

# Where the ... are we?!?!?

Name:

## ... and how do we go beyond where we are?

**Directions:** For your final assessment for the space science unit, you are going to become rocket scientists designing space ships. The space shuttle was retired this past year after being used for 30 years. NASA is trying to come up with a new space vehicle – something that is even better and can go further and faster than the shuttle. You are a rocket scientist writing a news article about your proposed space ship. You will include text in the article explaining the important features of your space ship, as well as a picture of the space ship. Your article will explain the following:

1. What your space ship looks like
  - a. What is the shape of your space ship?
  - b. Why did you make it that shape?
  - c. Your space ship will need to be streamlined – why is that?
2. What your space ship is made out of
  - a. What are the materials you made your ship out of?
  - b. Why did you choose those materials?
  - c. What are the benefits of the materials that you chose?
3. How your space ship works
  - a. How does your space ship take off?
  - b. How does your space ship move once it is in space?
  - c. How many astronauts will be in your space ship?
  - d. How do those astronauts survive?
    - i. Air?
    - ii. Water?
    - iii. Food?
4. How your space ship improves on the design of the space shuttle
  - a. What were some of the limitations of the design of the space shuttle?
  - b. Why did the space shuttles Challenger and Columbia explode?
  - c. How did you fix these problems with your new design?
5. Why space exploration is important
  - a. How does space exploration benefit humanity in terms of knowledge about our universe?
  - b. What is the economic cost of space travel?
  - c. What are the social benefits of space travel?
    - i. Excitement about science
    - ii. Advances in technology that can help us here on Earth

### Beginning Your Research

You will need to do some background research in order to design your space ship. You will also need to properly cite all sources that you use. Several helpful websites are listed below. You may use other sources if you wish, but these sites are a good start.

1. [http://encyclopedia.kids.net.au/page/sp/Space\\_Shuttle](http://encyclopedia.kids.net.au/page/sp/Space_Shuttle)
2. [http://en.wikipedia.org/wiki/Space\\_Shuttle\\_design\\_process#Shuttle\\_design\\_debate](http://en.wikipedia.org/wiki/Space_Shuttle_design_process#Shuttle_design_debate)
3. [http://en.wikipedia.org/wiki/Space\\_Shuttle\\_Challenger\\_disaster](http://en.wikipedia.org/wiki/Space_Shuttle_Challenger_disaster)
4. [http://en.wikipedia.org/wiki/Space\\_Shuttle\\_Columbia\\_disaster](http://en.wikipedia.org/wiki/Space_Shuttle_Columbia_disaster)

### Assessment

For this assignment you will be assessed according to **MYP Science Criteria A & B**. Make sure that you read the rubrics very carefully – you need to understand how you will be marked!

M1 Science  
*Our Place in the Universe*  
**Assessment Criteria**

**Criterion A: *One World* (max: 6)**

Achievement Level	a) How is science used to sort out global or local problems and issues?	c) How does science interact with other factors?
0	• You do not reach a standard described by any of the descriptors below.	• You do not reach a standard described by any of the descriptors below.
1 – 2	• You give <b>one example</b> of the way in which science can be used to create a better space ship than the space shuttle	• You <b>attempt to comment</b> on how science interacts with <b>at least one</b> of the following: advances in human knowledge or economic costs versus social benefits
3 – 4	• You give <b>examples</b> of ways in which science can be used to create a better space ship than the space shuttle and you <b>state</b> the importance of space exploration	• You <b>comment</b> on how science interacts with <b>at least one</b> of the following: advances in human knowledge or economic costs versus social benefits
5 – 6	• You give examples and <b>comment</b> on the ways in which science is used to used to create a better space ship than the space shuttle and you <b>comment</b> on the importance of space exploration	• You <b>comment</b> on how science interacts with the following: advances in human knowledge or economic costs versus social benefits

**Criterion B: *Communication in Science* (max: 6)**

Achievement Level	a) How well do you use scientific words?	b) How well do you describe/explain/present scientific information?	c) How clearly do you say where you got information?
0	• You do not reach a standard described by any of the descriptors below.	• You do not reach a standard described by any of the descriptors below.	• You do not reach a standard described by any of the descriptors below.
1 – 2	• You use some scientific language.	• You communicate <b>some</b> scientific information.	• You <b>make little attempt</b> to document sources of information.
3 – 4	• You use some scientific language correctly.	• You communicate scientific information with <b>some effectiveness</b> .	• You <b>partially document</b> sources of information.
5 – 6	• You use scientific language correctly.	• You communicate scientific information <b>effectively</b> .	• You <b>fully document</b> sources of information <b>correctly</b> .