



Educational Standards

A Day Made of Glass

The “A Day Made of Glass” activity sheets align with the following national educational standards:

Common Core Standards

Grades 4-5

- CCSS.ELA-Literacy.SL.4.1
Engage in a range of collaborative discussions, building on others’ ideas, and expressing their own clearly.
- CCSS.ELA-Literacy.RI.4.4
Determine the meaning of general academic and domain-specific words or phrases in a text.
- CCSS.ELA-Literacy.RI.5.3
Explain the relationships between two or more ideas or based on specific information in the text.
- CCSS.ELA-Literacy.RI.5.7
Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

Grades 6-8

- CCSS.ELA-Literacy.RST.6-8.2
Determine the central ideas or conclusions of a text and provide an accurate summary distinct from prior knowledge or opinions.
- CCSS.ELA-Literacy.RST.6-8.4
Determine the meaning of key terms as they are used in a specific scientific or technical context.
- CCSS.ELA-Literacy.WHST.6-8.7
Conduct short research projects to answer a question (including a self-generated question), drawing on several sources, and generating additional related, focused questions that allow for multiple avenues of exploration.

National Science Education Standards & Emphases for K-8

Grades K-8

- Standard E, Science and Technology: Understanding about science and technology; abilities of technological design including identifying a problem, proposing a solution and evaluating design; communicating problem, design and solution.
- Standard F, Personal and Social Perspectives: Science and technology in society and in local challenges.
- Standard G, History and Nature of Science: History of science (e.g., history of glass for various applications).
- Overall Curriculum Emphasis: Learning subject matter disciplines in the context of inquiry, technology science in personal and social perspectives, and history and nature of science.

Next Generation Science Standards for Grades 4-5 and Middle School

- 4-ESS3-1: Over time, people’s needs and wants change, as do their demands for new and improved technologies;
- 4-PS4-3: Information Technologies and Information. Digitized information transmitted over long distances without significant degradation; high-tech devices, such as computers or cell phones, can receive, decode and convert information from digitized form to voice—and vice versa.
- 5-ETS1.A: Defining and Delimiting Engineering Problems (properties of glass).
- 5-PS1-3: Make observations and measurements to identify materials based on their properties.
- MS-PS4-2: Structures can be designed to serve particular functions by taking into account properties of different materials, and how materials can be shaped and used.
- MS-PS4-C: Information Technologies and Instrumentation: Digitized signals (sent as wave signals) are a more reliable way to encode and transmit information.
- MS-LS2-5: The use of technologies is driven by individual or societal needs, desires and values; by the findings of scientific research; and by differences in such factors as resources and economic conditions.
- MS-LS4-5: Interdependence of Science, Engineering and Technology: Engineering advances have led to important discoveries in virtually every field of science, and scientific discoveries have led to the development of entire industries and engineered systems.

In addition, the materials and concepts contained in these activities can be used as a starting point for more complex scientific lessons, such as crafting a class experiment relating to the properties of glass or the transfer of waves; research into how glass is made; and a focus on the properties of glass.