

NEW DIGITAL RESOURCES FOR EARTH AND SPACE SCIENCES

pbslearningmedia.org/collection/buac

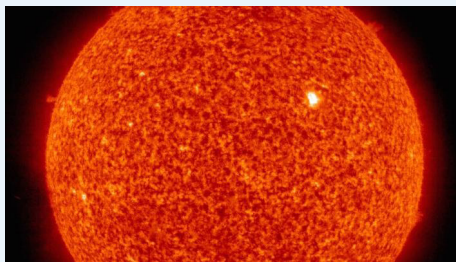


New Digital Resources for Earth and Space Sciences, produced by WGBH and **AVAILABLE NOW** on PBS LearningMedia™!

Developed through WGBH's Bringing the Universe to America's Classrooms project, in collaboration with NASA*, these new resources feature innovative media formats including satellite images and data visualizations. They are also fully supported with materials such as background essays, teaching tips, and student handouts.

Here are just some examples from the resource collection...

K-2



Images of the Sun

<http://bit.ly/ImagesOfSun>

The stunning photographs in this media gallery were captured by satellites that orbit the Sun, taking images of its surface and atmosphere using different wavelengths of light that illuminate different solar features and activity. Specialized instruments in telescopes collect light in wavelengths that the human eye cannot see. They then convert the information into colorized images that give scientists detailed information about sunspots, solar flares, and other solar processes.

Gr. K-2



Shifting Shadows

<http://bit.ly/ShiftingShadow>

Children use chalk to trace playground objects and their own shadows and then observe how the direction, size, and shape of the shadows change as the Sun gets higher in the sky in this video from *PEEP and the Big Wide World*. Students can compare their own outdoor shadow experiences to the experiments in the video. They can also use the video as a guide for how to do their own shadow tracing experiments on their own playground or on another safe paved area. Gr. K-2

3-5



North American Rivers and Their Widths

<http://bit.ly/RiverWidths>

The size of a river is traditionally estimated using water volume calculations, and topographic maps that show physical land features. This traditional approach often yields less accurate measurements, and if rivers are in hard-to-reach areas, they cannot be measured at all. Recognizing the need for more accurate and comprehensive estimates, hydrologists at the University of North Carolina used data and images from NASA Landsat satellites to develop a new database of North American river widths, illustrated in this map, which is useful for observing the distribution and connections among rivers in North America. Gr. 3-5



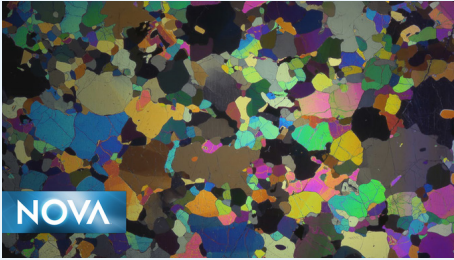
PBS LearningMedia™
pbslearningmedia.org

pbslearningmedia.org/collection/buac

*This activity is funded by NASA under cooperative agreement award No. NNX16AD71A. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Aeronautics and Space Administration.



6-8



Life's Rocky Start | Minerals

<http://bit.ly/LifesRocky>

Minerals are made up of elements that are essential to modern life. See minerals inside rocks and learn about their uses, in this video from *NOVA: Life's Rocky Start*. Look at thin slices of rocks, such as peridotite and basalt, under a microscope and see their mineral compositions. **Gr. 6-8**



Visualizing Our Solar System

<http://bit.ly/VisSolarSys>

Observe the scale of our solar system from two different perspectives in this visualization from NASA. The video begins by showing the relative distances of the planets from the Sun. The orbits of the planets are to scale but the planetary images are not. The model then adjusts to show the relative sizes of the planets and the Sun. In this second perspective, the sizes of the planets are accurate relative to each other but the distances between them are not to scale. **Gr. 6-8**

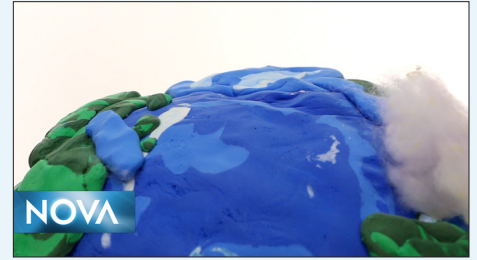
9-12



Killer Landslides | Modeling Landslides

<http://bit.ly/KillerLandslide>

Watch scientists model slope failure in experimental landslide studies in this video from *NOVA: Killer Landslides*. Flume experiments allow scientists to model and study firsthand the effects of rainfall and other factors on ground materials, triggering liquefaction and turning the soil into a fast-flowing fluid. **Gr. 9-12**

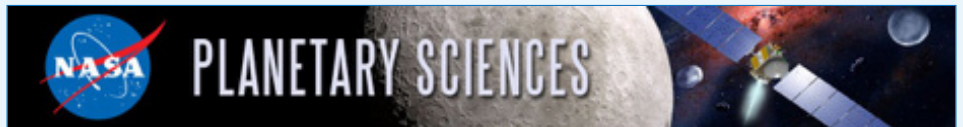


NOVA: Uneven Sea Level

bit.ly/SLevelRise

Learn why sea level will not rise uniformly around the world, in this clay animation video from *NOVA Digital*. Physical oceanographer Fiamma Straneo explains the effects of weather, the natural tilt of the oceans, expansion of water, and gravity on sea levels. **Gr. 9-12**

Don't miss these collections of classroom and professional development resources, produced in partnership with WNET and also available on PBS LearningMedia:



Explore the exciting discoveries from NASA missions about the planets, moons, and other objects in our solar system. You'll also find three professional development videos from showing planetary science in action in a high school classroom. <http://bit.ly/PlanetarySci>



This collection is designed to bring real-world applications of physics and engineering concepts into high school classrooms. The videos and interactive presentations that make up the collection are drawn from NASA's vast collection of media resources, including many that were recorded on the International Space Station. <http://bit.ly/PhysandEng>

