

Small Group Exercise: Using units in computation

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Activity Kind

Small group exercise

Purpose

The purpose of this exercise is to exercise the use of the basic concepts of the units of measure and to surface issues that are not clear from the reading.

Pre-requisite

Students are expected to have done the following:

1. Participated Introduction to Units and the Hohmann Transfer Orbit Small Group Activity
2. Did the individual research last evening on Units of Measure.

Tasking

Students are partitioned in to groups of two to three students. Each small group works together to answer do the following problems. You are to put the results in your ENB and make notes if you disagree with the group answer and explain what you think the answer should be.

Write out the information in the following sentences as proper mathematical formulas, using units. Then, compute the result, step by step, showing the use and changes of the units as well as the numeric values.

1. A spacecraft is moving at a velocity of 13,000 meters per second. The space craft travels for 3.265 hours at that velocity. How many kilometers does the spacecraft travel? Be sure to show every computation, including the change from seconds to hours and meters to kilometers. Do every operation, one step at a time and show us the results of each step.
2. A spacecraft is closing in on a space station at a velocity of 1,500 meters per second. The spacecraft masses 3,000 kilograms with an engine that can generate 2,000 Newtons. How long will it take for the spacecraft to bring the relative velocity to zero?

Deliverable

Each student is responsible for placing the questions and answers into their ENB for this activity.

Submission

The students must produce and submit their ENB by the end of the day.