

# Moons

## Part I

### Purpose

The purpose of these activities is to further examine similarities and differences between the planets Mars and Earth; the moons of these planets are the focus. Students will compare and contrast the moons of Mars and Earth, through research, discussion, and modeling. Part I emphasizes Earth's moon, while Part II focuses on Mars' moons.

Students will be able to

1. Make observations about and discuss the moons of Earth and Mars, specifically noting similarities and differences.
2. Note the significance of the moons' role as planetary satellites.

### Important Vocabulary (key terms in bold)

Mars	<b>Earth</b>	<b>moon</b>	<b>satellite</b>
<b>orbit</b>	gravity	tide	eclipse
<b>crater</b>	impact	<b>maria</b>	phase
regolith	Luna		

### What's the Missing Letter?

Students fill in missing letters to make complete words. This should be used as an opening activity, followed by a discussion of Earth's moon.

(\*\* See below for printable activity sheet.)

#### KEY

<i>Part I</i>	<i>Part II</i>
martian mountains	climate D
solar system	solar system D
space station	topography S
mars mission	geology S
earth exploration	moons D

### Our Moon Defined

Students discuss what they know about the Earth's moon, brainstorming and taking notes. Some key terms are introduced during this discussion, which is followed by a vocabulary exercise.

(\*\* See below for printable activity sheet.)

### Whaddaya Know...about the Moon?

Students engage in an interactive lesson about the moon, from the Brain POP website. It is a mini-movie (<http://www.brainpop.com/science/space/moon/index.weml>) with a printable activity sheet (<http://www.middleschoolscience.com/BrainPOPmoon.pdf>). (NOTE: There is very limited access to the BrainPOP website, without purchasing a subscription; but students may be able to access it from home to complete this activity for homework.)

### Resources

NASA's 155-page publication, "Exploring the Moon: a Teacher's Guide with Activities for Earth and Space Science," (<http://www.challenger.org/tr/download/ExpMoonTchg.pdf>) includes extensive background reading, several activities, and numerous extension ideas. This resource is highly recommended for a more in-depth study of the Earth's moon.

# What's the Missing Letter?

**Part I.** Add a letter at the beginning of these nonsensical groups of letters, and then find another place within the group to add the same letter (plus a space!), to make two words. Write your answer on the line next to each group. For example: to 'pace,' add 's' to get space; for 'pacehuttle,' add 's' x2 to get space shuttle.

1. artianountains \_\_\_\_\_
2. olarystem \_\_\_\_\_
3. pacetation \_\_\_\_\_
4. arsission \_\_\_\_\_
5. arthxploration \_\_\_\_\_

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**Part II.** Mars and Earth possess great similarities, but differences as well. Fill in the missing letters to discover each word. Then write 'S' for 'similar' or 'D' for 'different,' to indicate how each is generally compared.

1. \_\_\_\_lim\_\_\_\_te Similar or Different? \_\_\_\_
2. \_\_\_\_ola\_\_\_\_s\_\_\_\_st\_\_\_\_m\* Similar or Different? \_\_\_\_
3. t\_\_\_\_p\_\_\_\_gr\_\_\_\_ph\_\_\_\_ Similar or Different? \_\_\_\_
4. \_\_\_\_ur\_\_\_\_ac\_\_\_\_ Similar or Different? \_\_\_\_
5. m\_\_\_\_o\_\_\_\_s Similar or Different? \_\_\_\_

\* as in location

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## Speaking of Moons...

Let's compare the moons of Mars and Earth. First of all, what do we know about our *own* moon?

# Our Moon Defined

*DIRECTIONS:* Match each term to its definition, connecting them with a line.

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- |              |   |
|--------------|---|
| 1. satellite | a) a bowl-shaped depression in a surface  |
| 2. orbit     | b) occurs when one celestial body blocks out another  |
| 3. maria     | c) the natural force of attraction exerted by a celestial body  |
| 4. crater    | d) to revolve around something  |
| 5. tide      | e) large, dark areas on the moon  |
| 6. eclipse   | f) the rise and fall of the surface level of oceans, bays, gulfs, inlets, and estuaries, caused by gravitational attraction of the moon and sun |
| 7. gravity   |   |