Kidsville News

The Nation's Favorite Fun Family Newspaper

Kidsville News! Brainworks Worksheet
October Enrichment Activities
Grades 3-6

CONNECTIONS

Students: After reading facts about the universe in the "Connections" article, match the number facts in column A to the coordinating explanations in column B.

A	B
1.3 million	An estimate of the number of stars in the universe
840 A.D.	How long Pluto was classified as the outermost planet in the solar system before its status was changed
Eight	How much water the moon, along with the sun, moves each day
A billion trillion	A year on Pluto is the same as this number of days on Earth
88	This year Emperor Louis of Bavaria died of fright when experiencing an eclipse of the sun
76 years	The equal to the length of a day on Mercury in Earth days
10,000 light years	The number of times Earth could fit into the sun
Six hours	The number of primary planets in our solar system.
Billions of tons	How long it takes astronauts to put on their spacesuits
176 Earth days	How close the nearest black hole is to Earth

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Students: Answer the following questions after reading "Around the World."

1. Explain the differences and similarities of natural and artifical satellites.

2. How are made-made satellites used? How do they help people?

3. How are satellites in space more useful than ground instruments? Why do you think both kinds are used?

4. How do satellites stay in space?

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Students: Try these fun hands-on constellation activities that combine astronomy, art and storytelling.

1. Flashlight Constellation Project
What you need: A paper cup or cardboard circle, a push pin (for adults), a marker, and a flashlight.
How to do it: Draw a simple constellation (like the Big Dipper or Orion) on the bottom of the cup. Use a push pin to poke holes through each star point. Turn off the room lights, place the cup over the flashlight, and project the stars onto a wall or ceiling.
Learn more: Check out the step-by-step guide on PBS Kids Parents @ https://www.pbs.org/parents/crafts-and-experiments/create-flashlight-constellations

2. Marshmallow & Toothpick Constellations
What you need: Mini marshmallows (or playdough), toothpicks, and black construction paper.
How to do it: Use toothpicks and marshmallows to build 3D geometric shapes of real or imaginary constellations. Glue them onto black paper and use a white crayon to draw the mythical outline or animal around the stars. Read more @ https://providencechildrensmuseum.org/constellation-creation/

3. Sidewalk Chalk & Rock Constellations
What you need: Sidewalk chalk and a collection of small rocks or pebbles.
How to do it: Head outside to the driveway or sidewalk. Place rocks to act as stars, then use sidewalk chalk to draw the connecting lines and myth figures between them. See https://www.howweelearn.com/constellation-activities-for-kids/

4. Printable Activity Books & Star Finders
What you need: Printable guides or activity books.
How to do it: Use dot-to-dot constellation sheets or build an interactive star tracker using resources from NASA Space Place to spot real constellations in the night sky. See https://spaceplace.nasa.gov/search/constellation/

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Answer Key

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Students: FInd the words from the "Connections" article in the cross search puzzle below.
Teachers and parents: Answers are below.

A	B
1.3 million	An estimate of the number of stars in the universe
840 A.D.	How long Pluto was classified as the outermost planet in the solar system before its status was changed
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Answer Key

Students: Answer the following questions afte reading "Around the World."
Teachers and parents: Answers are below.

1. Explain the likenesses and differences of natural and artifical satellites.

Both kinds of satellites refer to machines or things in space that moves around Earth or another body in space. Natural satellites are already in space orbiting another body, such as Earth which orbits the sun and our moon which orbits Earth. Artifitical satellites have to be launched into space, such as a spacecraft orbiting Earth.

2. How are made-made satellites used? How do they help people?
They are used in weather reporting by meteorologists who study weather through photos taken by satellites. Satellites are also used by space researchers and scientists who used the images produced to learn about other planets, the sun, black holes, dark matter or faraway galaxies from space stations and satellites in space. Communication satellites allow us to watch and use out TVs , phone calls and GPS devices.

3. How are satellites in space more useful than ground instruments? Why do you think both kinds are used?

Satellites in space can see the entire Earth and can collect more data and more quickly than instruments on the ground. Both systems are used most likely due to cost and accessibility; it is not so easy to get a satellite into space.

4. How do satellites stay in space?

Because satellites are blasted into space by rockets, their speed is balanced by the pull of Earth's gravity. Without this balance, the satellite would fly in a straight line off into space or fall back to Earth.

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Answer Key

Students: Try these fun hands-on constellation activities that combine astronomy, art and storytelling. Parents and teachers: Project results will vary.

* See web links provided for photos of what each project should look like and more information.