Open to the Public

National Aeronautics and Space Administration

#PictureEarth

Celebrate Earth Day with NASA

Union Station, Washington, DC

Monday, April 22, 2019

9:00 AM to 5:00 PM

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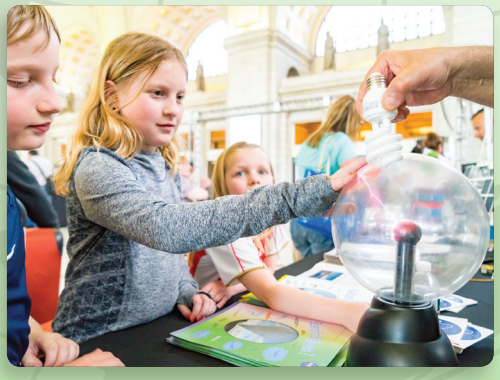
Tuesday, April 23, 2019

9:00 AM to 5:00 PM



www.nasa.gov

Hands-On Activities

How To Earn Your NASA Take-Home Kit: Have your passport stamped after completing each activity. Once you complete ***six or more*** activities, go to the **Information Station** to receive a take-home kit.

1 Ultraviolet Beads

NASA keeps a close eye on the Sun's ultraviolet (UV) radiation and you can too! Become a UV detective with specially designed UV-sensitive beads and walk away with your very own UV detection bracelet.

2 What's Binary Code?

To process and store data, computers use a simple coding system, called *binary code*. In this activity participants used different-colored beads to encode the initials of their first and last names.

3 Spectral Signatures

The Landsat satellite uses spectrometers to observe Earth's surface. This hands-on activity demonstrates how spectrometers work and introduces how spectral signatures are used to classify land cover.

4 Spectral Measurements, Plant Health, and Your Health!

Learn how NASA is helping monitor our world's food supply. Discover how satellite observations can monitor the health of plants by measuring multiple wavelengths of reflected light. These observations provide scientists with data to help predict when and where crops are at risk from drought, floods, and even air pollution.

5 Earth's Magnetic Shield

How does a solar storm affect our satellites? How will understanding the Sun's activity help protect astronauts and Earth? Explore how NASA studies the intense magnetic storms coming from the Sun, and how those can interact with Earth's magnetic field and communications!

6 Understanding Earth's Water Cycle

Understanding the water cycle, the primary physics mechanism observed by the Joint Polar Satellite System Satellites. What is the water cycle and why is it important to you and others every day?

7 The Notion of Ocean Motion

In this hands-on activity, you'll explore how water moves throughout the ocean, scaled down to a much smaller size! We will demonstrate how fluids move depending on their densities–what happens when you pour fresh water on top of salt water in a tube? On a tiny scale, this is similar to what happens when the ice melts in the Arctic or Antarctic Ocean. Sea ice is less salty than ocean water and plays a major role in the ocean circulation system.

8 Beyond Blue: Why Ocean Color Really Matters

Our blue ocean is home to a broad spectrum of colors, depending on the microscopic life it hosts. Such variations are visible from space, thanks to NASA satellite technology. Discover how NASA detects ocean life, and learn what phytoplankton are – and which one of them fits your personality best.

9 The Global Precipitation Measurement Mission

GPM celebrated its fifth anniversary this year, and the data gathered from this mission are being used in a variety of real-world applications. Find out the science and technology behind this mission and learn how the data are used to improve life all around the world.

10 The Greenhouse Effect on Earth and Other Planets

What keeps Earth's ocean from freezing? Our atmosphere works as a "greenhouse," allowing some heat from sunlight to stay trapped near the surface. Find out how this works on Earth, and other planets with a science demonstration.

11 Dynamic Planet

This touchscreen interface allows users to drive a spherical display that shows a variety of remote sensing satellite datasets.

12 Satellite Servicing: Using Robots to Extend Satellite Lifespans

Satellites that give us critical information about the Earth eventually run out of fuel, rendering them inoperable. NASA is developing the robotic technologies necessary to make refueling satellites possible, changing this paradigm forever. Come drive robot arms to learn about the tasks robots can perform in space, and this new era of serviceable satellites.

13 NASA GLOBE Program

Ever wonder how clouds form? Come create your own cloud-in-a-bottle in a hands-on demonstration. Have you ever tried to measure the temperature of an object without a thermometer touching it? Come learn with a hand-held infrared thermometer. Inquiry-based education at its best.

14 Measure Heights with ICESat-2's Mini-Altimeter

Discover how the ICESat-2 satellite (launched September 15, 2018) measures Earth's ice, land, and water. Make your own landscapes under the ICESat-2 mini satellite and take real-time height measurements. For more information, visit *https://icesat-2.gsfc.nasa.gov.*

15 Earth Science Technology Office

Launching satellites into space to observe Earth is complicated… and expensive. From tiny satellites to smart sensors, NASA is building new technologies today that will help us see our home planet like never before.

16 Worldview: Explore Your World

View your world as it is "right now!" Interactively explore and visualize NASA Earth science imagery to see hurricanes forming, wildfires spreading, icebergs drifting, and city lights illuminating. You can also take a snapshot, create an animated GIF, or compare imagery from two dates to view changes over time. For more information, visit: *https://worldview.earthdata.nasa.gov*.

17 Physics of the Cosmos

Ever wonder how a blackhole warps the fabric of spacetime? Stop by to learn more and experience a demonstration using our spandex spacetime model.

18 Hubble Space Telescope

Experience the Hubble Space Telescope like never before. Using augmented reality, you can fly through a Hubble image and see how astronauts have done repairs on Hubble in space.

19 EO Kids: DIY Earth Science Flipbook

EO Kids is a new publication from NASA's Earth Observatory that is designed to make Earth science fun and engaging for kids. Explore stories, engage with NASA data, and learn about our planet from a satellite perspective with fun hands-on activities. Come explore our Earth with us and make your own flipbook.

20 Citizen Science with GLOBE Observer

Help NASA with the power of your smartphone! Learn how to be a citizen scientist by using the free *GLOBE Observer* app to collect data that connects to information from NASA satellites, and practice your observational skills for looking at clouds, land cover, trees, and mosquito habitats.

21 Space Rocks

Become a space rock expert by learning how to tell the difference between a meteorite and an Earth rock with this hands-on activity. Also discover the incredible goals of the OSIRIS-REx mission to a near-Earth asteroid.

22 Exploring Earth's Neighbor: The Moon

Our Moon is a stunning and beautiful place! Explore how it is similar to, and different from, Earth and "claim" your very own landing site on the Moon!

23 *#PictureEarth* Selfie Station

Celebrate Earth Day with NASA and people all around the world by posting your photo from our Earth Day selfie station—or your favorite picture of our planet—on social media using the ***#PictureEarth*** hashtag.