



INSPIRE - ENGAGE - EDUCATE - EMPLOY

The Next Generation of Explorers



NASA Resources

Engineer Design Process



<https://www.txstate-epdc.net/models-of-the-engineering-design-process/>

Computer Science Standards

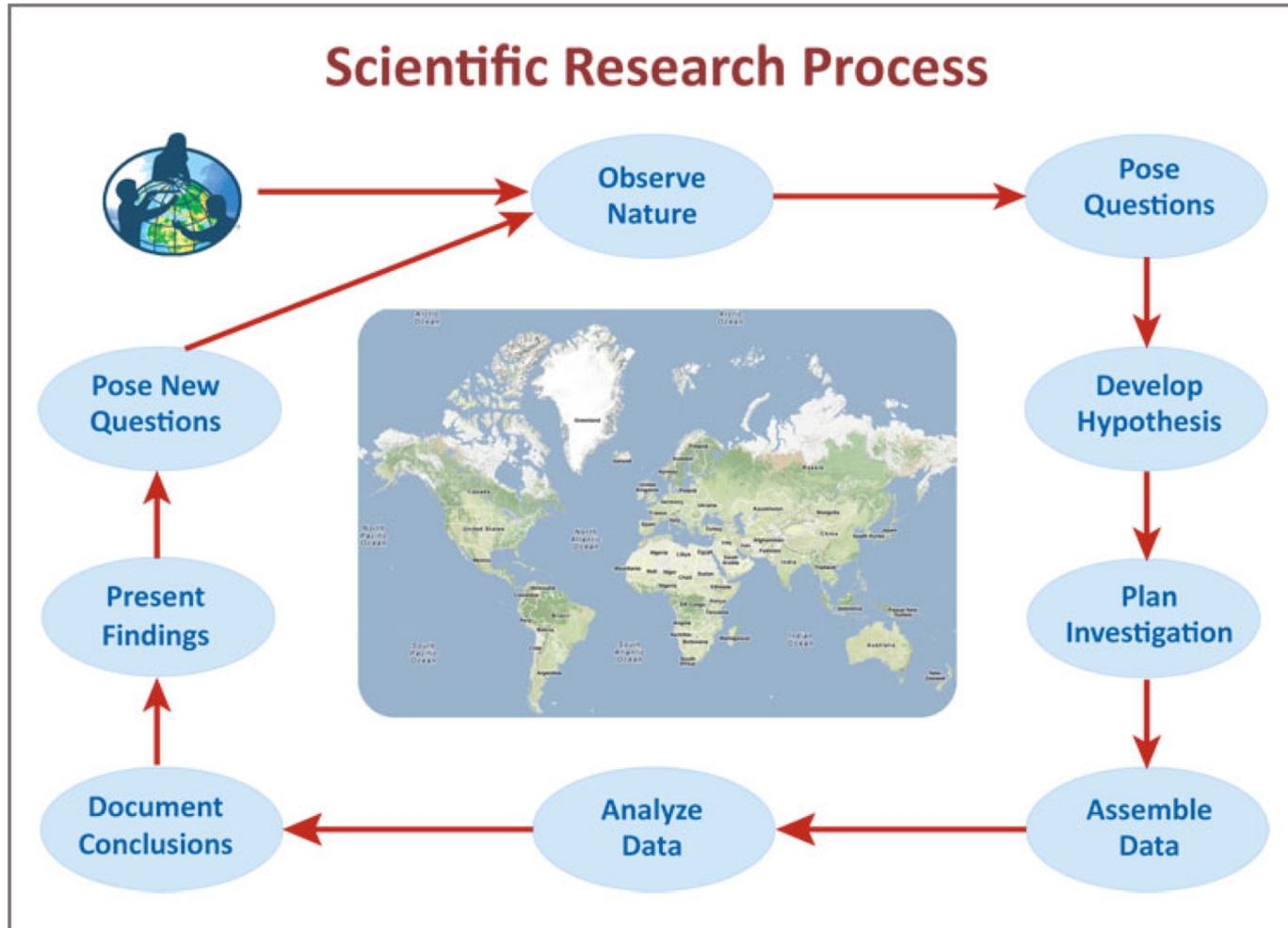


CORE PRACTICES INCLUDING COMPUTATIONAL THINKING



<https://k12cs.org/navigating-the-practices/>

Scientific Research Process



<https://www.globe.gov/do-globe/research-resources/student-resources/be-a-scientist/steps-in-the-scientific-process>



