



# APP DEVELOPMENT CHALLENGE

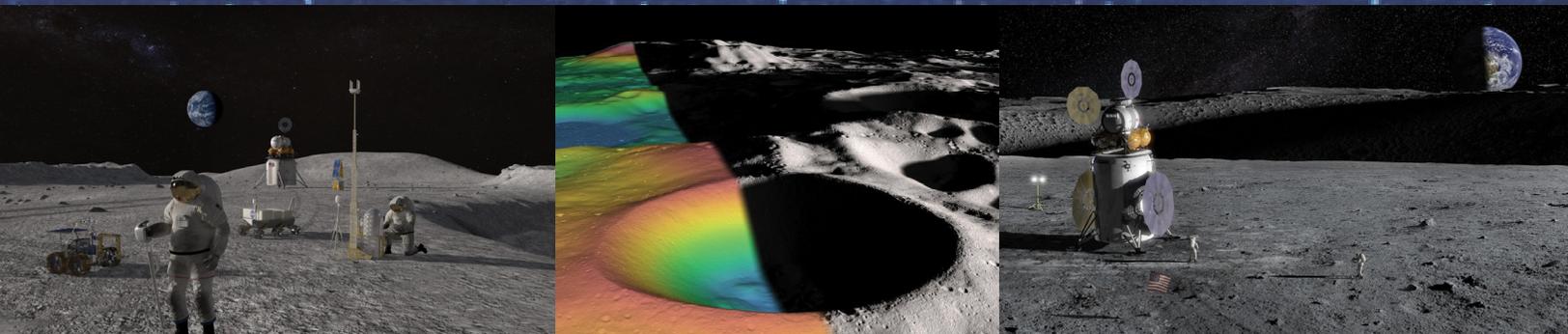
The App Development Challenge (ADC) is a coding challenge where NASA presents technical problems to middle and high school students seeking student contributions to deep space exploration missions.

By responding to the App Development Challenge, students take part directly in the Artemis Generation endeavors to land American astronauts, including the first woman and the next man, on the Moon by 2024.

Students work in teams to develop an app to visualize the South Pole region of the Moon.

- Teams will utilize lunar terrain data to create a visualization that displays essential information for navigation and communication.
- Teams will post videos of their app solutions online for consideration by NASA to use in future mission planning activities.
- Teams with favorable submissions advance to present their app in an interview with engineers and scientists working with NASA's Space Communications and Navigation (SCaN) team.
- After interviews, NASA will select the Top Team(s) for a culminating event experience in February 2021.

The challenge begins on September 30, 2020  
and concludes with video submissions on November 18, 2020.



**INSPIRE - ENGAGE - EDUCATE - EMPLOY**  
The Next Generation of Explorers



# Challenge

## Student teams must:

- Use any programming language (e.g. Java, Scratch, etc.) and/or operating systems (Windows, Android, etc.) to complete development of an app.
- Be able to process and read all provided position & slope data of the lunar South Pole region.
- Display all position and slope data in some meaningful form beyond text.
- Visualize a path that accounts for mission planning goals and identify communication link checkpoints.
- Calculate and display elevation and azimuth angles. (High School teams only)
- Submit a video of original student led work on the completed app.
- Adhere to school districts' or organizations' policies regarding participation in the challenge.
- Complete program requirements as identified by the ADC team.

## Timeline

September 30, 2020:	Live Virtual Kick-Off Event
October 14, 2020:	Live Virtual Connection
October 28, 2020:	Last Day to Register
October 28, 2020:	Live Virtual Connection
November 4, 2020:	Live Virtual Connection
November 18 2020:	Video Submission Deadline

## Eligibility Requirements

- Formal or informal U.S. education organizations may participate.
- Be part of a middle school team or a high school team. Student participants must be on one team only.
- Be on a team led by a certified and practicing K-12 educator, i.e. Lead Teacher. Submit a signed letter of support from principal or administrator of your organization during registration to confirm participation.

**For a complete listing of all eligibility requirements please visit our website.**

## Notify NASA

- After a thorough review of all the above, email NASA's ADC team at: [JSC-M2MSTEM@mail.nasa.gov](mailto:JSC-M2MSTEM@mail.nasa.gov) with questions or with team's intent to participate.
- Lead teachers must email a notification of intent to participate in the challenge that includes a signed letter of support from the principal or administrator of the team's school or organization. Notification of intent to participate must be received and confirmed, no later than end of day, October 28 2020.

## Contact Information

Email: [JSC-M2MSTEM@mail.nasa.gov](mailto:JSC-M2MSTEM@mail.nasa.gov)

Website: [www.nasa.gov/education/appchallenge](http://www.nasa.gov/education/appchallenge)