

# Rovers on the Red Planet

## **Vocabulary:**

*air pressure*  
*evaporate*  
*atmosphere*  
*abrasion*

## **Sneaky Preview!** **True or False??**

- T. F. *The sky over Mars is a yellowish brown.*
- T. F. *Spirit is the name of a roving robot.*
- T. F. *There is lots of water on Mars.*

## **Learn the planets!**

Amazing Mercury is closest to the Sun,  
A hot, hot, hot, hot Venus is the second one,  
Pretty planet Earth orbits in the third spot,  
Fourth, magical Mars awaits an astronaut,  
Next, giant Jupiter broadcasts through the night,  
Sixth is Saturn, with shining rings so bright.  
Uranus and Neptune, too far to see or call,  
And tiny, dark Pluto, the last planet of all.

## **You are the scientist!**

Design a Robot that could explore your bedroom! Label the parts. Remember, it will need to be able to deal with clothes and toys that might be on your bedroom terrain!

*“Robot lands on planet with butterscotch skies and strawberry sunsets”* - sounds like a story from Candyland? It’s real; a robot from our own Earth flew through the wild dark emptiness of space and landed on Mars.

Who sent these robots? NASA! NASA scientists built a 400-LB robot named Spirit and a twin named Opportunity. Both were built with many special features to help them explore Mars. On top of the robot are two camera eyes that can move around and send pictures back to Earth. There are two more eyes on its tummy - to prevent Spirit from bumping into Martian rocks or falling into Martian holes.

Spirit can do way more than take pictures. It can drive around. It also uses a RAT to explore the rocks. A live rat on Mars? No, RAT is short for Rock Abrasion Tool. It is used to saw off the rock surface and then take some of the rock for tests.

What kind of test would a rock take? Well, NASA scientists are looking for clues in the rocks. Mars is a windy, dry planet with little atmosphere. However, there are places on Mars that look like dried up lakes and rivers. Spirit landed in a giant crater that looks like a dry lake bed. This place is named Gusev Crater.

Spirit will test the rocks from Gusev Crater to see if there are any signs of water. Certain minerals, such as gypsum or calcium carbonate, are always found with water - at least on Earth! . Also, the dirt at the bottom of a lake is neatly layered. Spirit will dig down and see if the soil is layered or mixed.

We know there is no standing water, such as lakes or ponds, on Mars. The air pressure is so low that any water would quickly evaporate. Scientists believe that if water once existed on Mars, there might still be some beneath the surface. Also, water means that there might have been some kind of life!

For this water search, Spirit was sent to Mars. In the last minutes of January 3rd, Spirit’s parachutes opened. To soften the landing, airbags inflated. After many bounces and rolling to a stop, Spirit’s spaceship unfolded like the petals of a flower and Spirit took its first look at Mars.

Spirit has a twin named “Opportunity”. On January 25, Opportunity landed on the other side of Mars in a strange place called Meridiani Planum. This twin will send back pictures and conduct tests on the opposite side of the candy land planet.

Is there water on Mars? Life? This robot team will find out!

## Name The Terrain: Latin For Earthlings

Many places on Mars do not have names. The hills to the East of Spirit need to be named. Many crater holes and rocks need to be named. For now, you have a chance to do something crazy and fun. You can pretend that you landed on Mars with Spirit or Opportunity. You get to name some stuff. Name at least five landforms. Now, draw a picture and label your five discoveries. Use these Latin nouns and adjectives:

blue: caeruleus

river: fluvius

hill: collis

wide: amplus

lake: lacus

hard: durus

mountain: mons

plain: planitia

tall: altus

rock: petra

soft: lenis

old: vetus

red: rufus

large: grandis

sea: mare

small: parvus

ridge: dorsum

night: nocturnus

## Martian Math

**Problem One:** How much would you weigh on Mars? (We need to know so that we can make your spacesuit fit.)

How much do you weigh on Earth? \_\_\_\_\_

Easy way: divide your weight by 3. \_\_\_\_\_

Calculator way: multiply your Earth weight by .39. \_\_\_\_\_

**Problem Two:** How old are you on Mars? (We have to have the birthdays figured out for the trip.)

How old are you on Earth? \_\_\_\_\_

Multiply that by 365. \_\_\_\_\_

Divide that big number by 687. \_\_\_\_\_ Whoa!  
shouldn't you be in kindergarten or something?

Did I hear a "WHY?" back there?? Problem One: Well, when you weigh yourself on Earth you are really measure the pull of Earth's gravity on your body. Mars is a smaller planet so it has less gravitational pull. Even without a diet, you weigh less on Mars. Problem Two: It takes the planet Mars longer than Earth to orbit around the Sun. In Earth days, it takes Mars 687 days to circle the Sun and experience one year.