**Lesson plan (# )**

| **Adopted from:** **Authors: Jen Emmolo, Melissa Walcott, Linda Kelly-Gamble**  | **Grade: 5** | **Lesson duration: 2 days (part of a larger unit that addresses this standard)**  |
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| **Topic/Title of lesson: Pathways - How Do Snapcircuits Work?** |

| [**STANDARD(s) ADDRESSED**](https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CSDT.pdf)*(Include the performance expectation number and text of each standard.)* | **8.1.5.NI.1: Develop models that successfully transmit and receive information using both wired and wireless methods.** **(This lesson will introduce the concept of pathways, wires, inputs and outputs using something the students already know and understand - electricity. The next lesson will introduce the idea of information traveling)** |
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| **CS PRACTICE(s)** *that students will engage in throughout the lesson.* P [13-15](https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CSDT.pdf) of NJSLS | 5 Creating Computational Artifacts |
| **CS CORE IDEA(s) or** **SUB-CONCEPT(s)** *related to the performance expectation(s).* P [20-34,](https://www.nj.gov/education/cccs/2020/2020%20NJSLS-CSDT.pdf) includes core idea and performance expectations which are useful for designing general goals, specific objectives, and learning criteria down below | **Information needs a physical or wireless path****to travel to be sent and received.****8.1.5.NI.1: Develop models that successfully transmit and receive information using both wired****and wireless methods.** |
| **CENTRAL FOCUS** *(The central focus is an overarching goal of the lesson or big idea for student learning.)* | The central focus is creating pathways using wires (snapcircuits) for electricity to travel. |
| **EU/EQ** (*The enduring understanding(s) and/or essential question(s) that guide the lesson.)**Here are some useful examples from math:* [*https://jaymctighe.com/downloads/Essential-Questions-in-Mathematics.pdf*](https://jaymctighe.com/downloads/Essential-Questions-in-Mathematics.pdf) | **What’s required for a closed circuit to work?** |
| **PRIOR KNOWLEDGE AND CONCEPTIONS** *(What prior knowledge, skills and/or academic language do these students need to have that will help them be successful with this lesson? Any misconceptions you may anticipate?)* | Prior knowledge: how electricity worksVocabulary: wireless, wired, circuit, input, output |

**UDL/PLANNED SUPPORT**

*(Discuss the universally designed decisions guided by learner diversity and/or individualized adaptations for the variety of learners in your class/group who may require different strategies/support (e.g., children with IEPs or 504 plans, English language learners, children at different points in the developmental continuum, struggling readers, and/or gifted children).*

| **UDL:***How are you universally designing your lesson with all your learners in mind? What other characteristics of diverse learners should be considered?* | **Multiple means of** [**representation**](https://udlguidelines.cast.org/representation) | **Multiple means of** [**action and expression**](https://udlguidelines.cast.org/action-expression) | **Multiple Means of** [**engagement**](https://udlguidelines.cast.org/engagement/?utm_source=castsite&utm_medium=web&utm_campaign=none&utm_content=aboutudl) |
| --- | --- | --- | --- |
|  |  | *The EW* |
| **Additional ADAPTATIONS, MODIFICATIONS, and SUPPORTS for individual learners (IEPs, 504s, ELLs)** *If you were not able to meet your focus learners needs through UDL, what individual adaptations will you use to meet your focus learners needs (especially ELLS)* |  |

| **ACADEMIC VOCABULARY/****LANGUAGE (including different coding languages)/****SYNTAX (rules of how to combine symbols to make “correct” statements)**  | *Vocabulary:**Language:**Syntax:* | *Describe the additional support for each language demand in this lesson. Address both the whole class and individual needs.* |
| --- | --- | --- |
| **LEARNING OBJECTIVES** | **LEARNING CRITERIA** *(How will you know that students have met and/or are moving toward meeting that LO?)****The circuit they’ve built using snap circuits will work. For example, the light will light up or the fan will turn on.******Or, they will be able to explain why their circuit DOESN’T work.*** | **ASSESSMENT** *(What will be the pre assessment, formative, or summative assessment(s) in this lesson?)**Pre Assessment: KWL chart - what do you already know about how electricity travels? What do you want to know?**Formative: Turn/Talk/Write**Summative Assessment: Present your circuit. Does your circuit light up? If not, as a group analyze the circuit. What went wrong? How can we fix it?* |
| **Should include both core ideas and concepts, and practices**  |  |  |

**MATERIALS, RESOURCES, and INSTRUCTIONAL TECHNOLOGY**

| **What resources and technology do you need to teach the lesson:** | **What materials, technology will students need?** |
| --- | --- |
| **Snapcircuits, chart paper, markers, batteries** | **Snapcircuits****Should reflect the UDL planned supports identified above** |

**INSTRUCTIONAL STRATEGIES AND LEARNING ACTIVITIES**

*(Describe explicitly what the teacher and the students will do to meet learning outcomes. Use bulleted or numbered list)*

|  | **What is the teacher doing?** | **What are students doing? (including adaptations)** |
| --- | --- | --- |
| **LAUNCH/****Beginning ( 5 mins)***How will you engage students and capture their interest? 3-7 minutes* | **Direct students to create a KWL chart and complete the first two columns.** | **Students are listening and assisting in creating KWL chart.** |
| **LEARNING ACTIVITIES/****Middle ( 45 mins)***“I do” “We do” “You do” How will you explain/ demonstrate knowledge /skills required of each objective? How will you ensure that students have multiple opportunities to practice? How will you address the academic language demands?* | **Teacher talks about and models how to create a circuit. Teacher will explain the pathway the electricity is traveling. Vocabulary will be introduced as the circuit is modeled (wireless, wired, pathway, input, output, circuit)** | **After the teacher models, the students will work in small groups to create their own circuits. They can continue to work in small groups to make multiple examples.** **Students will then present their circuits to the class. They will explain the pathway the electricity is traveling.** |
| **CLOSURE/****End ( 5 mins)***How will students summarize and state the significance of what they learned? 3-7 minutes* | **What is one thing that you learned about circuits today?** | **Write into the “Learned” column of the KWL chart** |
| **Extension/Reinforcement/Homework:**  |
| **Family/Community Engagement—** |

**\* Please attach copies of assessments and/or handouts to be used**