



Warm-Up 130

Space, and Everything in It

Name: _____

Space is huge. It contains our planet, which is called Earth. It is also where the sun, the moon, and the stars we see in the sky are. But that's only just a tiny bit of what is in space.

Think of how big our planet is. Earth is just one small part of a solar system. There are eight planets in our solar system, and Earth isn't even close to being the biggest.

Our solar system isn't the only solar system in space. It is one of many in our galaxy, which is called the Milky Way. There are billions of stars and billions of planets in the Milky Way. And the Milky Way is only one galaxy. There are billions of galaxies in space!

What Did You Learn ?

Part 1 Directions: Write **True** or **False** next to each sentence.

- _____ 1. Earth is part of a galaxy called the Milky Way.
- _____ 2. Earth is the biggest planet in our solar system.
- _____ 3. The Milky Way is the only galaxy in space.
- _____ 4. The sun and the moon are part of our solar system.
- _____ 5. There are billions of planets in our solar system.

Part 2 Directions: Now look at the space terms in the box. Think about how big each of these things is in space. Write them in order from smallest to biggest.

Space Terms
galaxy
planet
solar system

_____ **big**

_____ **bigger**

_____ **biggest**



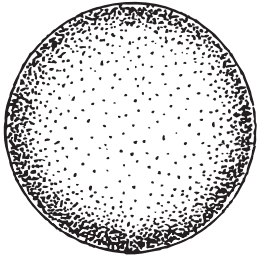
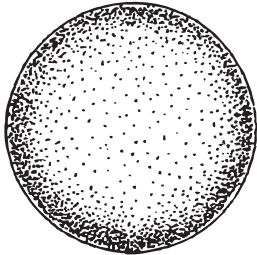
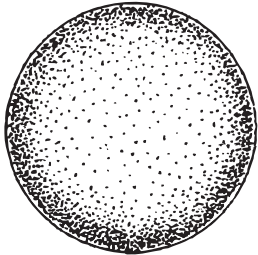
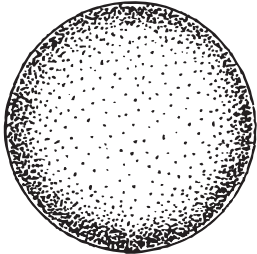
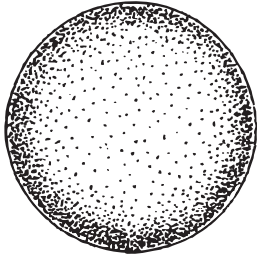
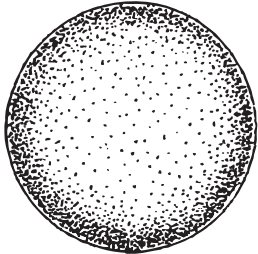
Name: _____

Earth is the third planet from the sun. Venus is the second, and Mars is the fourth. In our solar system, Venus and Mars are our Earth's neighbors. However, they are very different planets.

Of all the planets, Venus is the closest to Earth. It is almost the same size as Earth. No other planet is so close to being the same size as Earth. But Venus is very hot. It is the hottest planet in our solar system. The temperatures on Venus are over 800°F (over 400°C). This makes Venus far too hot to have any water.

Mars is about half the size of Earth. It is often called the "Red Planet" because an element on its surface makes it look reddish. Mars has seasons that are much like Earth's. While Mars can be very cold, it can have high temperatures of about 70°F (20°C) in the summer. Scientists have even collected information that shows that fresh water once flowed on Mars.

Directions: Read each statement. If it is talking about Venus, color the planet **yellow**. If it is talking about Mars, color the planet **red**.

<p>1. It is called the "Red Planet."</p> 	<p>2. It is almost the same size as Earth.</p> 	<p>3. It is much smaller than Earth.</p> 
<p>4. It is the second planet from the sun.</p> 	<p>5. It has very hot temperatures.</p> 	<p>6. It has seasons like Earth does.</p> 

Extra: Which planet seems like it would be better to live on, Venus or Mars? On the back of this paper, write your choice and explain why you chose it.



Warm-Up 134

Twinkle, Twinkle, Big Star

Name: _____

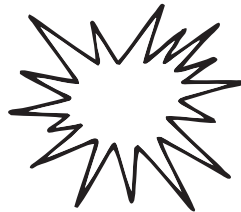
The stars in the sky look small. They look like they twinkle. The truth is that the stars in the sky are very big, and they do not twinkle at all.

Stars are huge. They are bigger than Earth! They look small because they are so far away. We can only see them because they are so big and bright.

