

Title:	Out of This World
Grade(s):	4
Subject(s):	Science
Author:	ICAC Team
Overview:	Using the computer and a research guide, students will gather information about specific planets in our solar system, create a list of interesting facts about the planet chosen by their group, and then present their findings to the class. <i>This lesson plan has been developed based on Jennia Russell's original Out of This World. ALEX lesson plan ID: 11232.</i>
Content Standards:	<p>SC (4) 10. Describe components of our solar system.</p> <p>ELA (4) 13. Demonstrate eye contact, articulation, and appropriate voice intonation with descriptive presentations.</p> <p>TC (3-5) 1. Use input and output devices of technology systems.</p> <p>TC (3-5) 2. Use various technology applications, including word processing and multimedia software.</p> <p>TC (3-5) 5. Practice safe use of technology systems and applications.</p> <p>TC (3-5) 8. Collect information from a variety of digital sources.</p> <p>TC (3-5) 10. Use digital environments to collaborate and communicate.</p> <p>TC (3-5) 12. Create a product using digital tools.</p>
Local/National Standards:	
Primary Learning Objectives:	<p>Working in groups, students will:</p> <ul style="list-style-type: none"> ▪ use the Internet and grade-level science books to find information on a specific planet; ▪ use the information gathered to complete the provided research guide; ▪ use the completed research guide to produce an illustrated research report as a Word Document; ▪ present their planet research to the class.
Additional Learning Objectives:	
Approximate Duration of Lesson:	90 minutes that can be divided into two 45-minute sessions (Lesson can be paused during or immediately after research segment.)
Materials and Equipment:	Grade-level books on the planets; board and markers; copies of attached Research Guide (one for each group).

**Technology Resources Needed:
Background/Preparation:
Procedures/Activities:**

Computer, Internet Access, **Internet Explorer** and **Microsoft Word**

Step 1 Begin the lesson by asking students what they know about the solar system. Correct any misconceptions. Have the students name all of the planets (include Pluto for now). Write these on the board. Ask students what they would like to know about the planets and write these responses on the board.

Divide students into groups of 2-4 so that each group has access to a computer. Explain to students what they will be doing as a group:

- Choosing a planet to research
- Finding information on that planet to complete their research guide
- Using Word to create an illustrated research report about their planet
- Presenting their research to the class.

Now, have each group choose their planet from the list on the board. (Make sure that all planets are covered. If you have more than 9 groups, more than one group can choose the same planet.)

Step 2 Hand out a research guide to each group. Groups will use science books and Internet websites to find information for their research guide. The groups may want to divide up the tasks on the Research Guide so that each student has a feature to research. Remind students of the classroom/school rules regarding Internet use. Several Space-related websites have been listed at the bottom of Step 2 for possible use.

If needed, review with students how to access the Internet through a browser such as Internet Explorer



and how to enter addresses in the address bar:



Have students use Word or pencil & paper to take notes on the information they find. Several websites for possible use are:

<http://kidsastronomy.com/>

Contains information on space and on specific planets.

<http://www.nasa.gov/audience/forkids>

This is NASA's site for kids that contains information on space and has games.

<http://edtech.kennesaw.edu/web/solar.html>

This site has several links to space related websites.

Step 3 When the groups have completed filling in their research guide, they may begin typing their most interesting facts in a **Word** document. To open a **Word**

Document, click on the **Microsoft Word** icon:



If needed, review how to use Word with your students. Make sure that they know how to save images and insert them into Word documents:

To save an image:

- Right Click on the image
- Choose Save Picture As...
- In the Window that pops up choose Desktop,
- Give the File a Name, and
- Click Save.

The picture can now be located on the Desktop.

To insert Images in the **Word** Document:

- Click on the "Insert" tab, then the "Picture" icon.
- Choose Desktop and click on the saved picture.
- Click Insert. The Picture will appear in the Document.


Remind them to save their documents frequently. Follow these instructions to save the document:

1. Click on the **Microsoft Office Button** 
2. Click on **Save as**
3. Choose **Word Document**
4. Click on **Desktop**
5. Type in a File name.

6. Click Save

The Document is now saved to the Desktop.

To save the Document to a USB Drive

1. Click on the **Microsoft Office Button** 
2. Click on **Save as**
3. Choose **Word Document**
4. Click on **My Computer**
5. Click on a **Drive** (Usually, the USB Drive may show up as Drive (F:))
6. Type in a File name.
7. Click Save

The Document is now saved to the USB Drive.

- Step 4 When groups have completed their research guide, have them present their information to the class. After each group has presented, ask students if their original questions were answered. Is there anything else they would like to learn about the solar system? How could they find this information?

Attachments:
Assessment
Strategies:
Extension:

Extension activity Planet Chart, Research Guide, Rubric

See Rubric

Have students research how weight differs on each planet or moon due to different gravities. Have students use the attached planet chart and the website listed below to determine their weight at each location.

<http://www.exploratorium.edu/ronh/weight/>

Planet Weight Chart

Planet	Surface Gravity	Your Weight on Earth	Weight on Planet
Mercury	.38 x		
Venus	.90 x		
Earth	1.00 x		
Mars	.38 x		
Jupiter	2.64 x		
Saturn	1.13 x		
Uranus	.89 x		
Neptune	1.13 x		
Pluto	.06 x		
Earth's Moon	.17 x		

“Out of This World” Research Guide

Group Members _____

Planet name _____

Position in solar system _____

Feature 1: Describe the planet’s size and what it is made of.

Feature 2: Describe what the planet looks like, its temperatures and what its atmosphere is made of.

Feature 3: Describe the rotation and revolution of the planet.

Feature 4: Describe any special features you learned about your planet.

Locate 2 pictures or illustrations of your planet that you can insert into your report.

List the names of the pictures here:

List resources (books & websites) that you used:

Assessment Rubric for Out of this World Planet Research

Score	1 Not at all	2 Somewhat	3 Mostly	4 Completely
Research Guide: <ul style="list-style-type: none"> ▪ Completed with accurate information for all required elements about planet. 				
Technology: <ul style="list-style-type: none"> ▪ Used Word to create document text and at least two illustrations. 				
Presentation: <ul style="list-style-type: none"> ▪ Used appropriate voice level, articulation, and eye contact during presentation 				
Student Participation: <ul style="list-style-type: none"> ▪ Had a good attitude ▪ Contributed positively to the group work ▪ Shared the Computer 				
Student Internet use: <ul style="list-style-type: none"> ▪ Followed classroom/school internet rules ▪ Interacted with appropriate websites to gather information 				