Our World

Design Intent

The dynamic forces of nature shape and inspire our imaginations. Rivers crawl along the surface, shifting boundaries and carving stone. Mountains are heaved high by enormous plates underground. Tornadoes weave along the landscape, powerful enough to move anything in their paths and while these influences may seem too grand to comprehend, the basic principles of *Our World* can be replicated on a much smaller scale. Put the powers of the planet in the hands of some pint-sized people, and watch them light up as they deepen their connection to the world around them.

Technology Components

- Greenscreen-A solid green backdrop for video production (digital tools not included). Users can replace the green background with any image or visual effects post-production. Refer to the classroom activity guide for recommended usage.
- AR Sandbox- An AR (Augmented Reality) sandbox is an interactive tool that combines a physical sandbox with 3D visualization using a projector and depth-sensing camera. As users shape the sand, the projector displays real-time topographic maps, water simulations, and other features onto the surface. It is commonly used for teaching geography and earth science concepts in an immersive way. Refer to the classroom activity guide for recommended usage.

Mural Features

- Tornado-A tornado is a violently rotating column of air that extends from a thunderstorm to the ground. Tornadoes can occur in many parts of the world, including Australia, Europe, Africa, Asia, and South America. The United States has the most tornadoes in the world, with a majority occurring in the central and eastern regions.
- Lightning-Lightning is a spark of electricity in the atmosphere between clouds, the air, or the ground. Lightning is created by the buildup and discharge of electrical energy between clouds of between a cloud and the ground.
- Rainbow-A rainbow is an optical illusion made by light striking water droplets. The colors of a rainbow are always in order of their wavelength, from longest to shortest: red, orange, yellow, green, blue, and violet. Rainbows are the result of the refraction and reflection of light.

Mural Features

- Windmill- A windmill harnesses the power of wind through its blades, converting wind energy into mechanical energy. Windmills have been used since 2000 B.C. The first modern wind turbine was built in Vermont in the 1940s. Wind is Ameria's largest source of renewable energy, providing 10.1% of the country's energy and growing.
- Hot Air Balloon-A hot air balloon is made up of three main components: the envelope, the basket, and the burner system. When the air inside the envelope is heated, its molecules move faster and spread apart, making the air less dense than the cooler air outside. As a result, the balloon rises. The Montgolfier brothers (France) first demonstrated an unmanned hot air balloon in 1783.
- Grand Teton National Park-Grand Teton National Park, located in northwestern Wyoming, is known for its 13,775-foot peaks and 310,000 acres of valley floors, meadows, and lakes. The park also features a variety of wildlife such as moose, elk, and bears. Nomadic Indians, American Indian tribes, and early American explorers once marked this area as home. It's now a popular destination for hiking, climbing, and photography.
- Waterfall- A waterfall is a natural feature where a river or stream flows over a steep drop. The flow of water drops into a pool below, creating mist and sound. Over time, waterfalls can shape the landscape by eroding rock and carving deep gorges.
- Sunflower- A sunflower is a tall, bright yellow flower with a round center filled with seeds. The entire sunflower plant is edible, including seeds. Sunflowers turn to face the sun throughout the day (heliotropism), which helps them get more sunlight for photosynthesis.
- Solar Panel-Solar panels capture sunlight and convert it into electricity using special cells called photovoltaics. They're often used on rooftops or in large solar farms to produce clean, renewable energy. The first solar cell was invented 140 years ago.

T**hemes to Explore**

- Electricity
- Careers
- Weather
- Erosion
- Climate Change
- Conservation
- Forces
- Earth
- Sink or Float
- Rainbows
- Safety

Mounted Artifacts

- Plasma Tube-A plasma tube or ball is a sealed tube filled with gas, like neon or argon, and has electrodes at both ends. When electricity flows through the gas, it turns into plasma, which glows and moves around. When the tube is touched, the electricity transfer is visible as long as you are grounded. Refer to the classroom activity guide for recommended usage.

Mounted Artifacts

- Wind Tunnel-A wind tunnel uses a fan to generate airflow around an object, allowing observation of how the air interacts with it. Researchers use wind tunnels to learn more about how an aircraft will fly. Refer to the classroom activity guide for recommended usage.

To Find Out More

- Museum Links: Smithsonian Learning Lab, Exploratorium: Tools for Teaching and Learning
- PBS Learning Media: Science