Moon to Mars



https://www.nasa.gov/stem/nextgenstem/moon_to_mars/index.html

Crew Transportation with Orion

Grade levels: 5-8

Subjects: Engineering, Geometry, Space Vehicles

Propulsion with Space Launch System

Grade levels: 5-8

Subjects: Engineering, Geometry, Rocketry

Habitation with Gateway

Grade Levels: 5-8

Subjects: Engineering, Space Vehicles

Educator's Notes



Activity Two: Design and Build a Space Habitat

Challenge

Students will work as a team to design and build a model of a space habitat using the engineering

Suggested Time

90 to 120 minutes design process. (Two full activity periods)

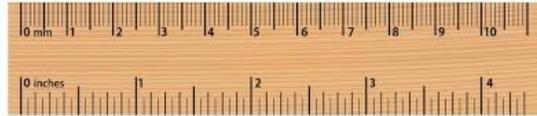
Learning Objectives

Students will

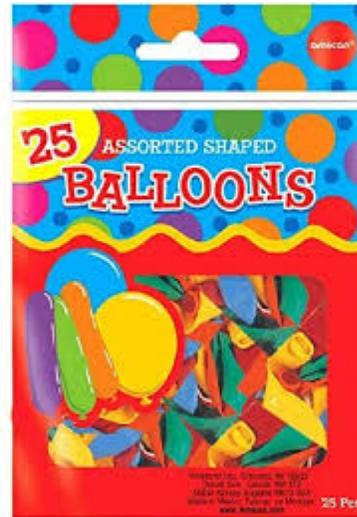
- Apply the steps of the engineering design process to successfully complete a team challenge.
- Design and build their own space habitat.
- Test their design, make observations, and collect data for analysis.
- Improve their model based upon the results of the experiment.

Aligned to Science and Engineering (NGSS), Technology (ISTE), and Mathematics (Common Core)

Common Household Materials



istock.com • 20183228





Commercial Crew Program

https://www.nasa.gov/stem/nextgenstem/commercial_crew/index.html

Crew Orbital Docking Simulation

Grade levels: 5-8, 9-12

Subjects: Computer Science, Space Vehicles

Scratch or Snap

Eggstronaut Parachute Challenger

Educator Guide

Grade levels: K-4, 5-8, 9-12

Subjects: Engineering Design, Force, Physics



Small Steps to Giant Leaps

Videos that accompany the
activities

<https://www.nasa.gov/stem/nextgenstem/ssgl/index.html>

NASA's Lower the Boom Citizen Science
Activity

Grades: 5-8

Subjects: Aeronautics, Flight, Sound

Senses of Sound

Grade levels: K-4, 5-8

Subjects: Sound

Sound Effect

Grade levels: 5-8

Subjects: Sound

Fan-tastic Forces

Grades: K-4, 5-8

Subjects: Flight



NASA @ Home

<https://www.nasa.gov/specials/nasaathome/index.html>

NASA @ Home Contains

- E-Books
- <https://www.nasa.gov/stem>:
Contains activities broken up into K-4, 5-8, 9-12
- Virtual tours and apps
- Podcasts
- Videos



NASA STEM STARS

<https://www.nasa.gov/specials/nasaathome/index.html>

NASA STEM
S • T •  • R • S

NASA STEM STARS

- Webchat Series that give students an opportunity to connect with Subject Matter Experts and Ask Questions.

X-59: <https://youtu.be/X7n3pbzChiQ>

Veggie: <https://youtu.be/7ukuCm7xrVY>

Wildlife

Ecologist: <https://www.youtube.com/watch?v=Js5LW1BS0w4>

Launch Date: May 27, 2020

Student activities will be coming for students and educators to participate.

NASA will be giving information how to host a launch party.

