THE SOLAR SYSTEM

Worksheets

UNIT 3

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October-December 2009

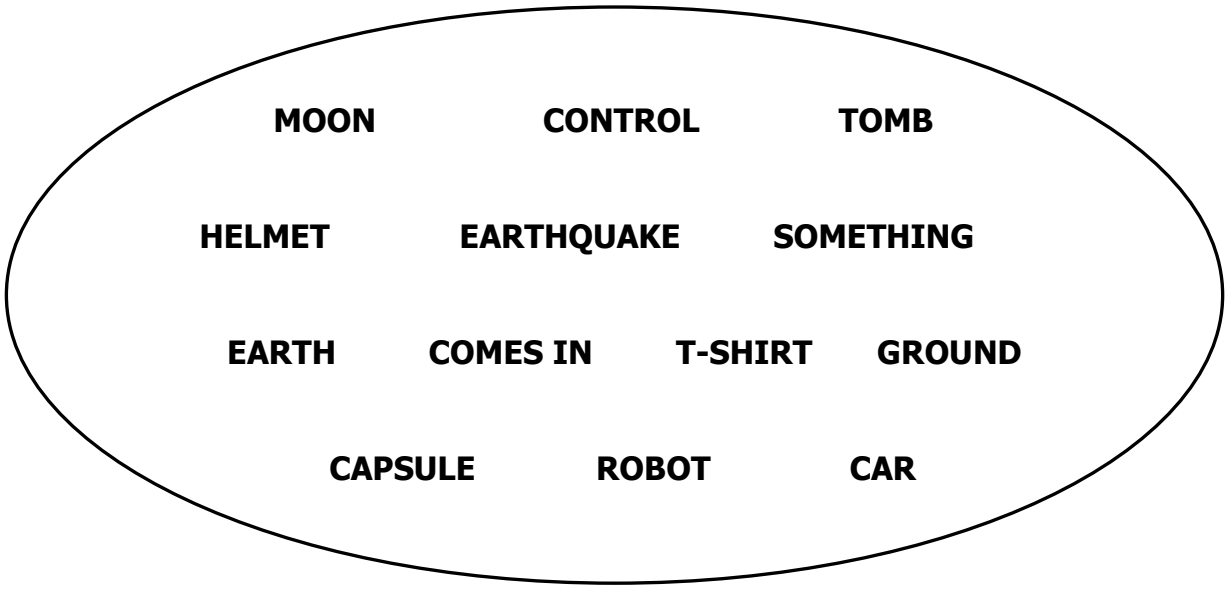
NAME:	DATE:	Worksheet 21

- **Choose nine words from the board and write them in the squares provided.**

NAME:	DATE:	Worksheet 22

Listen to the song and complete the exercises below:

1. Circle the words from the box that appear in the song?



2. Put these sentences from the song in order.

- ☐ ***Can you hear me, Major Tom?***
- ☐ ***Tell my wife I love her very much, she knows***
- ☐ ***and I think my spaceship knows which way to go***
- ☐ ***Can you hear me, Major Tom?***
- ☐ ***Ground control to Major Tom, your circuit's dead, there's something wrong***
- ☐ ***Though I'm past one hundred thousand miles***
- ☐ ***I'm feeling very still***
- ☐ ***Can you hear me, Major Tom?***

NAME:	DATE:	Worksheet 23

David Bowie's *Space Oddity* lyrics

Ground control to Major Tom
Ground control to Major Tom
Take your protein pills and put your helmet on.
Ground control to Major Tom
Commencing countdown, engines on
Check ignition and may god's love be with you.

This is ground control to Major Tom.
You've really made the grade,
and the papers want to know whose shirts you wear
Now it's time to leave the capsule, if you dare.

This is Major Tom to ground control.
I'm stepping through the door.
And I'm floating in the most peculiar way.
And the stars look very different today.
For here, am I sitting in my tin can far above the world.
Planet Earth is blue, and there's nothing I can do.

Though I'm past one hundred thousand miles,
I'm feeling very still
and I think my spaceship knows which way to go.
Tell my wife I love her very much, she knows.
Ground control to Major Tom, your circuit's dead,
there's something wrong.
Can you hear me, Major Tom?
Can you hear me, Major Tom?
Can you hear me, Major Tom?
Can you...
Here, am I floating 'round my tin can far above the Moon.
Planet Earth is blue and there's nothing I can do.

