Wizards of Wright

Lesson: Little Bits – Exploring More

Use WOW! Lesson Intro to begin.

Background Info for Wizards:	The classroom teacher has chosen this lesson because the students are already familiar with Little Bits - possibly through our Little Bits Introduction Lesson.
Materials:	Exploration Packs (10 piece box) Student Sheets Little Bit/Real-World Technology Cards Little Bits sets (14 piece box) assorted craft materials (from the teacher)
Lesson Time: 45-60 minutes	Introduction: 5 minutes Guided Lesson: 5 minutes Student Activity #1: 5-7 minutes Student Activity #2: 5-7 minutes Student Activity #3: 10-15 minutes Conclusion: 5 minutes
Learning Targets:	Students will explore real-world connections between different Bits and other technologies. Students will understand that circuits work in many objects they use/see all of the time. Students will use creativity as they experiment and generate ideas.
Introduction for Students: 5 minutes	Briefly, have the students explain what they already know about electricity, currents, circuits and energy. Have them also explain experiences they have had with Little Bits.
Guided Lesson: 5 minutes	Review with students what Little Bits do, and how they work. Review input and output, and what that means to Little Bits.
Student Activity #1: 5-7 minutes	- Check with Teacher that student groups have already been made, if not ask the teacher to create groups of 3 or 4. - Give students the handout to follow. (Student Sheet – Exploration Checklist)

- Before giving the students the boxes, remind them/show them how to tell the name of each bit. They can use the labels on the box, and/or find the name on the bit.

Provide each group with an Exploration Pack (10 piece box). Groups will use the Packs to answer the questions on the sheet.

Collect these boxes before moving on.
- *Please have students make sure the battery is disconnected from the cable, and the power bit.*

Remind students that…
- *Each Bit has its name on it.*
- *There is a label on the inside, and outside, of the box.*
- *The trays are numbered.*

- *Matching the name of the piece, and the number on the tray, to the labels should make it easier for pieces to be put back in the slot they came out of.*

Student Activity #2: 5-7 minutes	Explain that they will be doing an activity that makes connections between a specific Little Bit and a technology used in the real-world. Tell them that half of them will receive a picture of a Little Bit, and half of them will receive a picture of something in the real-world. Also explain that after finding the person with the card that "matches" theirs, they should try to come up with 3 other real-world technologies that would use that Bit. Pass out the cards. Each student should receive a Little Bit card or a Real-World Technology card. (Every Bit card has a matching Real-World card. *For example the i3 Button card matches the i3 Elevator Button card.*) Give them time to find their "match" and have a short discussion about other items in the world that would use this technology. Ask them for some of the examples they came up with.
Student Activity #3: 10-15 minutes	Ask the teacher to create groups – putting 2 pairs together (for example the button pair and the servo pair…try not to pair the same colors together). As you are collecting the cards, the new group can share with each other what Bit and Real-World Technologies they and their first partner had discussed. Together, they should brainstorm a real world technology they can build using

	the Bits they both had, and any other Bits in the box. If the teacher has craft materials, they can add to their prototype if needed. Pass out the boxes of Little Bits. (14 piece box this time) Ask them to consider what parts will be needed for their circuit. What input would work? What output would work? What kind of variations can they build?
Conclusion: 5 minutes	Have student groups share what Bits they worked with, what they built, and how this is a real-world technology.
	Please have students make sure the battery is disconnected from the cable, and the power bit. Remind students that… - Each Bit has its name on it. - There is a label on the inside, and outside, of the box. - The trays are numbered. Matching the name of the piece, and the number on the tray, to the labels should make it easier for pieces to be put back in the slot they came out of.