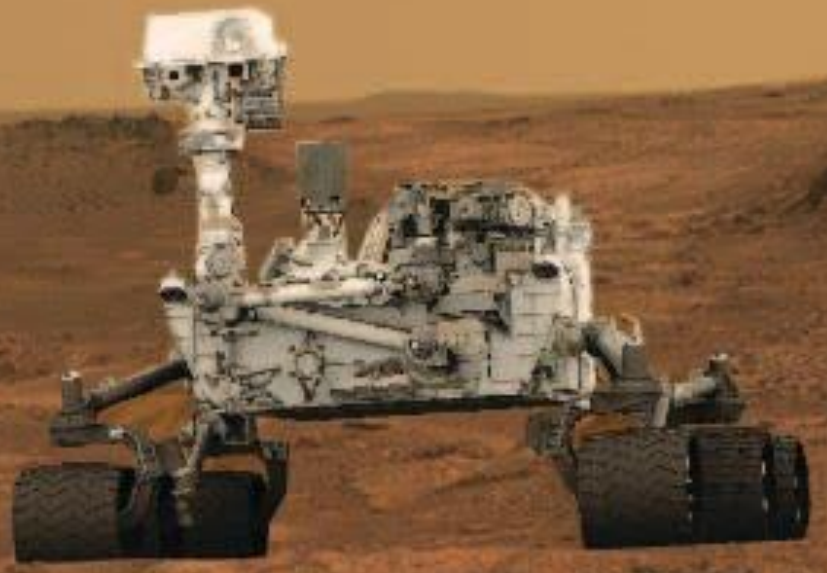
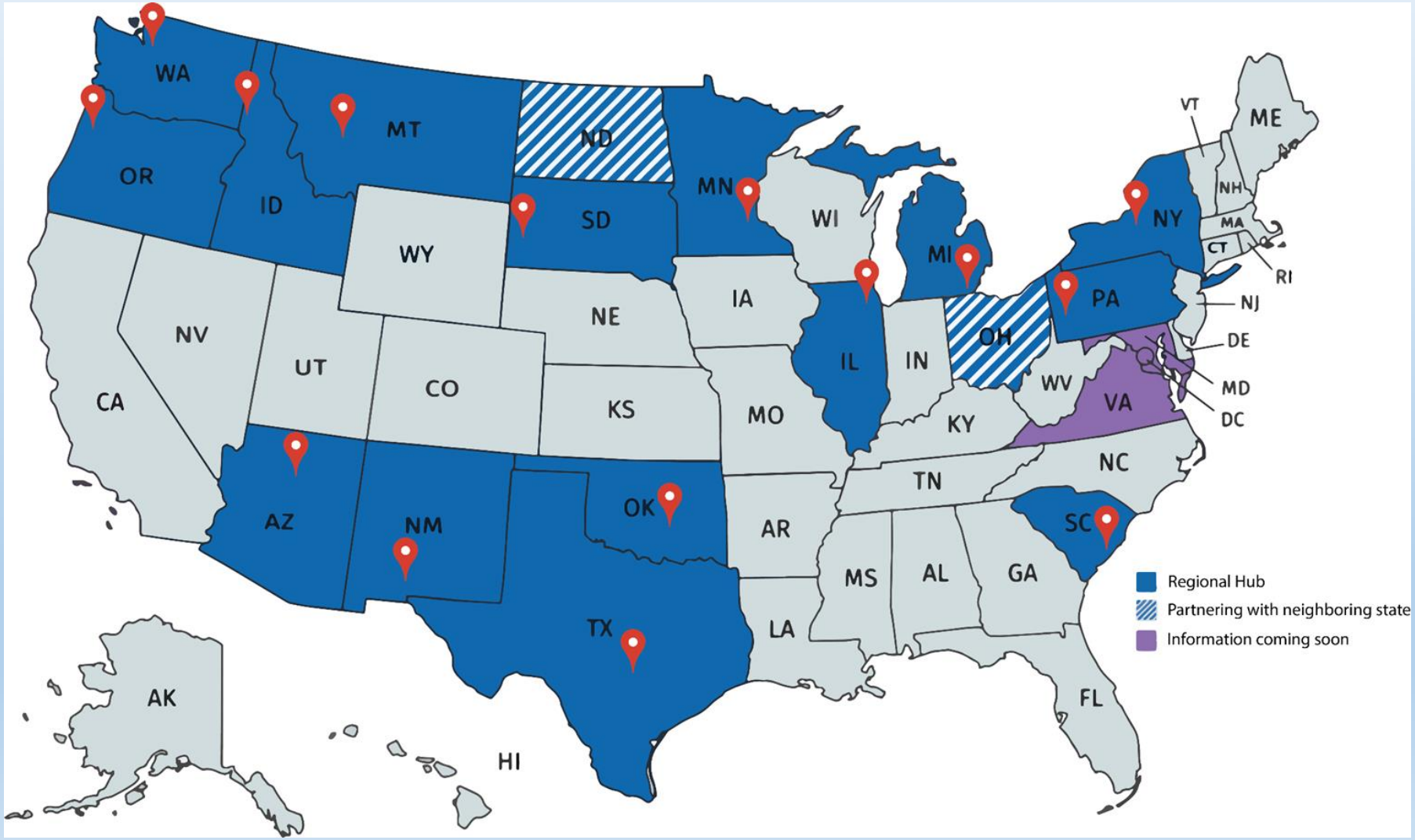
ROADS on MARS