NAME:	DATE:	Worksheet 24

Read the boxes below.

Imagine the history of the Universe

Think for a moment the history of the Universe happened in 24 hours. If the Big Bang was 24 hours ago, the Sun and planets were born 7 hours ago. The first humans appeared only in the last 30 seconds.

What does the Earth look like from space?

It is a beautiful blue-and-white globe. People thought the Earth was flat but it is round, though not a perfect sphere.

How was the Earth formed?

Scientists think that the Earth began as a cloud of gas and dust, moving around a new star –the Sun. Then gravity forced the gas and dust together into a red-hot ball. After millions of years, this round ball cooled and a rocky crust began to form. Then, poisonous gases from volcanoes formed an atmosphere. Water vapour fell as rain from the clouds over millions of years. The rain formed the oceans.

Why do we have seasons?

As the Earth moves around the Sun, there are periods of the year in which some parts of the Earth are closer to the Sun and others which are farther away. So places receive more light and heat at some times of the year than at others. This produces a pattern of changes in the weather every 3 months called seasons.

The Earth is unique

No other planet in the Solar System has been proved to have life on it. It is neither so hot that water boils nor so cold that it freezes. There is oxygen in the atmosphere which, together with water, makes life possible to exist.

The Moon

The Earth has got one satellite, known as Moon. Our Moon is a bit younger than the Earth and it is a very quiet place. It has the same surface area as the continent of Africa. The Moon's light comes from reflected light from the Sun.

NAME:	DATE:	Worksheet 25

Write your answers in the boxes provided.

1. Question:

Answer

2. Question:

Answer

3. Question:

Answer

4. Question:

Answer

5. Question:

Answer

6. Question:

Answer

NAME:	DATE:	Worksheet 26

- **Listen to the sentences. Translate and write the ones which are** true **into your mother tongue. If they are** false, **correct and write them in English.**

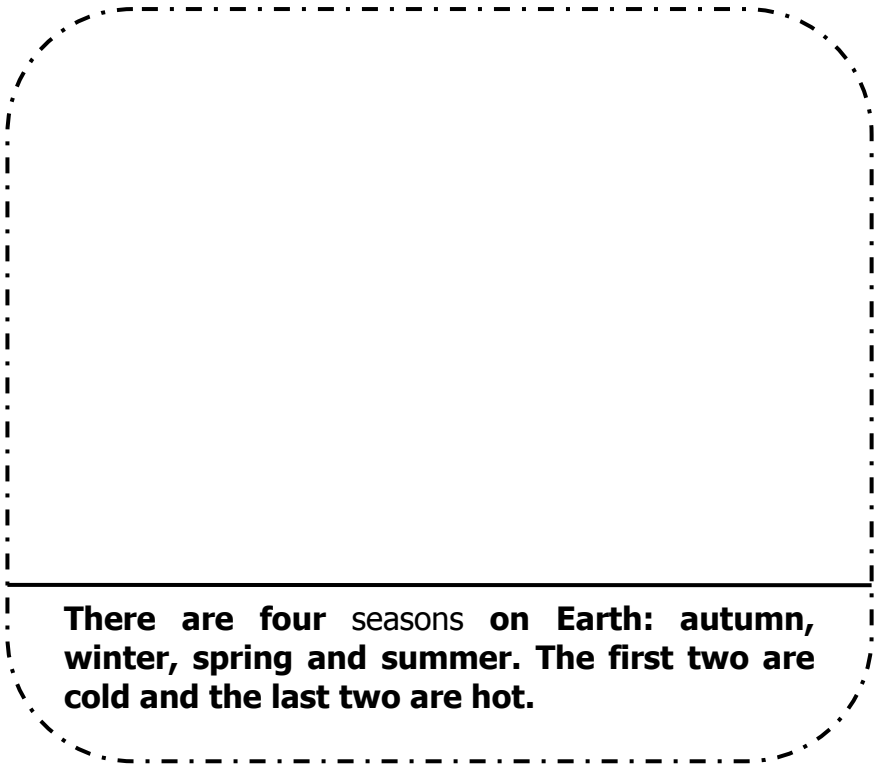
S1	
S2	
S3	
S4	
S5	
S6	

- **Now, translate the sentences you wrote in the mother tongue back into English and write them down. You must have the 6 sentences written in English.**

