UAMN Virtual Early Explorers: Amazing Earth

Home Sweet Home

Reasons why we are grateful to live on Earth!

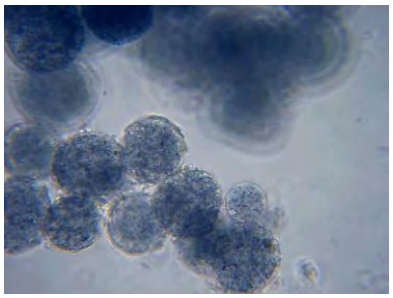
Sunset over the Pacific Ocean. *Image: NASA.*

Liquid Water: Earth is the only planet we know of with liquid oceans on its surface. There is water on other planets, moons, and comets, but only in the form of ice. Since water is necessary for life as we know it, Earth is the only planet we've found that supports life!

Imagine life on other planets with the Imagine A Creature Collage activity!

Water and Life: Water allows life to exist on Earth. From tiny bacteria to plants to humans, every living creature needs water. Some living things, like seeds and tardigrades, have adapted to dry out for periods of time, but they always need water to live.

pxhere.com/en/photo/727402



Heart muscle cells. *Image: NASA.*

Liquid water's chemistry allows it to dissolve things. Water carries the food cells need, and allows them to do things such as breathing and growing. More than half of an animal's body is made up of liquid water, both inside and outside its cells.

Explore aquatic animals with the What Lives in the Water? activity!

Biological and Cultural Diversity: From deep in the ocean to high up on mountaintops, life on Earth has adapted to live almost everywhere. Over thousands of years, humans have developed many diverse cultures. The many different life forms and cultures on Earth make our world an amazing place to live!

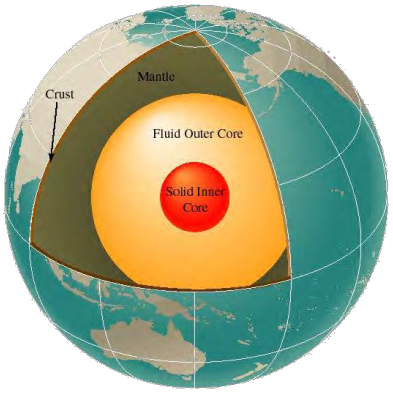
Discover Earth's diversity with the Explore Around The World activity!

UNIVERSITY OF ALASKA MUSEUM OF THE NORTH

UAMN Virtual Early Explorers: Amazing Earth

Home Sweet Home

Reasons why we are grateful to live on Earth!



www.ldeo.columbia.edu/~richards/Jefflec.html

Inside the Earth: A core of hot liquid metal spins around a solid metal ball inside our planet, turning it into a giant magnet. Earth's magnetic field protects us from the sun. We see the aurora around the North and South Poles because of the shape of the magnetic field.

Discover the Earth's layers with Make an Earth Fan activity (courtesy of NASA).

Gravity: On Earth, everything stays on the ground. The gravitational pull comes from the Earth's huge mass. It is strong enough to hold Earth together and keep it in orbit around the Sun. Gravity makes life on Earth possible. It holds the atmosphere, keeping the air we need to breathe close to the ground! Without gravity, we would float off into space.

Earth gives us our weight. On a planet with more mass, the forces of gravity would be stronger. We would weigh over 2.5 times as much on Jupiter but only 1/5th as much on the Moon.

Turn everyday activities into an exciting science experiment with the Gravity Scavenger Hunt.

Mammoth and Mastodon exhibit, UAMN

Geological and Biological History: The Earth formed over 4.5 billion years ago. The earliest known fossils are around 3.5 billion years old. Since then, incredibly diverse forms of life have inhabited our planet.

Explore the history of the Earth with the Discover Museum Objects activity!

UNIVERSITY OF ALASKA MUSEUM OF THE NORTH

UAMN Virtual Early Explorers: Amazing Earth

Home Sweet Home

Reasons why we are grateful to live on Earth!

NASA/Glenn Research Center

The Atmosphere: A jacket of gases around the Earth makes life possible in many different ways:

A shield: The atmosphere protects the Earth from the sun. Much of the sun's harmful radiation is absorbed from upper layers of the atmosphere to the ozone layer. It also burns up meteorites flying to Earth before they reach the ground.

Air for breathing: The lower parts of the atmosphere contain carbon dioxide and oxygen, the air plants and animals need to breathe.

