

Wizards of Wright

Lesson: Little Bits – Mini Challenges

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, or the Little Bits – Exploring More Lesson.
Materials:	Student Sets of Little Bits. (STEAM Set boxes) Mini-Challenges Sheets/Cards
Lesson Time: 45-60 minutes	Introduction: 5 minutes Guided Lesson: 5 minutes Student Activity: 30-45 minutes Conclusion: 5 minutes
Learning Targets:	Students will use what they already know about Little Bits as they complete Challenges. Students will use creativity and ingenuity 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: 30-45 minutes	- Check with Teacher that student groups have already been made, if not ask the teacher to create groups of 3 or 4. - 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. Give students a Mini-Challenge card. Explain that they will build circuits while working through a mini-challenge. Each challenge specifies at least one Bit that must be used. The rest of the design is up to them. If they have completed our Little Bits – Exploring More Lesson, ask them about some real-world connections to their creations.

	<p>Once the challenge is completed, and they have explained to you the circuit they built, the Bits they used, how it works, and what it can be used for, they can trade you for another challenge card.</p> <p>Pass out the STEAM set boxes.</p>
	<p>There are Invention Challenges in the STEAM Set Booklet, inside the box.</p> <p>These take longer than the Mini-Challenges, which is why I don't work them into an activity. However, if students ask about completing one instead of the mini-challenges, and the teacher is okay with it, let them go ahead and do that instead of using the cards.</p>
Conclusion: 5 minutes	<p>Review what students have learned, what they have created, and how they can use this knowledge.</p>
	<p>Please have students make sure the battery is disconnected from the cable, and the power bit.</p> <p>Remind students that...</p> <ul style="list-style-type: none"> - Each Bit has its name on it. - There is a label on the inside, and outside, of the box. - The trays are numbered. <p>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.</p>

information credited to: <https://classroom.littlebits.com/lessons/mini-challenges>