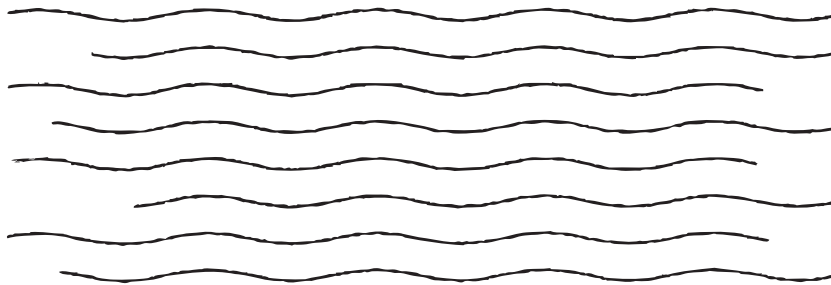
The light from stars has to travel far to get to Earth. There is a lot of stuff between us and those stars. There is a lot of air, for one thing. This air is always moving. We are looking at the stars through all of this moving air. It makes the stars look like they are twinkling. If you could get much closer to stars, you would see that they do not twinkle at all.

Directions: Look at the pictures. Write the name of each thing you see. Use the words in the box to help you.

air Earth star



1. _____



2. _____



3. _____



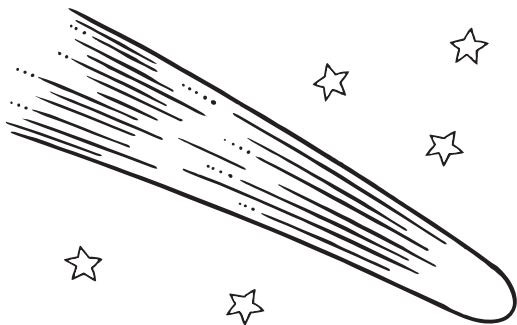
Name: _____

Comets are natural objects in space. They are like stars, but they look different. They have a thin, fuzzy tail of gas and ice on their ends. The word *comet* means “long-haired.” They were named by a Greek philosopher named Aristotle. He thought comets looked like stars with hair.

Comets are made mostly of three things: ice, dust, and rocks. Scientists have seen over 4,000 different comets in space. But there are probably millions (or trillions) more. Not all comets can be seen from Earth.

One very famous comet is called Halley’s Comet. When Halley’s Comet comes by Earth, you can see it with just your eyes. For hundreds of years, people have watched Halley’s Comet. They have noticed that it can be seen every 75 or 76 years. The last time it came close enough to Earth to be seen was in 1986. This means that Halley’s Comet will be seen again in the year 2061. Be on the lookout for it!

Part 1 Directions: Look at the picture of the comet. Color its tail yellow. Then, write the names of the three ingredients that comets are made of.



Ingredients

Part 2 Directions: How old will you be when Halley’s Comet returns in 2061? _____

Do you think you’ll want to see it? Tell why or why not.



Warm-Up 136

What Do You See in the Stars?

Name: _____

Have you ever looked at a night sky that has lots of stars? Does it look like you could draw an object or an animal just by connecting the stars? People have been doing that for hundreds of years! They saw patterns in the stars. These patterns are called *constellations*.

One famous constellation is called Ursa Major. It is often called "Great Bear." One part of the Great Bear is said to look like a dipper. A dipper is a big, deep spoon that you might use to scoop up water. This part is called the Big Dipper. It is formed by seven bright stars.

Step 1: Use a **blue** crayon to connect the dots in order from 1 to 7.

Step 2: Use a **blue** crayon to connect dot 4 to dot 7.

Step 3: Use a **green** crayon to connect the dots in order from 7 to dot 20.



What Do You See?

- | | | |
|--|-------------|--------------|
| 1. What color is the Big Dipper in your drawing? | blue | green |
| 2. Does the whole constellation look like a "Great Bear"? | yes | no |
| 3. If you had to think of another name for this constellation, what would you call it? | _____ | |



Name: _____

There are eight planets in our solar system. You might be asked to put them in the order they are from the sun. How can you learn and remember this order? Sometimes the best way to remember this kind of thing is to come up with a memory trick. Some people use the first letter of each planet's name to make a new sentence. This new sentence helps them remember the order.

Look at the first letter of each planet's name. Then, read the sentence below.

1	2	3	4	5	6	7	8
<u>M</u> ercury	<u>V</u> enus	<u>E</u> arth	<u>M</u> ars	<u>J</u> upiter	<u>S</u> aturn	<u>U</u> ranus	<u>N</u> eptune
M	V	E	M	J	S	U	N
<u>m</u> y	<u>v</u> ery	educat <u>e</u> d	<u>m</u> other	<u>j</u> ust	<u>s</u> erved	<u>u</u> s	<u>n</u> achos.

Directions: Look at the five sentences below. Three of them could be used to help you remember the order of the planets. Two of them are not in the correct order. Write **Yes** on the line next to the ones that are correct. Write **No** on the line next to the ones that are not.

