Up In The Sky

What is iQ: smartparent?

iQ: smartparent is an Emmy-winning multimedia television and web series designed for parents that will empower them with new knowledge, tools, and abilities to successfully guide their children through the changing landscape of digital media and technology. It's a growing community of caregivers, national experts, educators, and parent bloggers who want to understand the opportunities and challenges of media as it relates to the development of their children. *iQ: smartparent* was created by WQED Multimedia in 2012.

About this Episode

This episode is all about engaging families in Earth & Space science! Meet up with the curator of the Smithsonian's national touring exhibit Destination Moon: The Apollo 11 Mission for a look at the past, present, and future of space exploration. We'll also show families how to track what's up in the sky using a range of scientific tools, from sophisticated telescopes to celestial bodies that can be seen with the naked eye! The episode concludes with a salute to the Maker Movement as we present hands-on projects to make a star clock, and a pin-hole camera for safely viewing a solar eclipse.

Discussion Questions

1. What are some resources and organizations in your community you can reach out to for science and space exploration?

2. How can you explore science with your children?

3. Does your child's school or local library have any science exploration opportunities?

4. Who can you ask about the Apollo 11 moon landing? Librarians, grandparents, museum historians? What do they remember about it?

5. Books, toys, making models are all great ways to inspire children's curiosity about space. Where can you go to access these materials without breaking the bank? Libraries and museums are a great place to start.

6. You don't have to be an expert in earth and space science to engage with your children. What are some ways you can learn about the subject together?

7. Space is important to learn about but so is Earth conservation. What are some small ways you can start being green in your family?

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About the Guests

Mariruth Leftwich, Ph.D., director of education, oversees school, teacher, early learning, and youth programs, as well as group tours, at the History Center. For the upcoming Destination Moon exhibition, she will help to create new educational curriculum and programming that explore the people and innovation which helped make the Apollo 11 mission a success. She has worked in the field of museum education and heritage interpretation for more than fifteen years and currently serves on the board of directors of the Museum Education Roundtable, chairing the editorial team that manages the publication of the Journal of Museum Education. Prior to joining the History Center, Mariruth was the digital learning officer at the Museum of London, where she developed one of the UK's first museum-based digital learning studios. Her work experience has also included tenure as vice president for education & programs at the Charlotte Museum of History and museum teaching at the Atlanta History Center and the National Army Museum (UK). Mariruth holds a Ph.D. from the University of London's Institute of Education in the area of museum education, a ME.d focusing on curriculum design and instructional technology, an M.A. in history from Royal Holloway, and a B.A. in history with secondary teaching certification from Oglethorpe University.

Anne Madarasz, director of the curatorial division, chief historian, and director of the Western Pennsylvania Sports Museum has been at the Heinz History Center since 1992. Anne is the curatorial project leader on the Destination Moon exhibition, and is in charge of researching and displaying artifacts related to Pittsburgh's vast connections with the space race. A graduate of Trinity College in Hartford, Conn., she completed the coursework for her Ph.D. at the University of Pennsylvania. Awarded a Richards Fellowship for research from the Corning Museum of Glass, Anne lectures and writes frequently on the subject of Pittsburgh glass, regional industry, and the history of Pittsburgh sports. Anne has served as the project director or curator for five exhibitions that have received the national Award of Merit from the American Association for State and Local History.

Ralph Crewe has been an informal science educator at Carnegie Science Center in Pittsburgh since 2009. After completing a Bachelor of Biology with a minor in mathematics at the University of Pittsburgh, he was promoted from a part-time Program Presenter to Program Development Coordinator. He is responsible for maintaining and developing science programming including SkyWatch, Solar Sundays, the SNaQ Podcast, Café Scientifique, and development of shows for Buhl Planetarium and Science on the Road. Along with this, he has been particularly active in regional media, appearing as a science communicator on KDKA radio and TV, respectively, WTAE, WPXI, WESA, The Tribune-Review, and as an author of science articles for the Pittsburgh Post-Gazette. Other career highlights include judging the Intel International Science and Engineering Fair (ISEF), live-narrating the launch of the Space-X Falcon Heavy launch on the KDKA Afternoon News, interviews with famous YouTube science stars such as Grant Sanderson, Steve Mould, Nile Red, Helen Arney, Grady Hillhouse, and more on SNaQ, and shaking hands (tentacles?) with an octopus at the Pittsburgh Zoo & PPG Aquarium. In his spare time, Crewe is an avid cyclist, birder, and freelance bassist. He currently lives in Pittsburgh, Pennsylvania with his wife Jesica, and is learning home repair and yard maintenance.

