

NOVA at Home – Out of This World

For Wolf, Bear or Webelos Scouts.

DAY ONE:

Watch an episode or episodes (about one-hour total) of a show about planets, space, space exploration, NASA, or astronomy. Some options include: NASA Kids Website <https://www.nasa.gov/stem/forstudents/k-4/index.html> or shows found on PBS ("NOVA"), Discovery Channel, Science Channel, National Geographic Channel, TED Talks (online videos), and the History Channel.

Make a list of two questions or topics from watching or reading to share with your NOVA counselor.

DAY TWO:

Make a paper airplane and fly it five times. Try to make it fly farther by altering its shape. Fly it at least five more times to see if your changes were effective.

Great guide for your Scout to follow: <https://www.diynetwork.com/made-and-remade/learn-it/5-basic-paper-airplanes>

DAY THREE:

Make a balloon-powered boat – see what happens with different amount of air or if you can attach a larger or smaller balloon to the boat.

How to video: <https://www.kidspot.com.au/things-to-do/activity-articles/make-a-balloonpowered-bath-boat/news-story/6a50cac5a46f22ab31fab247082504a0>

DAY FOUR:

Using materials you have on hand (plastic building blocks, food containers, recycled materials, etc.), design a model Mars rover that would be useful to explore the rocky planet's surface. Share your model with your counselor and explain the following:

- 1) The data the rover would collect
- 2) How the rover would work
- 3) How the rover would transmit data
- 4) Why are rovers needed for space exploration

Example Lego rover video: https://www.youtube.com/watch?v=sA_LU9FvDEQ

DAY FIVE:

Design on paper an inhabited base located on Mars or the moon. Consider the following: the energy source, how the base will be constructed, the life-support system, food, entertainment, the purpose and function, and other things you think would be important. Then:

- 1) Draw or build a model of your base using recycled materials.
- 2) Discuss with your counselor what people would need to survive on Mars or the moon.

DAY SIX:

Explore a career associated with space exploration. Find out what subjects you would need to study as you get older. Find out whether you must be an astronaut to explore space, and what other opportunities exist for people interested in space exploration.

DAY SEVEN:

Visit a place where space science is being done, used, explained, or investigated, such as one of the following: observatory, planetarium, air and space museum, star lab, astronomy club, NASA, or any other location where space science is being done, used, explained, or investigated.

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Virtual Tour of the Mars Rover Program <https://accessmars.withgoogle.com/>

During your visit, talk to someone in charge about how people at the location use or investigate space science. Find out how this investigation could make the world a better place.

You can contact experts at NASA to ask questions and use the links on this page to answer questions you may have after exploring “Out of This World.”

<https://www.nasa.gov/about/contact/index.html>

Make sure to tell you NOVA counselor about all you have learned while working on this award and please DON'T feel like you MUST do all of these in order, or on these exact days, or do them at all! I just wanted to give this out as an option for those who might want to give it a go!

If your Scout needs a scientist to talk to, feel free to email skcnovastem@gmail.com. When emailing, please make sure to include a parent/guardian/Den Leader on the email.