PROGRAM

Conductive Construction

ORGANIZATION NAME

Herschell Carrousel Factory Museum

AVAILABLE FORMATS

- ☐ Performance
- ☒ Single Workshop
- ☐ Multi-Session Residency Workshop
- ☒ Field Trip

GRADE LEVELS

- ☐ Pre-K
- ☒ K – 2nd
- ☒ 3rd – 5th
- ☐ 6th – 8th
- ☐ 9th – 12th

MAX NUMBER OF PARTICIPANTS

In-Person: 35

PROGRAM LENGTH

Single Workshop: 45 minutes
Field Trip: 90 minutes

PROGRAM DESCRIPTION

Students will learn about electricity and how it relates to the carrousel. In the workshop, they will use squishy circuits to learn about closed and open circuits. Students will use conductive play dough to experiment with circuits in groups.

CURRICULUM STANDARDS

This program supports these NYS or Next Generation Learning Standards:

- ELA 1: Language for Information and Understanding. – Students will listen, speak, read, and write for information and understanding.
- MST 1: Analysis, Inquiry, and Design. Students will use mathematical analysis, scientific inquiry, and engineering design as appropriate, to pose questions, seek answers, and develop solutions.
- MST 4: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.
- MST 5: Students will apply technological knowledge and skills to design, construct, use, and evaluate products and systems to satisfy human and environmental needs.

Next Generation Science Standards:

- 3-3-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
- 3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- 3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.
- 4-PS3-2. Make observations to provide evidence that energy is conserved as it is transferred and/or converted from one form to another.
- 4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

NYS Learning Standards for the Arts:

- VA:Cr1.2.5. Identify and demonstrate diverse strategies for artistic investigation to choose an approach for beginning a work of art.
- VA:Cr2.2.1. Demonstrate safe and proper procedures for using materials, tools, and equipment.
- VA:Cr2.2.2. Demonstrate safe procedures for using and cleaning art tools, equipment, and studio spaces.
- VA:Cr2.2.3. Demonstrate an understanding of the safe and proficient use of materials, tools, and equipment for a variety or artistic processes.
- VA: Cr2.2.4. Utilize and care for materials, tools, and equipment in a safe manner.
- VA:Cn11.1.2 Compare and contrast differently designed objects that have a similar function
- VA:Cn11.2.1 Identify inventions that have helped people, and brainstorm and share ideas for new inventions

Contact Arts for Learning WNY for more information.
(716) 881-0917 | info@artsforlearningwny.org

EDUCATIONAL OBJECTIVES

Students will:

1. Understand the difference between conductors and insulators.
2. Identify what a closed circuit is and an open circuit is.
3. Build their own closed circuit using Squishy Circuits.

LOGISTICS/EQUIPMENT

- tables and chairs

VOCABULARY

Conductor – allows electricity to flow through it

Insulator – does not allow electricity to flow through it easily

Resistance – how easily an object allows electricity to flow through it

Closed Circuit – provides a continuous path for electricity to flow by using a conductor

Open Circuit – a continuous path that is broken. Electricity cannot flow through it

Short Circuit – when conductors in a closed circuit are touched together

Series Circuits – provide only one path for electricity to flow

Parallel Circuits – provide multiple paths for electricity to flow

POST-PROGRAM ACTIVITIES & RESOURCES

- Discuss other forms of electricity (wind, solar, geothermal, hydropower).
- Static Glue Activity: https://www.carrouselmuseum.org/uploads/6/0/3/8/6038428/static_glue.png
- Resources: http://ny.pbslearningmedia.org/resource/phy03.sci.phys.mfe.lp_electric/electric-circuits

ORGANIZATION DESCRIPTION

The Herschell Carrousel Factory Museum, operated by the Carousel Society of the Niagara Frontier, is a premier national historic site and community resource for family recreation and learning that fosters an appreciation for the unique heritage of the carousel and related industries in the Niagara Region.