Online Resources

Smithsonian National Air and Space Museum – Destination Moon
https://airandspace.si.edu/exhibitions/destination-moon

Heinz History Center -Schools and Education www.heinzhistorycenter.org/learn

NASA

Activities for the Classroom https://spaceplace.nasa.gov/classroom-activities/en
Solar System Exploration https://solarsystem.nasa.gov/planets/overview/
Educator Resources www.nasa.gov/audience/foreducators/index.html
Beginner's Guide to Rockets www.grc.nasa.gov/www/k-12/rocket/bgmr.html

NASA Spinoff - Learn about technologies we use every day that were developed as part of the space program! https://spinoff.nasa.gov/

NASA Live - Watch livestreams of space launches, interviews with astronauts, and more on NASA's YouTube channel. www.nasa.gov/nasalive

National Association of Rocketry www.nar.org/

Pinhole Eclipse Projector https://pbskids.org/readyjetgo/media/pdf/activities/eclipse.pdf

PBSKIDS

Ready Jet Go! Space Explorer App
http://pbskids.org/apps/ready-jet-go-space-explorer.html

10 Books About Space
www.pbs.org/parents/adventures-in-learning/2015/11/ten-books-space/

DIY Solar System Craft
www.pbs.org/parents/birthday-parties/outer-space-birthday-party/activities/diy-solar-system/#1

PBS Parents Science www.pbs.org/parents/education/science/

Science Games
https://pbskids.org/games/science/
www.pbs.org/seeinginthedark/for-families/

Astronomy & Space Classroom Resources from the National Science Foundation
www.nsf.gov/news/classroom/astronomy.jsp

Science Buddies www.sciencebuddies.org/parent-resources?From=Tab

Solar System Scope www.solarsystemscope.com/

Allegheny Observatory https://www.pitt.edu/~aobsvtry/

Neil Armstrong | PBS World Explorers
https://wqed.pbslearningmedia.org/resource/74528e28-66ff-4abc-bec3-801c22c1ef50/neil-armstrong-pbs-world-explorers/#.W4bGfs5Ki70

What happens when two scientists walk into a Pittsburgh bar?
www.nextpittsburgh.com/eatdrink/two-scientists-walk-into-a-bar-more-cool-mashups-of-pittsburghs-beer-scene-and-science-community/

Carnegie Science Center www.carnegiesciencecenter.org/

Planetarium www.carnegiesciencecenter.org/planetarium/

SkyWatch www.carnegiesciencecenter.org/planetarium/buhl-planetarium-skywatch/

Café Scientifique www.carnegiesciencecenter.org/programs/adult-programs-cafe-sci/

SNaQ - Science News and Qs, a Carnegie Science Center Podcast
https://snaq.podbean.com/

Astronomy: The Science of the Cosmos www.thoughtco.com/astronomy-101-3071080

Astronomy for Beginners www.skyandtelescope.com/astronomy-information/

Guide to the Night Sky https://oneminuteastronomer.com/stargazing-and-night-sky-guide/

Astronomical Society www.astrosociety.org/education/hands-on-astronomy-activities/

Night Sky Network – Nationwide coalition of amateur astronomy clubs
https://nightsky.jpl.nasa.gov/about.cfm

Lunar and Planetary Institute – free middle school classroom activities and resources to meet Earth and space science standards www.lpi.usra.edu/education/step/

Instructional Resources for Earth and Space Sciences
pbslearningmedia.org/collection/buac/#.W4bG_M5Ki70
pbslearningmedia.org/collection/universe-k-2-space/#.W4bHYc5Ki70
pbslearningmedia.org/collection/earth-and-space/#.W4bHkM5Ki70
pbslearningmedia.org/collection/universe/#.W4bHjs5Ki70