Student Challenge

Regional Hubs from Apollo Next Giant Leap Student Challenge (ANGLeS)



ROADS on MARS

Rover Observations And Drone Survey on Mars

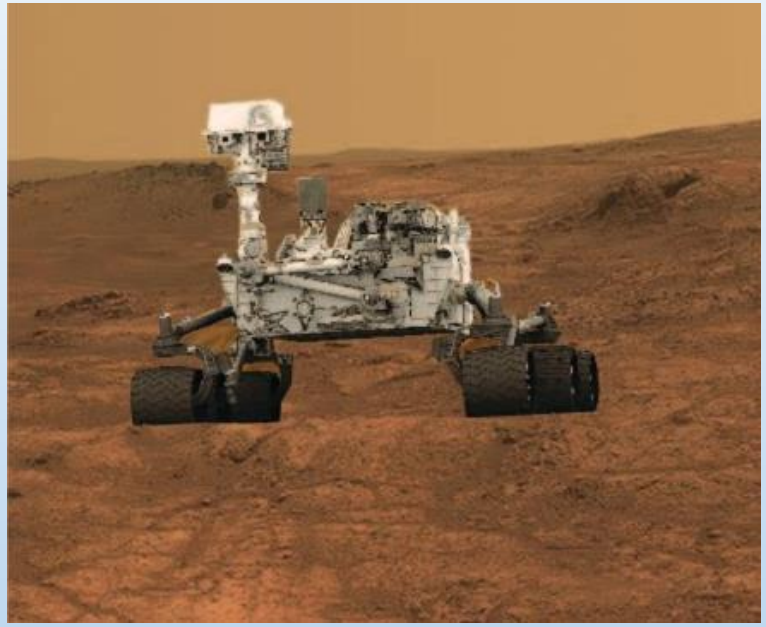
Registration: Opens Sept 23

Mini-Challenges: Dec thru Feb

Local Challenges: March

Regional Challenges: April 4-5

Mars 2020 Launch: Late July/early Aug

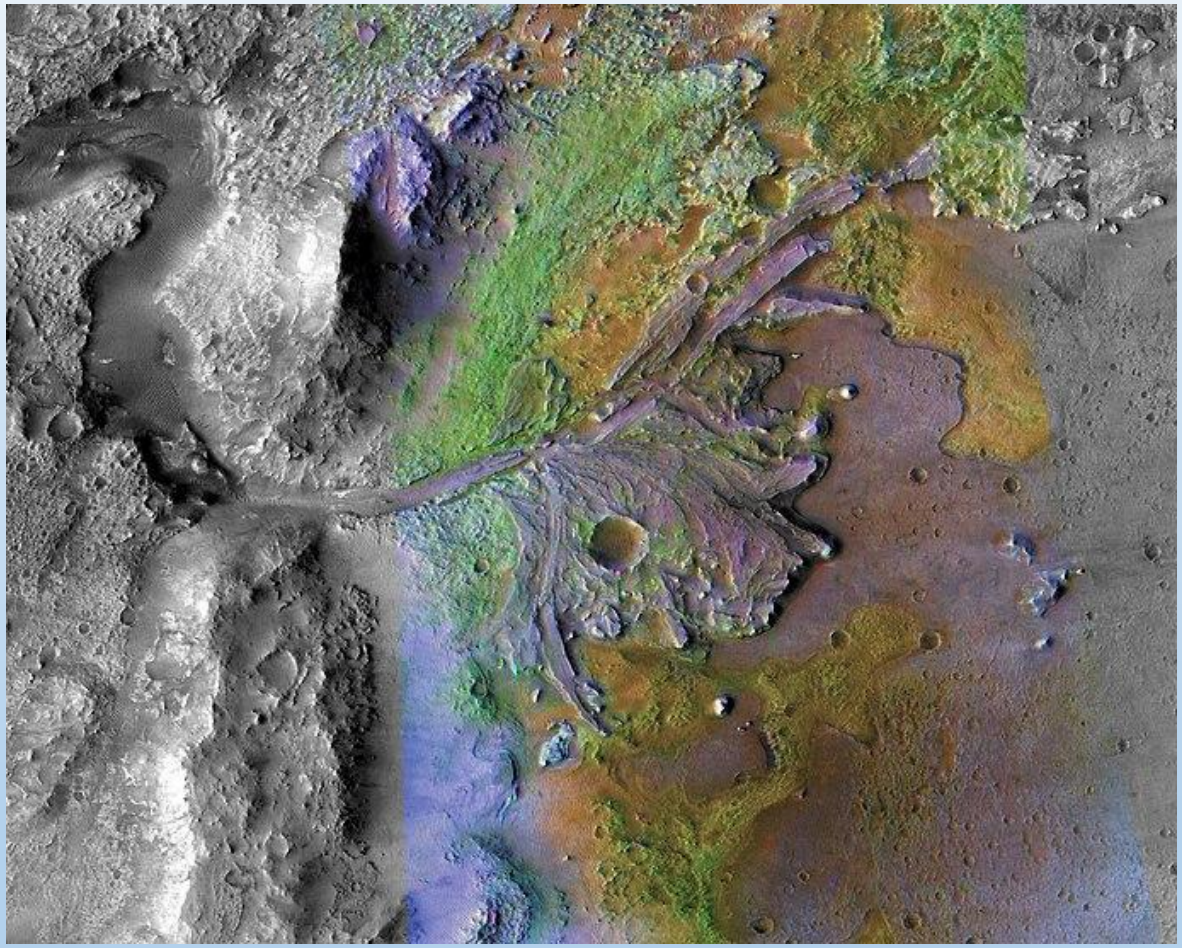


Demonstrated Impact for Educators, Students, SG Communities and NASA OSTEM and SMD

Challenge Components

Students will work with a map of the actual Mars 2020 landing site, and develop Earth analogues of observations that the rover might make.

- Mars surface processes – alluvial fan and crater formation
- Search for life – methane detection and macro-invertebrates
- Drone landing systems and remote sensing
- Robotics exploration



