LESSON: NASA Centers & Facilities (Project)

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Author: Ranganath Weiner

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School/Org: West Middle School

Lesson Overview:

Teams of students will go to http://www.nasa.gov/about/sites/index.html and learn about the 14 NASA centers, including the main mission of each center. Each team will create a PowerPoint presentation on 1 of the centers/facilities and present it to the class.

Suggested Classroom Time: 60-240 minutes

Grade Levels: 6-8

KLASS Module: 2-Orientation

Topic/Console: NASA Centers & Facilities

Materials Needed:

Activity	Documents	Other Materials
1	NASA locations website: http://www.nasa.gov/about/sites/index.html	Student computers with Internet connection, Microsoft PowerPoint, and writing tools
2	RDG_Centers-Facilities.doc ACT_Centers-Facilities.doc	Student computers with Internet connection, Microsoft PowerPoint, and writing tools
3	AS_Centers-Facilities.doc KEY_Centers-Facilities.doc MMAS_NASA-Centers.htm	Student computers for multimedia assessment or writing tools for handout

National Standards/Objectives:

Discipline	Standard	Objective
Science	G. History and Nature of Science	Students recognize science as a human endeavor.
Science	E. Science and Technology	Students develop their abilities in technological design.
Technology	Technology productivity tools	Students use productivity tools to collaborate in constructing technology-enhanced models, preparing publications, and producing other creative works.
Technology	Technology productivity tools	Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.

Desired Results:

Students will be able to answer an essential question

- What is the main purpose and function of each of the 14 NASA centers?

Students will know

- How to discover information about NASA locations.
- How to perform general research.
- How to present the information graphically.

Students will be able to

- Gather information from a website and create a graphical presentation using technology to present to the class.

Learning Plan/Activities:

1. **Introducing the Lesson.**
   Script: "How many of you know where NASA is located? Yes, Houston is correct. Any other locations? Yes, Kennedy Space Center is in Florida. Can you think of any other locations? Did you know that NASA actually has 14 centers and facilities in many different US cities? Let's check the map on NASA's website: http://www.nasa.gov/about/sites/index.html.

   If we click on the Satellite choice at the top of the map, we can see the distribution a little better. When you look at this map, what do you see/observe? Is there a pattern to these locations? Can you infer why each location was chosen?

   If we click on the Hybrid button, we can see the locations with the state lines drawn. Which NASA Center or Facility is closest to us? Which NASA Facility or Center would you like to work at some day?"

2. **Forming Student Groups and Completing Initial Research.**
   While this lesson suggests you break students into groups, these research projects could be done individually. There are 14 locations, so decide how you will assign them. Use the *NASA Centers and Facilities* answer key (KEY_Centers-Facilities.doc) as your guide for assigning topics. More tips on creating and assessing group presentations can be found in the *NASA History (Project)* lesson plan (_LES_NASA-History-Project.doc).

   Student teams will be given three NASA centers to explore as research topics. Once they have had time to explore the NASA centers from the map, they each will submit the *NASA Centers and Facilities* activity (ACT_Centers-Facilitities.doc), in which they will indicate their top choices. Once all activities and notes are submitted, assign topics, and groups.

3. **Creating and Evaluating.**
   Assign a presentation schedule and the grading rubric. Provide appropriate class time for each group to further research and take notes from its center's website. Provide guidelines for using the technology, such as length of presentation, and saving images to be used in its presentation. Have students rehearse their presentations with their groups and ask for feedback so they are prepared to teach the rest of the class

about their NASA Center.

4. **Sharing.**
   Announce the presentation schedule and evaluate the presentations based on the checklist and rubric. If needed, ask the audience to jot down 3-5 facts from each presentation, or require that each person ask at least one question during a Q & A period. Also, create a quiz that includes facts from each of the presentations so students can complete each section based on what they learned. A basic assessment of the locations is provided and can be easily edited to include more specific questions from the presentations.

Assessment Evidence:

Performance Tasks

1. Collect and evaluate the written summaries using the assigned strategy.
2. Assign credit and provide feedback on the group presentations with the checklist and rubric.
3. If appropriate, have groups reflect on how they could do things differently the next time they are asked to contribute via a small group.
4. Evaluate the knowledge gained via the lesson quiz.
5. Give individual feedback regarding improvements made working in a group and presenting to peers.

Other Evidence

1. Perform daily classroom observation and assessment of progress and participation.
2. Compare the abilities of the individuals to use the technology required to previously submitted samples.
3. Make notes to self on improving the process for the next group project.

Extensions and Going Further Resources:

- Spend time exploring the other NASA centers after the presentations to learn more about what was introduced in the class presentations.

- Math infusion could include Google Map Driving Directions queries and calculating gas mileage, cost per trip (based on today's gas prices), and calculating halfway points or distances from one NASA Center to another.

- Have students determine the longitudinal and latitudinal coordinates for various NASA locations.

- Be sure to check for student opportunities, additional educational resources and more at: http://www.nasa.gov/education