character), **poster board** for mazes, **building materials** for obstacle courses, etc.



Day 5

Begin presentation work supported by the notes taken during research sessions.

Presentations can include:

- ❖ Tri-Fold presentation Board
- ❖ Mazes
- ❖ Posters
- ❖ Hands-on table

