



# EbD TEEMS NxtGen – Grade 4

## At-A-Glance

**Intended Audience: 4<sup>th</sup> Grade**

**Course Length: 6-8 weeks**

**The Power of Solar** develops students' understanding of energy systems and related technologies, temperature, electricity, and sustainable sources of energy. In this Building Block, scientific inquiry and technological design are purposefully used as learning approaches to develop students' STEM literacy and higher-level thinking skills. Science and mathematics concepts that are reinforced include the solar system, energy transfer, temperature, electricity, decimals, perimeter, area, angles, points, lines, rays, and symmetry. By utilizing an experiential approach, students collaboratively investigate solar energy as a global issue and learn that stewardship and innovation can make a difference in solving the world's problems.

### Objectives

- Describe how tools are used to design, make, use, or assess technology.
- Identify science as a way of answering questions and explaining the natural world.
- Identify technology as a way of inventing tools and techniques to solve human problems.
- Identify earth resources and materials that come from the environment to meet the needs and wants of humans.
- Describe an example of common technological change in a community (e.g., transportation, communication) that has had either a positive or negative impact on society or the environment.
- Describe how the results of the use of technology can be good or bad.
- Draw inferences from a text, referring to details and examples in the text as evidence.
- Describe how tools, machines, products, and systems use energy.
- Distinguish between a scientific fact and an opinion, providing clear explanations that connect claims and evidence.
- Use evidence to construct an explanation relating the speed of an object to the energy of that object.
- Obtain and combine information to describe that energy and fuels are derived from natural resources and that their uses affect the environment.
- Design, conduct, and/or describe the steps of an investigation to test one variable.
- Identify appropriate tools or instruments for specific tasks and describe information students can provide (Example: measuring = length - ruler, volume - beaker, temperature - thermometer).
- State a conclusion consistent with information, observations, or data.
- Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
- Illustrate a complete direct current series circuit composed of a power source (battery or solar cell), wire, and bulb (LED or incandescent).
- Identify parts of a system and explain how the system may not work as planned if a part is missing.
- Write clear and coherent informative text in which the development and organization are appropriate to task, purpose, and audience.
- Identify technology as a way of inventing tools and techniques to solve human problems.
- Describe how tools and machines extend human capabilities in science and technology.
- Apply a design process that includes defining a problem, generating ideas, selecting a solution, making an item, evaluating it, and presenting results to solve a technological problem.
- Identify that requirements are the criteria or limits that must be met when designing or making a product.
- Identify specific resources (e.g., tools, materials, information, people, time) necessary to complete specified tasks.
- Apply a design process that includes defining a problem, generating ideas, selecting a solution, making an item, evaluating it, and presenting results to solve a technological problem.



**For More Information**

**Contact Us At**

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