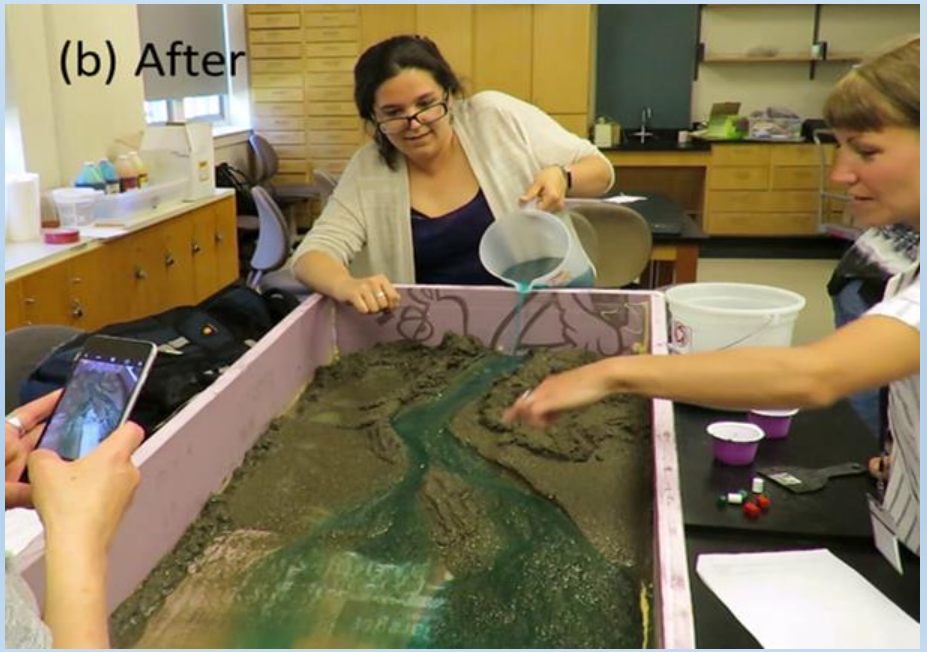
1. Environment Effort

Stream Flow Table – Earth/Mars analogues

video record variances such as flow rate, size of gravel, vegetation

OR

Look at crater formation processes



2. Search For Life

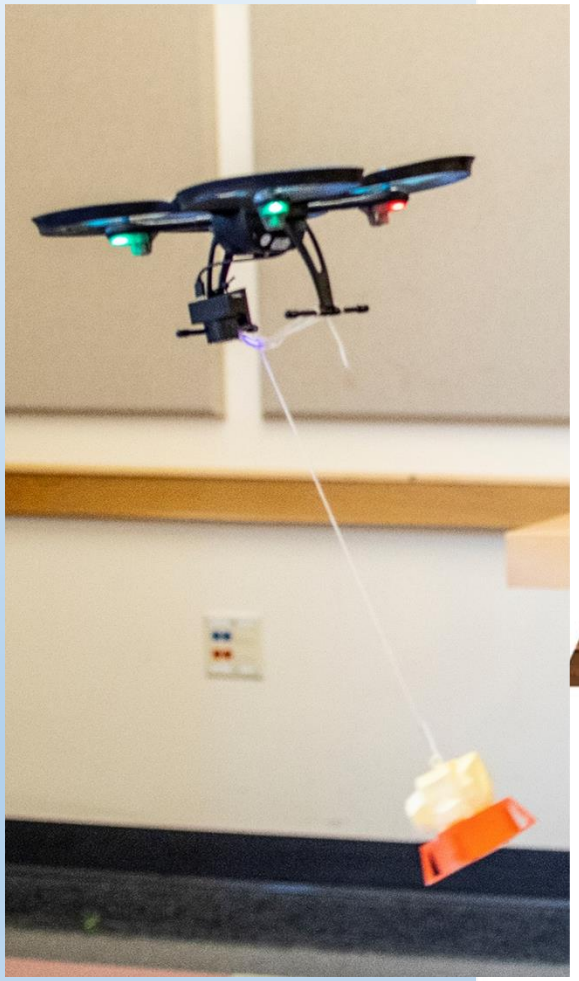
Explore their Neighborhoods for Methane Signatures

