To the Cosmos and Beyond!

Step outside tonight and look up! What do you see? Planets, stars, or the moon? Grab our template, a blanket, and your curiosity as we explore the night sky with a Scavenger Hunt! Click the link to join our friend, Kaelan to begin our adventure!

Best viewing time is from 9:00 pm to 12:00 am.

Science Topic	*Children will learn the basics of astronomy observation by use of technology.*
Ideal Age	*Activity is designed for ages 8-13.*
Driving Question	*How can technology help us see the night sky? Students identify constellations or planets in the sky to be able to navigate the night sky.*

Materials Needed	**Application Recommendation**
	• **Sky Walk 2**
	  ○ Available for iOs or Android
	  ○ It is available for free, otherwise you can pay for premium without ads.
	• **Stellarium**
	  ○ Available for iOs, Android or Computer
	  ○ It is available for free.
	
	Other Materials
	• Bingo Template
	• Telescope or Binoculars (Optional)

Activity Instructions	*Step 1: Watch the Video* *Step 2: Use either Stellarium (PC/Mac/Phone) or Sky Walk 2 (IOS/Android) to start tracking stars* *Step 3: Download the Bingo Card* *Step 4: Use either Stellarium (Inside) or Sky Walk 2 (Outside) to track down all the stars and fill out the Bingo Card!* ***Did you know Edgewood has a telescope? Find us on Facebook at Edgewood Astronomy Outreach for public events, educational activities, and Astronomy news!***

Questions	**We have created questions that you may discuss with your child as you observe these objects in the night sky.**
	
	• **How could we use these applications to find the night sky?**
	  ○ We can use these applications as a tool to observe what we may see in the night, at times we may not be able to see everything; however, it is cool to know what is out there.
	• **What could we use if we wanted a closer look at the stars or planets?**
	  ○ Large telescopes are used in mountain regions to see our universe due to the clear dark skies and elevations. We also put telescopes into space! One of our most popular telescopes is the Hubble Space Telescope!

	○ Several missions have been launched into space so scientists can get a closer look into our universe. One of our most famous, recent missions has been the flyby of Pluto • **What do you think scientists used before technology?** • **What constellations do you see when you look into the night sky?** • **Which one is your favorite?** • **What phase is the moon tonight?** • **What do you think we could see if we far away from a city?** ○ Light pollution is a common problem in the city. This means it could alter the way we see our night sky. The stars and planets are still there! However, the amount of light from buildings, cars and homes means that these things would be harder to see. • **Do you think the stars are close to us or far away?** ○ A lot of the stars are millions of light years away. Our closest star is Alpha Centauri A and Alpha Centauri B these two stars are 4.3 light years away (1 light year is 6 trillion miles!) We live in a spiral galaxy called the Milky Way! Our home is in the arm of a spiral. Scientists do not know the exact amount of stars and planets that are in the universe—it is always expanding and we discover new worlds daily! • **What is your favorite planet? Why?**
Science Content	The observation of our night sky has been used in different ways for centuries. From civilizations to analyze crops and prophecy, explorers using stars to navigate, to today using large telescopes to understanding the universe. The purpose of this scavenger hunt is to allow an opportunity with your child to look up into the stars and create an understanding of how one can interpret our night sky with the modern technology we have today. **We have included two links for reference:** SciKid Show is a great program for children to understand several fields of science. The link here teaches children how constellations are observed and how to find them. **https://www.youtube.com/watch?v=1sZ15SUeS9w** NASA gives children a history of Astronomy and how ancient civilization used the constellations for journey, and the formation of the calendar. https://spaceplace.nasa.gov/starfinder2/en/
Process of Science	The study of Astronomy helps to build comprehension of models, observation, and analyzing what you know of the universe. First, the use of technology is helpful because one can develop these applications to allow the public to make it useful to study the night sky. From the use of technology then we can ask the question, "What is in our night sky?". From the models we can interpret the sky to find answers to our questions. Lastly, analyzing what we now know about our universe and how we can communicate that to others.
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