

## ASK A SPACE SCIENTIST

Our universe is full of mysteries, and some of the most mind-boggling are in space. Curious kids asked questions, and we sent them to two Bahá'í space scientists. Have questions about space? Send them to [brilliant@usbnc.org](mailto:brilliant@usbnc.org) (with your name and age).

### How does being a Bahá'í make you see your work differently? – Kian, age 10

Hi, Kian,  
For me personally, I think that as you grow spiritually, the way you work and the satisfaction you receive from work changes. You go from wanting to be the one who comes up with the answer to a problem, to wanting to encourage others and to contribute to the answer as part of a team.

Using principles of Bahá'í consultation at work is a big help. The Bahá'í writings say consultation gives us “insight into things” and enables us “to delve into questions which are unknown.” Through consultation, “the right solution will certainly be revealed.”

By cooperating and consulting, your work goals are less about satisfying your own ego—seeking recognition or impressing others with your position or education.

Instead, you're more focused on having your work make a positive contribution to the world. When you look at your work this way, you are not only getting self-satisfaction, but you are helping others, and you are worshipping God. – Steve



Global cooperation is seen on the International Space Station, which has had 239 visitors from 19 countries. The crew for Expedition 61 (above) was from the U.S., Russia, and Italy.

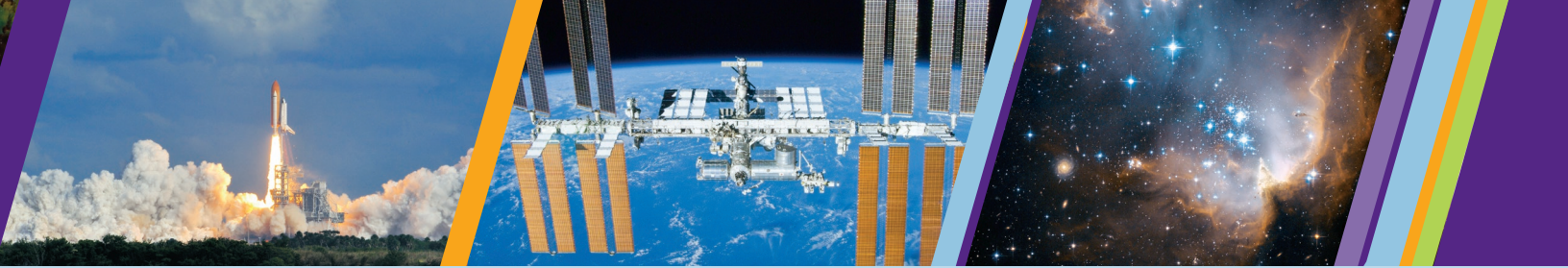
### BACH IN TIME

During the 1969 Apollo 11 mission, Neil Armstrong and Buzz Aldrin used the lunar module, called Eagle, to land on the moon for the first time. Michael Collins stayed in space, becoming the first person to orbit the moon alone. He piloted the command module, called:

- A) Eagle's Nest
- B) Enterprise
- C) Millennium Falcon
- D) Columbia



Astronauts Neil Armstrong, Michael Collins, and Buzz Aldrin



## How was the moon formed? – Sophia, age 13

Hi, Sophia,  
Our best hypothesis for the origin of the Moon is a giant impact. Earth formed about 4.5 billion years ago from dust, ice, and gas around the newborn Sun. Less than 100 million years later, an object the size of Mars hit Earth head-on. The impact was so huge that it destroyed the impacting object, ejected a large amount of material into an orbiting ring of molten rock, and temporarily enveloped the Earth in an atmosphere of vaporized rock.

Over the next century, the orbiting rock cooled. Eventually, its gravity pulled together the various pieces and assembled the Moon into a molten body. Over time, the Moon cooled. After countless asteroid and comet impacts, it became the dry, airless, cratered body we know today. Through tidal interactions with the Earth, its spin slowed until it became tidally locked after about 100 million years, with one side always facing Earth and the other side always facing away. It also increased its orbital distance to appear 15 times smaller in our sky. And it slowed Earth's rotation from an initial five-hour day to the 24-hour day we currently enjoy. – George



The far side of the moon (never seen from Earth) has many more craters than the near side. In this highlighted image, areas above 17,000 ft (5,182 m) are red, and those below -4,000 ft (-1,219 m) are blue.



**STEVE SCOTTI** is *Brilliant Star's* STEM Education Advisor and a Distinguished Research Associate at NASA Langley Research Center in Virginia, U.S. His background is in developing lighter, stronger materials and structures for aircraft and spacecraft. Watching the first astronaut launched into space inspired his interest in space exploration, and he enjoys sharing his enthusiasm about science and space with kids.



**GEORGE HATCHER** was an avionics engineer at the Kennedy Space Center in Florida, U.S., from 2004–2017. He worked on electrical systems of the space shuttle and uncrewed rockets. He also studied planetary science at the University of Central Florida. Working in avionics was a dream come true for George. He's aspired to be an astronaut since he was three. He's one of 100 finalists in the Mars One Project, which aims to create a human settlement on Mars.

## COSMIC QUIZ

Due to its changing position, the moon goes through phases where we see different amounts of sunlight reflected from the surface. If it's just a sliver, we call it a crescent moon. When it's a half circle, astronomers call it a quarter moon. Between the quarter moon and full moon, it's called:

- A) Balloon
- B) Three-quarter
- C) Gibbous
- D) Football