- _____ 1. My very exciting motorboat joyfully sped up north.
- _____ 2. Many vampires expertly make jellybeans every Sunday.
- _____ 3. My valuable electric machine just saved us nothing.
- _____ 4. More vegetables equals more juicy snacks you never eat.
- _____ 5. Mike viewed expert magicians juggling some unsalted nuts.

Now can you come up with a sentence of your own to help you remember the order of the planets?

M V E M J S U N



Word Study (page 119)

1. ape
2. car
3. ox
4. tea
5. one
6. ice
7. air
8. table
9. tree

Unit 14

Everything Is in Motion (page 120)

1. D
2. A
3. D

Challenge: False, but accept all responses that show critical thinking.

What's Truly on the Move? (page 121)

1. true (colored car)
2. false (x)
3. false (x)
4. true (colored car)
5. true (colored car)

What Goes Up Must Come Down (page 122)

1. C
2. C
3. A
4. B

Red Light, Green Light (page 123)

1. green
2. red
3. red
4. green

The Science of Making Waves (page 124)

1. wind
2. friction
3. gravity

The Push and Pull of Force (page 125)

1. pull
2. push
3. push
4. pull
5. pull
6. push

The Most Simple of Machines (page 126)

1. lever
2. wedge
3. wheel
4. inclined plane

Word Study (page 127)

Verbs: played, hit, stole, pitched, caught, cheered

Unit 15

Our Lives Are Full of Energy (page 128)

Part 1: All pictures should be circled.

Part 2: Picture should be of the sun.

Plugging in to Electricity (page 129)

The word "current" should be circled because the picture shows electricity that moves from one place (the wall socket) to another (the refrigerator).

Have You Heard About This? (page 130)

1. B
2. C
3. A

Lightning, Then Thunder (page 131)

Story #2, because the narrator saw the crash first and then heard it.

You and Your Shadow (page 132)

- | | |
|--------|--------|
| 1. yes | 3. no |
| 2. no | 4. yes |

Attracted or Not? (page 134)

Colored: paper clip, fish hook, screw, spoon

Crossed out: pencil, football, glass, book

Word Study (page 135)

- | | |
|-----------|-----------|
| 1. sound | 4. fossil |
| 2. plants | 5. magnet |
| 3. sleep | 6. heat |

Unit 16

Space and Everything in It (page 136)

Part 1

- | | |
|----------|----------|
| 1. true | 4. true |
| 2. false | 5. false |
| 3. false | |

Part 2

big = planet

bigger = solar system

biggest = galaxy

Answer Key



The Sun and the Planets (page 137)

1. B
2. C
3. A

What Am I?: Jupiter

Earth's Next-Door Neighbors (page 138)

1. Mars (red)
2. Venus (yellow)
3. Mars (red)
4. Venus (yellow)
5. Venus (yellow)
6. Mars (red)

Many, Many Moons (page 139)

1. C
2. B
3. 14 moons should be colored
4. C

Twinkle, Twinkle, Big Star (page 140)

1. star
2. air
3. Earth

Stars with Hair? (page 141)

Three ingredients: ice, dust, rocks

What Do You See in the Stars? (page 142)

1. blue
2. Answers will vary.
3. Answers will vary.

Word Study (page 143)

1. yes
2. no
3. yes
4. no
5. yes

Unit 17

The Third Planet from the Sun (page 144)

Part 1: blue = water; brown = land; white = clouds

Part 2: On Earth, plants produce oxygen. This gas helps create the ozone layer. This layer protects us from the rays of the sun.

A Look Inside Our Planet (page 145)

Part 1:

1. crust
2. mantle
3. outer core
4. inner core

Part 2:

THICK should be written inside the mantle.

LIQUID should be written inside the outer core.

A Puzzle Made of Moving Pieces (page 146)

Part 1: Picture B should be circled.

Part 2: tectonic plates

Our Ever-Changing Earth (page 147)

Section 1: earthquake, volcano

Section 2: Accept reasonable responses.

Section 3: erosion (water running across rock)

All the Days and Years on Earth (page 148)

Part 1: 1. 24 hours; 2. 365.25 days

What Is in the Air? (page 149)

1. nitrogen
2. oxygen
3. C

Some Facts About Earth (page 150)

Part 1: B

Part 2: name: Mount Everest; continent: Asia; height: 29,000 feet

Word Study (page 151)

Part 1

1. day
2. midnight
3. south
4. inside
5. below

Part 2

1. world
2. 12 p.m.
3. 365 days
4. 24 hours
5. 12 a.m.

Unit 18

Life on a Rocky Planet (page 152)

1. B
2. A
3. C
4. Accept appropriate responses.

The Three Main Kinds of Rock (page 153)

Igneous: 3, 6, 8

Sedimentary: 2, 4, 5

Metamorphic: 1, 7