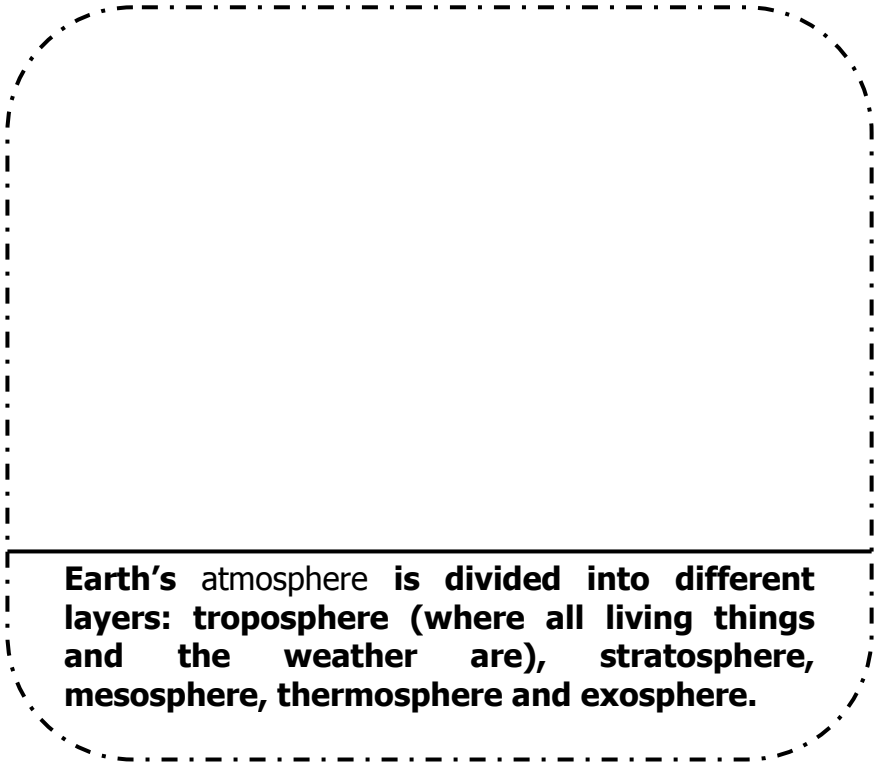
S1	
S2	
S3	
S4	
S5	
S6	

NAME:	DATE:	Worksheet 27A

After listening to the text, cut out the boxes below, read these short texts and draw what they suggest you.



There are four seasons **on Earth: autumn, winter, spring and summer. The first two are cold and the last two are hot.**



Earth's atmosphere **is divided into different layers: troposphere (where all living things and the weather are), stratosphere, mesosphere, thermosphere and exosphere.**

NAME:	DATE:	Worksheet 27B

- **After listening to the text, cut out the boxes below, read these short texts and draw what they suggest you**.

Gravity **is an invisible force that attracts objects towards another with much more mass. This is the reason why humans cannot jump and stay in the air floating.**

Earth rotates on its axis once every 24 hours. It means half of the Earth faces the Sun and gets light from it, which is called "day**". The other half which is dark, it is called "**night**".**

NAME:	DATE:	Worksheet 28A

BEYOND EARTH

This is a about Earth and you will hear some interesting things in relation with our home planet. First of all, a bit of history. We must travel back in time so many years, more than we can imagine, to find the formation of Earth. After the Big Bang, the Earth did not exist as it exists now. Astronomers believe we have to differentiate some stages in the Earth's formation: in the very beginning, there were just hot **clouds of dust and gas** circles to form the Sun; later, groups of dust formed together near the centre of the Solar System; the forming Earth was then bombarded with excess **gas and dust** blown off by the Sun. Much later it is when Earth starts to cool down and volcanoes throw up gases forming clouds; finally, rain fell to make the oceans.

We must distinguish some important characteristics about the Earth now, as for example the **atmosphere**. Earth's atmosphere consists mainly of nitrogen (75%), from the eruption of volcanoes over billions of years, and the oxygen (23%) produced by plants. There are different layers in the atmosphere. All living things and the weather are in the lowest, called the **troposphere**. Then we have the **stratosphere**, like a lid of the troposphere. Far above, we find the **mesosphere**, **thermosphere** and **exosphere**.

Another important characteristic about Earth are the **seasons**. As the Earth moves around the Sun, there are periods of the year in which some parts of the Earth are closer to the Sun and others which are farther away. So places receive more light and heat at some times of the year than at others, producing a pattern of changes in the weather called seasons. Places between the equator and the poles have four seasons: **spring**, **summer**, **autumn** and **winter**. As an example, summer happens in the southern hemisphere when the South Pole inclines toward the Sun. On the contrary, winter happens in the southern hemisphere when the South Pole inclines away from the Sun.

