Think About It

Think about the Wind Powered Boat activity as you discuss the Engineering Design Process and answer the questions on page 9.

Step 1
What is the challenge?

Step 2
How have others solved this?

Step 3
What are the design criteria and constraints? Brainstorm possible solutions.

Step 4
Which of the possible solutions do you choose?

Step 5
Build prototype.

Step 6
How does it work? Try it and test again.

Step 7
How do you learn from the designs of others?

Step 8
How can you use your new ideas to improve your design?

Engineering Design Process

TECHNICAL REPORT – ELEMENTARY SCHOOL

Name ____________________________ Date ____________________________

Project/Competition

Describe the goal of this project:

What was the biggest challenge?

What was the most important lesson you learned?

What is one thing you can do next time to make your project better?
Writing a report: Scientists and engineers do projects, build models and conduct experiments to investigate and test their ideas about how something works. Making and recording observations are very important parts of the work done by scientists, engineers and all MESA students. When working on MESA activities and projects, you need to make careful observations and keep complete, accurate records of your observations. You will be recording them on this MESA REPORT sheet so that you can refer back to your ideas and observations at a later time. Below you will find some directions on the kind of information that needs to be in your report sheet and enough space for you to give a response that deals with the MESA activity for this day.

The title needs to clearly describe what your project or activity is about.

Title: ________________________________________________

The goals section describes the purpose for doing the project.

Goals: ________________________________________________

The rules section explains what limitations you have or requirements you must meet in order to successfully complete your project.

Rules: ________________________________________________

The materials section needs to be a complete list describing the quantity and the equipment you are given to do the project.

Materials -- Description

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

The procedure section needs to outline or describe the major steps you did while working on your project. Other people...
should be able to build a project similar to yours by following your procedure description.

Procedures:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

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________________________________________________________________________

The observations section describes what happened while testing your project and the projects of other groups.

Observations:

________________________________________________________________________

________________________________________________________________________

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________________________________________________________________________

It is always helpful to include a diagram such as a drawing of the final project or data (information) that has been organized into a table or graph. Make sure you label everything on your diagram.

Diagram:

Good scientists, engineers and mathematicians use observations made from the work of others as well as their own to propose improvements for projects. What proposed improvements do you have for your project? Make sure to explain why these changes are necessary to make your project more successful.

Proposed Improvements:

________________________________________________________________________

________________________________________________________________________

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________________________________________________________________________