

Lesson plan title

Jobs related to the launch of rockets

Institution

JAXA Space Education Center

Subjects

Periods for integrated study / Class Activities

School Grade

Elementary / Junior high / High school

Learning Unit

Career counseling

Session No. / Total Session Times

1/1

Materials & Equipments

- PCs (For using Google Earth. Installing Chrome browser is required.)
- A projector and a screen
- Internet access

Lesson Summary

- Conducting career counseling with the topic of launching rockets
- Considering who is involved in the launch of rockets and the related tasks
- This is not an ordinary explanation for occupations

Google Earth Usage Overview

- Google Earth Voyager "Riding a rocket"

Learning Objects

- Revisiting what's obvious to realize again the fact that one project can require many people to collaborate
- Changing how the participants perceive work by encouraging them to imagine and reflect on it, as well as to learn about it

Inquiry

- "What kind of people are involved in the launch of rockets?"

Culminating Task

- Whether or not the participants can consider behind-the-scenes tasks as well as what's visibly apparent

Lesson Outline with Estimated Time Allotment

- Total time: 50 mins
 - Introduction - 15 mins
 - Development - 25 mins
 - Summary - 10 mins

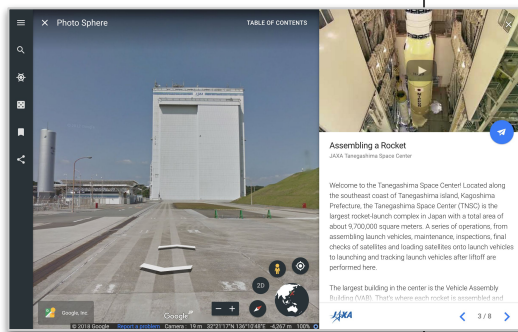
Lesson Scenario

Introduction - 15 mins

Time	Path	Students' activities	Teacher's guide
5 mins	What is space development?	Learning about space development briefly	Sharing the objectives and overview of the space development conducted by NASA and JAXA
5 mins	What kind of tasks are there in space development?	Listing up as many tasks in space development as possible Expected ideas: rocket building, astronauts, satellite building, mission planning, operating Himawari (weather satellite)	Inquiry: "What kind of people are involved in the launch of rockets?"
5 mins		Sharing ideas with the rest of the group/class	Encouraging the participants to exchange ideas

Development - 25 mins

Time	Paths	Students' activities	Teacher's guide
10 mins	Understanding the process of launching rockets	Watching the videos in "Riding a rocket" by Google Earth Voyager	Setting the PCs up and giving a brief explanation
10 mins	Discussing the unexpected tasks	Reconsidering the tasks related to the launch of rockets after watching the video above Expected ideas: transporting rockets by ship, devising traffic signals in the rocket launch island, Planning when to launch rockets, Fueling rockets	Inquiry: "What kind of tasks are there in the launch of rocket?" Additional inquiry: "What are the behind-the-scenes tasks for launching rockets?" ※Limit the responses to the tasks of launching rockets (No need to think about others such as artificial satellites)
5 mins	Exchanging ideas	Sharing ideas with the rest of the group/class Understanding the wide range of tasks required just to launch rockets	Introducing some tasks which are remotely related to the launch of rockets



Summary - 10 mins

Time	Paths	Students' activities	Teacher's guide
5 mins	Reflecting on the tasks which the participants considered at the beginning	Letting each group think about what kind of tasks there are Expected ideas: making components for artificial satellites, selecting astronauts, analyzing the images sent by Himawari	Inquiry: "What are the behind-the-scenes tasks for the jobs the participants initially thought about?"
5 mins	Impressions, self-assessment	Writing down the participants' impressions of the lesson and conducting self-assessment	

Evaluate: Exemplar Response and/or Rubric

- Using self-assessments and group evaluation

Additional Resources

- [The website for Rocket Navigator, JAXA Space Technology Directorate I](#)
- [The behind-the-scenes tasks which support the launch of JAXA's rockets](#)