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THE GRABLE FOUNDATION
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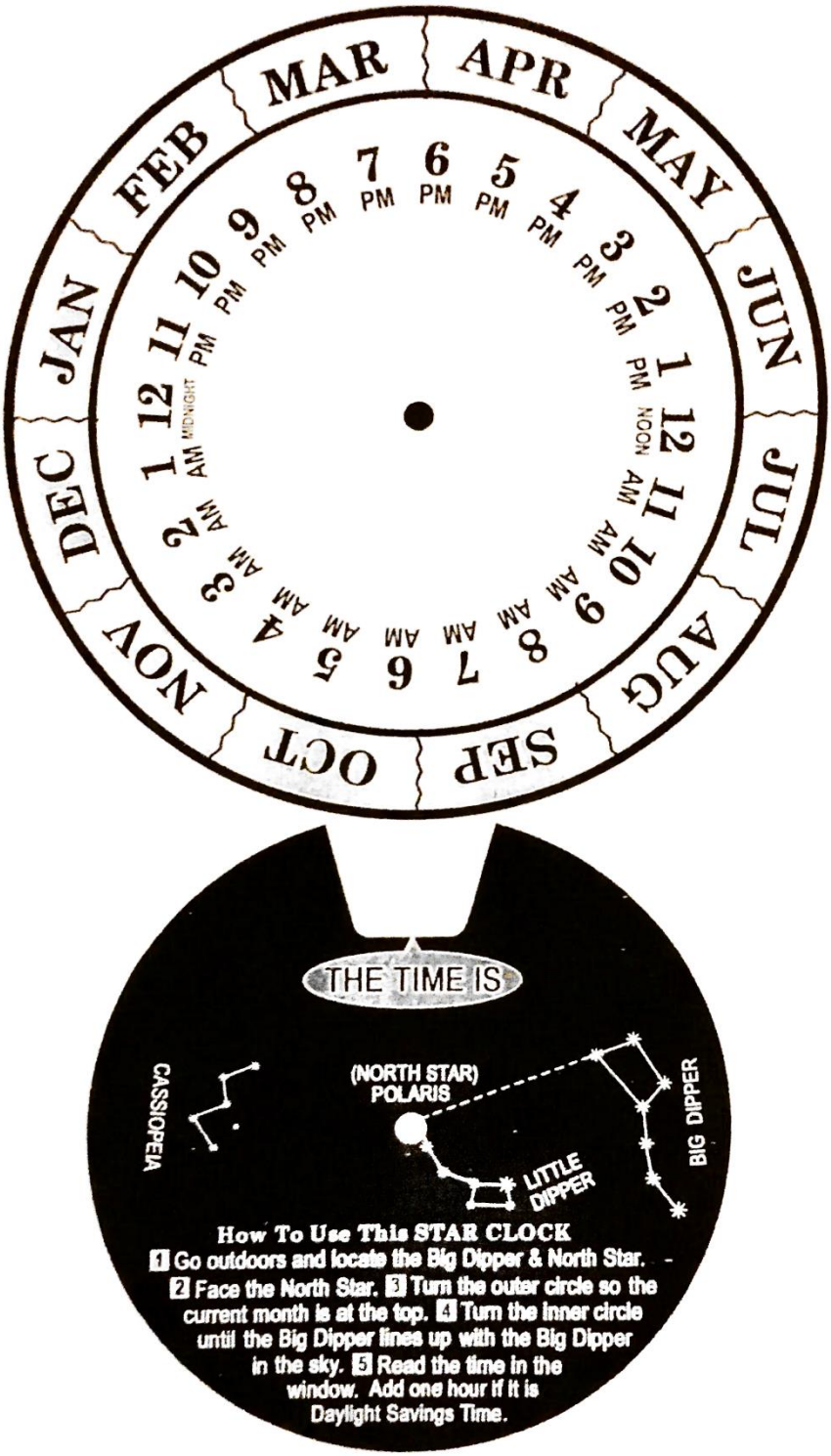
Other Resources



SUN CLOCK

CARNEGIE SCIENCE CENTER