NAME:	DATE:	Worksheet 28B

In relation with the spinning Earth, we find the **day** and **night**. Although the Sun seems to rise in the sky during the day and sink at night, it is really the Earth that is moving, not the Sun. When a part of the Earth turns towards the Sun, we can see as if the Sun is up in the sky and we have daytime. But, when a part of the Earth turns away from the Sun, it seems to disappear below the horizon. We find there is no light and it is very dark, this is when we say we have night.

Another important characteristic about Earth is **gravity**. Gravity is an invisible force that attracts objects towards another with much more mass. This is the reason why humans cannot jump and stay in the air floating, for example. When we try to do it, automatically the Earth's gravity attracts us to the ground. This force of gravity comes from the centre of the Earth, a place we cannot see, and other examples of gravity forces can be found in the Earth and the Moon; the Moon is attracted by the Earth because it has less mass than our home planet. The same happens with the Sun and the eight planets. The Sun has got much more mass than all the planets so the Sun attracts them making them orbit around it.

NAME:	DATE:	Worksheet 29A

- Gravity **keeps the Solar System's planets in orbit around the Sun. In fact, every object in the Universe has its own attracting force. The greater an object's mass (the more matter it contains), the greater its gravity. Gravitation factor on Earth is different from other celestial bodies in the Solar System. How much would you weigh on other planets? And on the Moon? To get your "weight", follow the instructions below and then look at the chart provided:**

Instructions to follow

- **Multiply** your weight **by** the corresponding gravitation factor provided in the chart below
- **Look at the example**: a girl weighs 40 kilos and she wants to know how much she weighs on **Jupiter**. If the gravitation factor year on Jupiter is 2.5, then:
  1. **40 x 2.5** = 100 kilos

The planets and its years

Celestial body	Gravitation factor
Mercury	0.4
Venus	0.9
Moon	0.2
Mars	0.4
Jupiter	2.5
Saturn	0.9
Uranus	0.8
Sun	27.9

NAME:	DATE:	Worksheet 29B

- **Use the substitution table below to complete the exercise. Look at the example to help you.**

On	MERCURY VENUS MOON MARS JUPITER SATURN URANUS SUN	I YOU HE SHE IT WE YOU THEY	WEIGH WEIGHS	… KILOS.

- **On** Jupiter I **weigh** 100 **kilos.**
- _____
- _____
- _____
- _____
- _____
- _____
- _____

❖ **Compare your results.**

➢ **Where do you weigh most? _____**

➢ **Where do you weigh least? _____**

ADAPTED FROM *SCIENCE.*

NAME:	DATE:	Worksheet 30

- **Read the questions and answer just one at a time. Then, pass the sheet to the partner on your right.**

1. How much do you weigh on the Sun?

2. How much do you weigh on Mercury?

3. How much do you weigh on the Moon?

4. How much do you weigh on Saturn?

5. How much do you weigh on Jupiter?

6. How much do you weigh on Venus?

7. How much do you weigh on Mars?

8. How much do you weigh on Uranus?

NAME:	DATE:	Worksheet 31

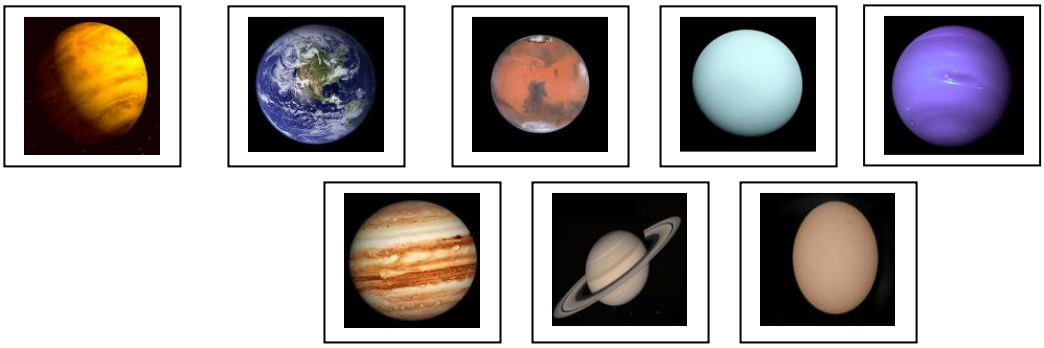
Follow the sequence by drawing the phases of the moons left:

