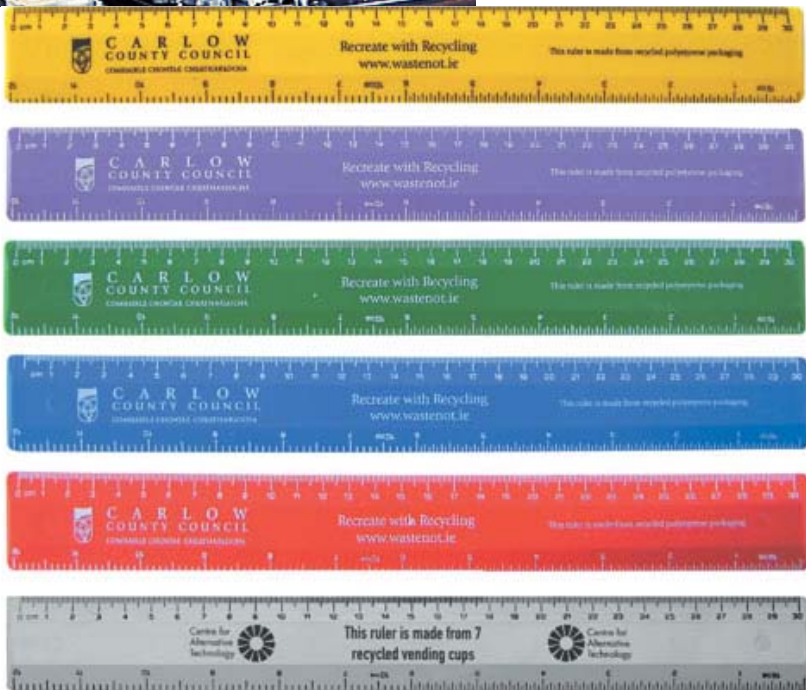


## Mars Rover Model Celebration – Lesson Plan



**standardized:**  
when all of a particular type of item are made to be the same as each other

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### Introduction:

One of the new vocabulary words for this unit is “standardized”. Standardized means “when all of a particular type of item are made to be the same as each other.” It is especially important for measurements, such as weights and distances, to be standardized. A kilogram has the same weight whether you are located in Florida, Texas or Hawaii.

Let’s look at some pictures that will help us understand the meaning of “standardized”. In the picture at the top, you can see rows and rows of auto parts. Car parts for a particular model of car are standardized. So, if a part breaks on any Camaro, all the car owner has to do is to buy a standardized Camaro replacement part. It will fit in the car the same way and work the same way as the original. If parts were not standardized, people would have to go to a tool shop to have new parts made. Each Camaro would be slightly different from the next, so a part that worked in one, might not work in the next. In the second picture, each ruler looks different, but each inch is a standardized unit of length. This is important to accurately measure how long something is. No matter which ruler you use, the answer will always be the same because the inches are always the same size.

### Example:

Try to imagine a world in which there are no standardized measures, a world similar to the one in the book we read earlier “How the Foot Came to Be”. Just think about how hard it would be to buy, sell or build anything when a “foot” is a different size for everyone. If you needed 20 feet of rope, but the man you bought it from had small feet, you might not have enough rope for your project. A house would look quite strange if each wall were built by people using feet of different sizes.

For all these reasons, many items in our world are standardized. If you buy a 1 liter bottle of soda anywhere in the world, each bottle will have the same amount of soda.

### Reflection:

I am going to read some sentences. If the person is using a standardized measure, put your thumbs up and say STANDARDIZED. If they are not using a standardized measure, put your thumbs down and say “NOT STANDARDIZED. Then, explain why the measurement is not standardized.

- Some children measure how long their desks are using their fingers. (NOT standardized—the length of the children’s fingers will be different)
- Students measure the temperature of a pond each day for a month using Fahrenheit thermometers. (thumbs up-standardized)
- The bus driver says that he is 10 car lengths behind a fire truck. (NOT standardized—cars come in different lengths)
- Students use yard sticks to see how far they can throw a ball. (thumbs up-standardized)

### Make it personal:

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Think about your Mars rover project. Can you think of any circumstance in which it might be better to use a non-standardized measurement or should you always use standardized measures? Share your thoughts with your neighbor. Be sure to use the word “standardized” in your discussion. I will ask some of you to share your ideas with the class.