Circuits Pre-Visit Material

Thank you for scheduling an educational experience at the Putnam Museum. In this thirty minute program, an Education Specialist will lead your hands-on program in which your students will take a closer look at circuits. We look forward to seeing you and thank you for your interest in the Putnam Museum's education programs.

Program Title: Circuits
Target Audience: Grades 3-5
Focus: Circuits
Focus Questions: What is a circuit and how does it work?

The program highlights:
- What a simple circuit is and how it works
- Different types of circuits
- Demonstration of conductor and insulator testing
- Students will have the opportunity to build a simple circuit (cost of materials may apply)

Catalog Description: Copper tape, Batteries, and LED’S oh my!! Simplicity is key when it comes to making electricity. Let us help teach your students in an electrifying class all about how simple circuits work. Cost of materials may apply.

Key Words:
- Electricity- the flow of electrical power or charge
- Circuit- a closed loop or path that carries electricity
- Current- flow of electrons in circuit
- Voltage- a force that pushes electrons (as electricity) through a circuit
- Resistance- opposes, or hinders, the current flow in a circuit
- Conductor- a material that transmits heat, electricity, or sound
- Insulator- a material that does not transmit electricity
- LED- an electronic device that emits light when an electrical current is passed through it, LED stands for light-emitting diode
- Open Circuit- an incomplete electrical circuit in which no current flows, a broken path for an electrical current
- Closed Circuit- a complete or unbroken path or loop which an electric current flows
- Short Circuit- a connection on an electric circuit that allows a current to follow an unplanned or accidental path
- Direct Current (DC) - the electric charge (current) only flows in one direction
- Alternating Current (AC) - the electric charge (current) changes direction periodically
- Series Circuit- a closed circuit in which the current follows along one single path
- Parallel Circuit- a closed circuit in which the current follows along two or more paths (branches)
For more information:
All about circuits
   http://www.allaboutcircuits.com/education/
The Physics Classroom: Current Electricity
   http://www.physicsclassroom.com/class/circuits
Autodesk Circuits
   https://circuits.io/
Ayah Bdeir: Building blocks that blink, beep and teach video
   https://www.ted.com/talks/ayah_bdeir_building_blocks_that_blink_beep_and Teach
AnnMarie Thomas: Hands-on science with squishy circuits video
   https://www.ted.com/talks/annmarie_thomas_squishy_circuits

Further Activity for your classroom: Squishy Circuits

http://www.discovere.org/dreambig/activities/db-activity/Squishy%20Circuits