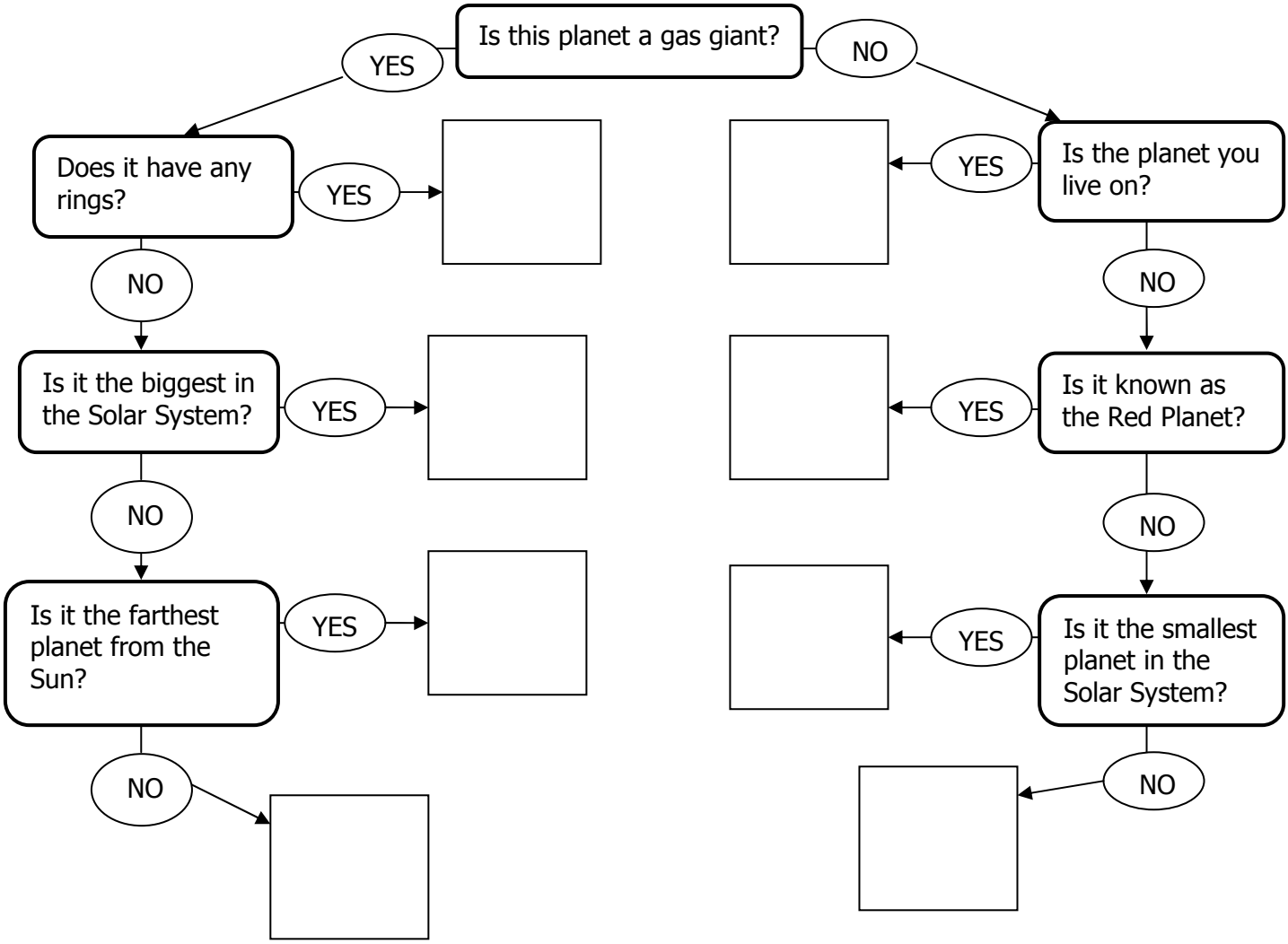
MARCH							
	MO	TU	WE	TH	FR	SA	SU
9							1
10	2	3		5	6	7	8
11	9	10		12	13	14	15
12	16	17		19	20	21	22
13	23	24	25		27	28	29
	30	31					

