

How does the Light-up Speaker project align with academic standards?

LIGHT-UP SPEAKER	
NGSS	Activity Applications
<p>Engineering Design MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.</p>	<ul style="list-style-type: none"> Build a speaker that successfully lights up and produces sound.
<p>Energy HS-PS3-3 Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.</p>	<ul style="list-style-type: none"> Build a speaker that converts electrical energy to light and sound, using only the given materials.
Common Core	Activity Applications
<p>English Language Arts > Science & Technical Subjects RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. RST.9-10.3: Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.</p>	<ul style="list-style-type: none"> Refer to multi-part, highly technical instructions to construct and troubleshoot the light-up speaker.
<p>RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics. RST.9-10.4: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.</p>	<ul style="list-style-type: none"> Analyze symbols in a circuit diagram, as well as acquire and use technical vocabulary related to sound, electromagnetism, and resistance.
<p>RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).</p>	<ul style="list-style-type: none"> Compare symbols in a circuit diagram with written explanations of breadboards, transistors, and speakers.