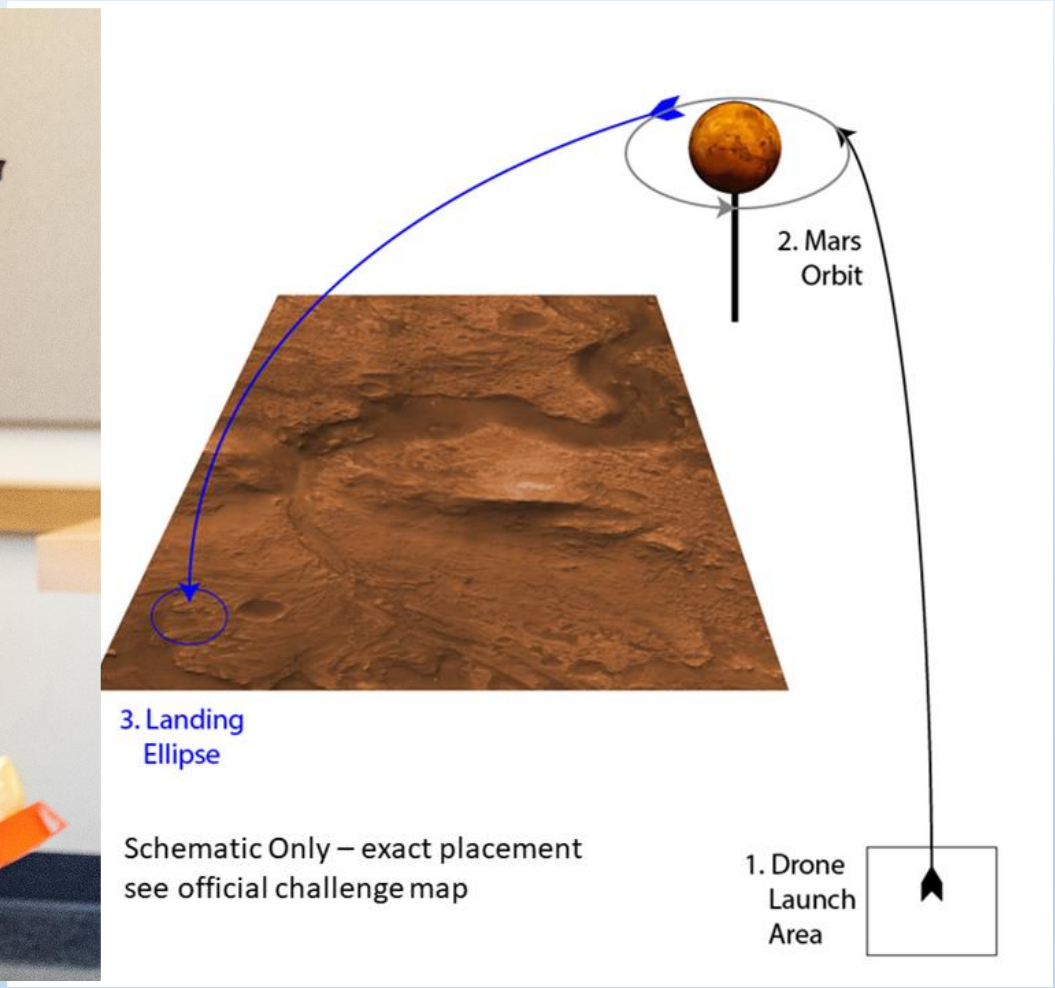
Using those signatures search for macro invertebrates

3. Drone/Lander

Build a Lander that is Attached to a drone to fly to Mars and then onto its surface.

For institutions unable to fly a drone this component can be replaced by a bean bag toss.





4. Program Robot to Explore Actual Landing Site of Mars 2020

Multiple Tasks:

- Picking up Lego Rocks
- Cache the Rock Samples on the surface
- Use the drone to image inside a crater

High School

- Recover rocks samples
- Fly a mini-drone
- Humidity

Participation

- Like to see greater participation across the US – open to having 25 **Hubs with some financial support**
- Encourage your encourage your Educator Networks to participate
- Some support is available for underserved communities

Web Site: nwessp.org/mars

- Question please contact winglee@uw.edu

Challenge Details:

Grades 3-4: Spirit Challenge

Environment, Search for Life, Drones, Ozobots

Grades 5-8: Opportunity Challenge

Environment, Search for Life, Drones,
Lego Mindstorm

Grades 9-12 Curiosity Challenge

Environment, Search for Life, Drones,
Lego Mindstorm, MiniDrone & Humidity
Sensor