



**ingenuity:**  
cleverness or talent for inventing useful things  
and thinking of useful new ideas

## Mars Rover Model Celebration – Lesson Plan

### Introduction:

One of the new vocabulary words for this unit is “ingenuity”. Ingenuity means “cleverness or talent for inventing useful things and thinking of useful new ideas”. The word ingenuity comes from the word genius, which is a word used to describe someone who is especially intelligent. Sometimes the prefix “in” means not. However, in this case, the in comes from the original root word and indicates a stronger meaning. So, ingenuity is more than just being a genius or smart person. It denotes a person who is very smart and clever at the same time.

### Example:

Let’s look at two pictures that will better help us to better understand meaning of ingenuity. In the first picture, the yellow parakeet is very thirsty. This bird is showing ingenuity in getting water by hanging upside down on the spigot to be able to reach his beak under the faucet. The other picture also shows ingenuity. The barricade shown here is made from a heavy log. Opening the barricade would be difficult for many people as the log is quite heavy. However, by attaching a bicycle tire to the log, it is now easy for almost everyone to open. The designer also used ingenuity to make sure that the barricade could be opened only by authorized people. The log is chained to the post and can only be opened by opening the lock. The barricade is both easy and hard to open—easy for those who should open it and hard for those who shouldn’t be able to open it.

### Reflection:

I am going to tell you about some inventions or ideas that might exist some day in the future. If these show cleverness or a talent as something useful, put your thumbs up and say **INGENUITY**. If they are not particularly clever and useful, put your thumbs down and remain silent.

- Cars come with sensors that detect when they are too close to another vehicle and apply the brakes to prevent accidents (thumbs up)
- Instead of keys, locks work using face recognition technology and only open the door for a person who lives at the house (thumbs up)
- Tests come on papers that grade themselves as a student completes each answer (thumbs up)
- Rather than buying milk in bottles, every child lives with several cows that provide them with milk every day. (thumbs down)

### Make it personal:

Think of a time when you had a big problem that you were able to solve using your ingenuity. Share both the problem and the solution with your neighbor. Start your sentence by saying, “I used ingenuity to \_\_\_\_\_” I will ask some of you to share your ideas with the class.