Learn more about the different layers of the atmosphere with the Bake an Atmosphere Cake activity!

Warmth and light: Light reaches the Earth's surface and is trapped, protecting the Earth from much colder temperatures in space.

Water: Clouds move in the atmosphere. They bring water to all regions of the Earth. Parched land is turned into an oasis full of life with heavy rainfall. Snow helps cool the Earth.

Explore clouds with the Stories in the Clouds activity and become a citizen scientist with the GLOBE Observer App.

pixabay.com/photos/mountain-meadow-alm-window-open-211997/

Climate: The atmosphere interacts with oceans to produce our climate, temperatures, and weather patterns. Increased carbon dioxide in the air changes Earth's temperatures and weather patterns over time.

Try observing the weather with the Create a Weather Wheel activity!

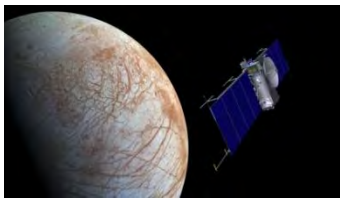
To learn more about climate change, go to:
climatekids.nasa.gov/climate-change-meaning/

UNIVERSITY OF ALASKA MUSEUM OF THE NORTH

UAMN Virtual Early Explorers: Amazing Earth

Home Sweet Home

Reasons why we are grateful to live on Earth!



NASA mission to Jupiter's moon Europa. www.jpl.nasa.gov/news/news.php?feature=4627

Oceans: Earth is the only planet we know of with liquid oceans on its surface. Scientists are looking for other planets like Earth, but they have not found any with similar oceans. There is evidence of planets and moons with oceans, but these oceans are buried underground, not on the surface.

Earth's oceans are not just a great destination for a beach holiday. They make Earth habitable by producing over half of the world's oxygen, absorbing carbon dioxide from the atmosphere, and distributing heat to places far from the equator.

www.pikrepo.com/fmbsn/boy-breathing

Land: Earth also has dry land. There are many kinds of land: high mountains, deserts, areas covered in snow and ice, forests, grasslands, and more. Dry land gives us shelter and provides habitat for many plants and animals. We can grow food on land and find freshwater to drink.

Left: Steve Hillebrand, USFWS. pixnio.com/people/children-kids/children-hiking-in-the-forest

Discover more about the Earth's surface, oceans, and land with the Paper Mache Earth and Create Outside Art activities!

Studying Earth: Traveling on planet Earth is exciting because we can see so many kinds of places. We can ski on mountains, hike over deserts, admire glaciers, go fishing on an ocean, discover dense tropical forests, or build sandcastles on a beach. Scientists even study the Earth from outer space! Our planet is a perfect place for discovery.

Astronaut Samantha Cristoforetti photographs the Earth from the International Space Station. NASA image.

Explore how scientists study Earth from above with the Outer Space Pretend Play activity!

UNIVERSITY OF ALASKA MUSEUM OF THE NORTH

UAMN Virtual Early Explorers: Amazing Earth

Home Sweet Home

Reasons why we are grateful to live on Earth!

The Sun: The Sun is a star, and center of our solar system. Its gravity holds the solar system together, and the Sun's warmth and light makes life possible on Earth.

Explore the Sun with the Sensory Sun Catcher activity!

The Habitable Zone: Earth is in the Sun's habitable zone (also called the *Goldilocks zone*): a region of space where conditions are best for life to form. If Earth were closer to the Sun, it would be too hot for life to survive; if it were farther away, the planet would be too cold for us to live!

Discover more about the distances between the Sun and planets with the Pocket Solar System activity!

Daylight and Seasons: Earth spins on its axis every 24 hours. Each place on Earth is facing the Sun about half of the time and facing away the other half. We appreciate dark nights to rest, sleep, and watch the stars. We enjoy the bright daytime while we work and play!

Snow Gaper, flickr.com

Earth also spins at a slight angle, which is the reason it has seasons. As the Earth orbits the Sun, different sides become closer to the sun's heat. While North Americans enjoy a warming summer sun, people in Australia are preparing for winter.

Virginia State Parks, flickr.com

Try a hands-on demonstration about the Earth's rotation and orbit with the Spinning Around The Sun activity!

For more reasons why Earth is an amazing place to live, go to:
www.nasa.gov/feature/goddard/2020/9-reasons-we-re-grateful-to-live-on-earth

UNIVERSITY OF ALASKA MUSEUM OF THE NORTH