

# SNAP CIRCUITS ELECTRIC BINGO

**OVERALL TIME** 60-minute lesson

**GROUPS** Three to four kids per kit

## Next Generation Science Standards

### 4PS3-4

*Apply scientific ideas to design, test, and refine a device that converts energy from one form to another. (Examples of devices could include electric circuits that convert electrical energy into motion energy of a vehicle, light, or sound.)*

## OBJECTIVE

- Identify and construct different types of circuits.
- Make connections to energy sources in real life.

## OVERVIEW

Kids will engage in the basics of circuitry by building and drawing working electronic circuits.

## MATERIALS

- Snap Circuit Kit & Resource book
- STEM Circuit BINGO board
- Pencils/Writing utensils
- Batteries (AA)

## KEY TERMS

**Circuit:** a complete and closed path around which electricity can flow.

**Closed Circuit:** an endless path for electricity to flow.

**Conductor:** an object or material that allows the flow of electrical current in one or more directions.

**Insulator:** an object or material that allows little or no electricity to go through.

**Negative:** the negative pole of a storage battery.

**Open Circuit:** an electrical circuit that is not complete.

**Parallel Circuit:** a circuit which has two or more paths for electricity to flow.

**Polarity:** attraction toward a particular object or in a specific direction.

**Positive:** the positive pole of a storage battery.

**Series Circuit:** an electrical circuit in which electricity passes through components following one path.

**Short Circuit:** the failure of electricity to flow properly.

**LAUNCH** 5 to 10 minutes

Have kids stand in a circle. Ask the following question and give kids a moment to think.

*What items do you see every day that use energy from electrical current?*

Go around the circle and have each child share an example, trying not to repeat one that was already said. This activity represents how much we rely on electricity throughout a given day.



## EXPLORATION 40 to 50 minutes

Provide each team with a STEM bingo board (see page 26). Using Snap Circuits, the team will need to work together to build various types of circuits working towards a blackout bingo board (all boxes filled in). Each box of the bingo board has a different type of circuit or Snap Circuits component the team must build or incorporate in the build. Once they have built the circuit, the group must write down an example of where they might see this in real-life. For example, the flying saucer is an example of a ceiling fan, whereas a light switch is an example of a circuit with a switch. As kids are working, walk around to each of the groups.

### Possible questions to ask:

- What circuit are you building?
- What order are you connecting the parts?
- Can you trace the path the current flows through the circuit?



## CLOSING 5 to 10 minutes

Allow kids time to clean up and organize the Snap Circuits.

Bring the group back together. Ask kids to find a partner and answer the following questions:

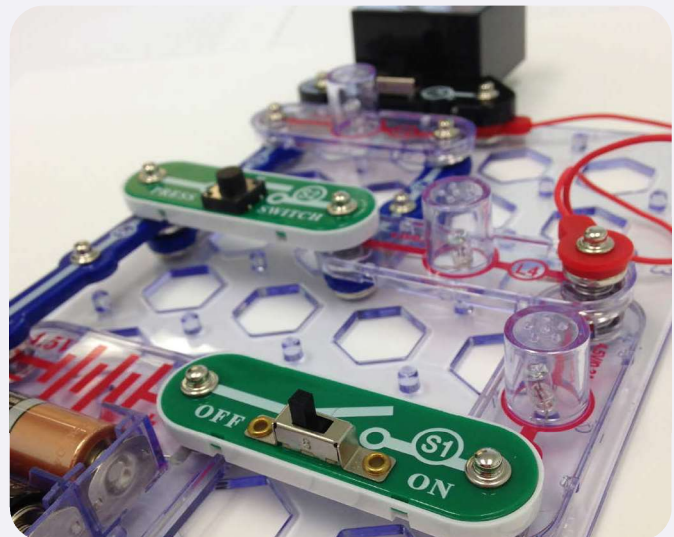
- What new learnings did you have?
- What circuits were challenging to make?
- Why?
- Was your team able to make real life circuit connections?

Choose a few partners to share aloud with the large group.

**\*Note:** Have teams give each other a high five to celebrate their new learning.

## ENRICHMENT AND NEXT STEPS

Allow kids to explore the Snap Circuits guidebooks and build as many circuits as they want. Challenge them to design their own and explain how it works.



# SNAP CIRCUITS BINGO

**NAME** \_\_\_\_\_

Using Snap Circuits, build an example of each of the circuits listed below. Then in the box, write down a short description, sketch of the activity, and where have you seen an example of this in real life?

<b>COMPLETE CIRCUIT</b>	<b>FLYING SAUCER</b>	<b>MOTOR CIRCUIT</b>
<b>FAN</b>	<b>FREE (YOUR CHOICE)</b>	<b>PARALLEL CIRCUIT</b>
<b>SWITCH CIRCUIT</b>	<b>SERIES CIRCUIT</b>	<b>SOUND</b>