



January 23, 2007

Dear Bethune Space Research Team,

After meeting with Michael Griffin, NASA Administrator, it has come to my attention that there is the possibility that a Near-Earth object (NEO) could impact the Earth in the not so distant future. I didn't take Earth Science in school, so I'm not sure what that means. Mr. Griffith informed me that you were the best in space research and that is why I'm appointing you to research NEO's.

Upon the completion of your research, I would like you to prepare a PowerPoint presentation to be given to a committee that has recently been formed to address this issue. The committee includes myself, Michael Griffin, Shana Dale (NASA Deputy Administrator), Dr. Grant Stokes (Chair of the Science Definition Team).

I appreciate any help you can provide in this matter.

Regards,

President George W. Bush



January 30, 2006

Dear Bethune Space Research Team,

We have identified you as our best hope to save the people of the earth. While working in the International Space Station, Dr. Yo Momma So came upon some interesting data. It seems that the orbit of the comet 8P/Tuttle has changed. Dr. Yo Momma So contacted us immediately! According to his calculations, there is a 90% chance that the Tuttle comet is now on a path to collide with the Earth on January 26, 2008.

The implications of the collision are unclear. It is possible that it may result in mass extinction, totally annihilating all forms of life. It is up to you to locate other existing planets that could support life. The President needs to inform the American public of the crisis and a plan for relocation in two days. You will be joining him in addressing the people of the United States.

The President looks forward to hearing your plan in this urgent matter.

Thank you for your help,

Michael Griffin
NASA Administrator

Power Point Presentation Guidelines

At the end of scene 1, your group has been assigned the task of creating and presenting a power-point presentation of NEO's. You will be graded on content, preparedness, clarity, and presentation style. Presentations should be no longer than 5 minutes.

Your presentation should include the following things:

- The description of NEO's
- The possibilities of mass extinction.
- Compare contrast of asteroids, comets, and meteors

Model and Travel Guide Presentation Guidelines

For this case, “Fire in the Sky,” your group has the opportunity to make a model of the solar system (including the comet) to present with the president on CNN. The model must be accurate and to scale, but it can be as colorful, artistic, and creative as you want. You will also need to create either a travel guide or brochures of the planets and other objects of the solar system. Information must be accurate and true but the travel guides or brochures can be very creative.

Each group’s presentation must include these things:

- The created model of the solar system including the oncoming comet.
- Compare and contrast the other planets to earth.
- Provide evidence supporting your choice of our next home planet and reasons why other planets may not be adequate.
- Travel guide of the solar system that includes the planets and other objects.

Your group should consider all materials needed to complete this presentation and work as a team to make sure every task is fulfilled. Divide up the research as needed. Please work on the model and travel brochure together. See you on CNN!

Scene 1: Fire in the Sky

Instructions: Please fill this out and turn in *one per group*. Some suggested Facts and Learning Issues are included but feel free to add your own. If additional room is needed, use the back of this sheet.

Facts	Hypotheses
<ul style="list-style-type: none">• President Bush didn't take Earth Science in school• We have to prepare a power point presentation for a committee	
Learning Issues	Questions
<ul style="list-style-type: none">• What are the possible results of an impact of a NEO on earth?	

Scene 2: Fire in the Sky

Instructions: Please fill this out and turn in *one per group*. If additional room is needed, use the back of this sheet.

Facts	Hypotheses
<ul style="list-style-type: none">• Yo Momma So contacted us immediately• It is possible that it may result in mass extinction, totally annihilating all forms of life	
Learning Issues	Questions
<ul style="list-style-type: none">• How could the orbit of a comet change?• What planets can and cannot support life? Explain why they can or cannot support life.	

Fire in the Sky (Scene 1): Create and present a powerpoint presentation on NEO's				
CATEGORY	4	3	2	1
Identifies NEO's. Defines comet, asteroid, and meteor correctly.	Defines all NEO's correctly	Defines most NEO's correctly.	Identifies NEO's but does not adequately define NEO's.	Does not adequately identify or define NEO's
Defines mass extinction and includes Earth's history of mass extinction events.	Correctly defines mass extinction and correctly identifies theories of mass extinction in earth's history.	Includes both definitions of mass extinction and theories of mass extinction but information is incomplete.	Includes incorrect information about mass extinction.	Does not include any information on mass extinction.
Presentation Style	All students participated in the presentation, speaking clearly and loudly.	All students participated in the presentation but the information was not clearly presented.	Only some students participated in the presentation.	Few students participated in the presentation and the information was not clear.
Preparedness	All students were prepared and presented correct information.	Most of the students were prepared.	Most of the students were prepared but all did not demonstrate mastery of the topic (incomplete or incorrect information).	Students were ill prepared.
Powerpoint Quality	Students created an original and accurate product that addressed all the issues.	Students created an adequate product that addressed the issues.	Students created an accurate product that did not address all issues.	The information presented was inaccurate.

Fire in the Sky (Scene 2): Create and present an address to the American Public outlining the solar system and the ability of other planets to support life				
CATEGORY	4	3	2	1
Travel guide of solar system and provides evidence of the planets ability to support life	Identifies planets and provides evidence of their ability to support life (for their chosen planet and ALL others)	Identifies other planets but only provides evidence of how their chosen planet could support life.	Identifies other planets but chosen planet is not clear.	Does not identify other planets.
Modifications necessary for planet to support life	Includes all modifications necessary. Information presented is well researched.	Includes a few modifications with research.	Includes modifications but without research.	Does not include modifications.
Presentation Style	All students participated in the presentation, speaking clearly and loudly.	All students participated in the presentation but the information was not clearly presented.	Only some students participated in the presentation.	Few students participated in the presentation and the information was not clear.
Preparedness	All students were prepared and demonstrated mastery of the topic.	Most of the students were prepared.	Most of the students were prepared but all did not demonstrate mastery of the topic	Students were ill prepared.
Visual Aid (Model)	Model/poster is creative, labeled properly, easy to read, and well-crafted and to scale.	The model/poster is easy to read and adequately prepared.	Model/poster is jumbled and hard to read but contains all components.	Model/poster is missing components and sloppy.

Self-Evaluation Worksheet

Date: _____

Your Name: _____ Group #: _____

Instructions: Please circle the response with which you agree the most. This evaluation will only be read by your teacher and will not be shown to other students.

1. How would you rate *your* participation in group discussion and group work?

5 Excellent 4 Very Good 3 Good 2 Fair 1 Poor

2. How would you rate *your* effort in completing the case?

5 Excellent 4 Very Good 3 Good 2 Fair 1 Poor

3. Did *you* complete the assigned homework? **Yes** **No**

If No, explain why:

4. How well did *you* work with everyone in your group?

5 Excellent 4 Very Good 3 Good 2 Fair 1 Poor

5. Overall, how would you rate *your* performance in this case?

5 Excellent 4 Very Good 3 Good 2 Fair 1 Poor

6. What praise or criticism do you have for other group members? What are your thoughts about the case?