APRIL							
	MO	TU	WE	TH	FR	SA	SU
14			1		3	4	5
15	6	7	8		10	11	12
16	13	14	15	16		18	19
17	20	21	22	23	24		26
18	27	28	29	30			

NAME:	DATE:	Worksheet 32

- **Cut out the pictures of planets and put them in the correct place on this page:**

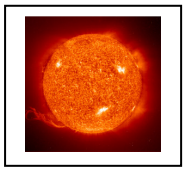




NAME:	DATE:	Worksheet 33A

1. Write the names of the correct orbiting objects under each picture:

PLANETS MOON EARTH SPACE STATION SATELLITE



_____ _____ _____

_____ _____ _____

_____ _____ _____

ADAPTED FROM *STARS & PLANETS*

2. Complete these splits puzzles:

OXY	SONS
ATMOS	LLITE
SEA	ON
SATE	TOR
EQUA	PSE
MO	PHERE
ECLI	GEN

JUPI	ROID
ASTE	LAE
CO	LLAXIES
NEBU	MET
GA	TER

3. Now, circle the correct option.

a) Earth is a cube/sphere/square.

b) Saturn is a rocky/gas/small planet.

c) The Moon's gravity/air/light. comes from reflected light from the Sun.

d) The Earth takes 24/23/24,5 hours to rotate on its own axis.

e) We can see Full Moon when the Earth is in front/behind/between the Sun and the Moon.

f) There are 365/332/356 days in a year.

g) There are 7/9/8 planets in the Solar System.

NAME:	DATE:	Worksheet 33B

4. The Earth takes 365 days **to orbit the Sun. As the Earth moves around the Sun the** seasons **change.**

Read, write the name of the seasons, and draw pictures.

SUMMER WINTER AUTUMN SPRING

IT'S THE COLDEST SEASON OF THE YEAR.

GREEN LEAVES FROM SOME TREES TURN RED, ORANGE, AND BROWN.

THE WEATHER GETS WARMER, FLOWERS OPEN, AND GARDENS BECOME COLOURFUL.

IT'S HOTTEST SEASON OF THE YEAR.

Adapted from *Cross-Curricular Resources for Young Learners*

NAME:	DATE:	Worksheet 33C

5. Choose the correct option:

1. A natural object that orbits a planet is called its:

a. ring
b. asteroid
c. moon
d. meteorite

2. Tick all the different types of planets:

a. small
b. rocky
c. gas
d. metal

3. Which is the smallest planet in the Solar System?
a. Jupiter
b. Saturn
c. Venus
d. Mercury

4. Which of these space bodies is *not* smaller than Earth?
a. Jupiter
b. Moon
c. Mars
d. Venus

5. The Moon's light comes from:
a. nuclear reactions
b. reflected light from the Sun
c. its burning hot surface
d. its radioactive surface

6. Which of these is *not* one of the Moon's phases:

a. Full Moon
b. New Moon
c. Blue Moon
d. Last Quarter

7. The Moon is kept in Earth's orbit by:

a. energy from the Sun
b. magnetism
c. gravity
d. nuclear power

8. Which is the nearest planet to the Sun?

a. Saturn
b. Earth
c. Venus
d. Mercury

9. Which is the biggest planet in the Solar System?
a. Uranus
b. Mars
c. Jupiter
d. Saturn

10. Which one is *not* a rocky planet?

a. Mercury
b. Venus
c. Earth
d. Uranus

11. Which one is *not* a gas giant planet?

a. Saturn
b. Neptune
c. Uranus
d. Mars

12. Which two basic things on Earth do humans need to live?
a. oxygen
b. water
c. metal
d. iron

ADAPTED FROM *STARS & PLANETS*

NAME:	DATE:	Worksheet 34

STUDENT'S SELF-ASSESSMENT FORM (UNIT 3)

Subject: _____

☐ What I liked doing most: _____

_____

☐ What I didn't like or found difficult: _____

_____

How I worked:

☐ on my own ☐ with the help of the teacher ☐ with the help of the other students

☐ with commitment ☐ without much commitment ☐ with difficulty ☐ without difficulty

In the group:

☐ I participated actively in the work of the group.
☐ I let the other students take the initiative and decide.
☐ I accepted all the suggestions of the other students without discussion.
☐ I tried to contribute my own ideas and suggestions to the work.
☐ _____

WHAT I CAN DO OR WHAT I KNOW	☺	😐	☹