

SCHOOL OF STARS

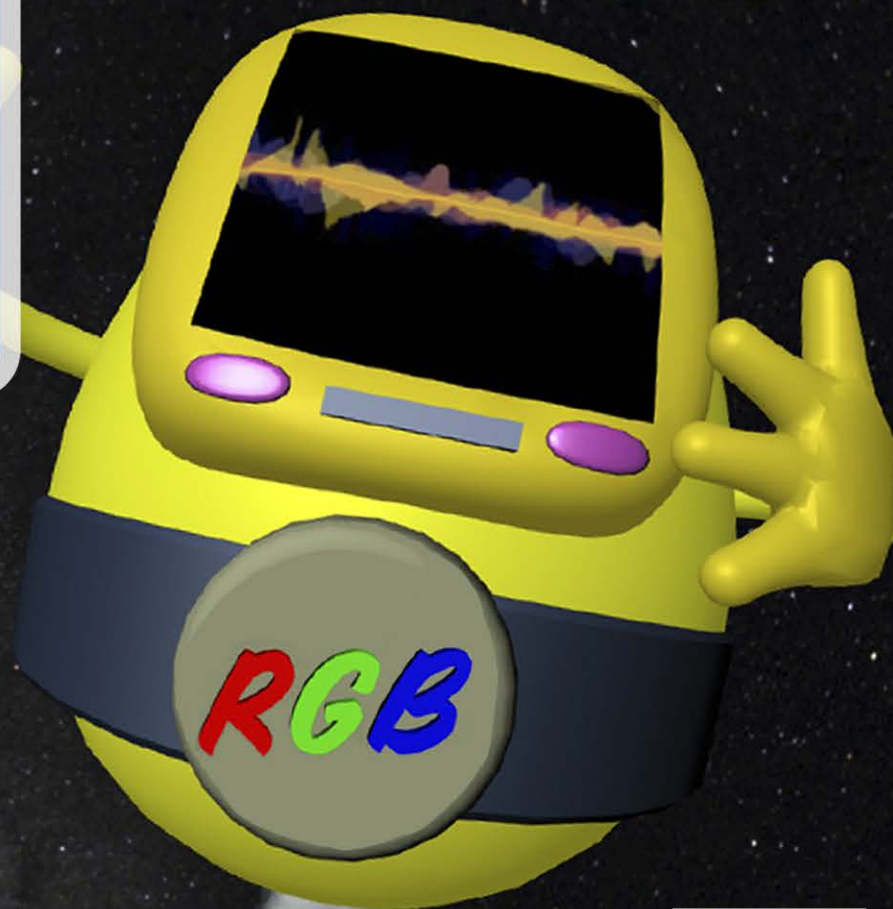
didactic guide

# The adventures of Alex & RGB

*Primaria. 1º y 2º Ciclo*

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This is the didactic guide of The adventures of Alex & RGB Planetarium show.

We recommend that:

- The activities on pages 3-6 have to be done before the visit.
- The activities on pages 7-15 have to be done after the visit.

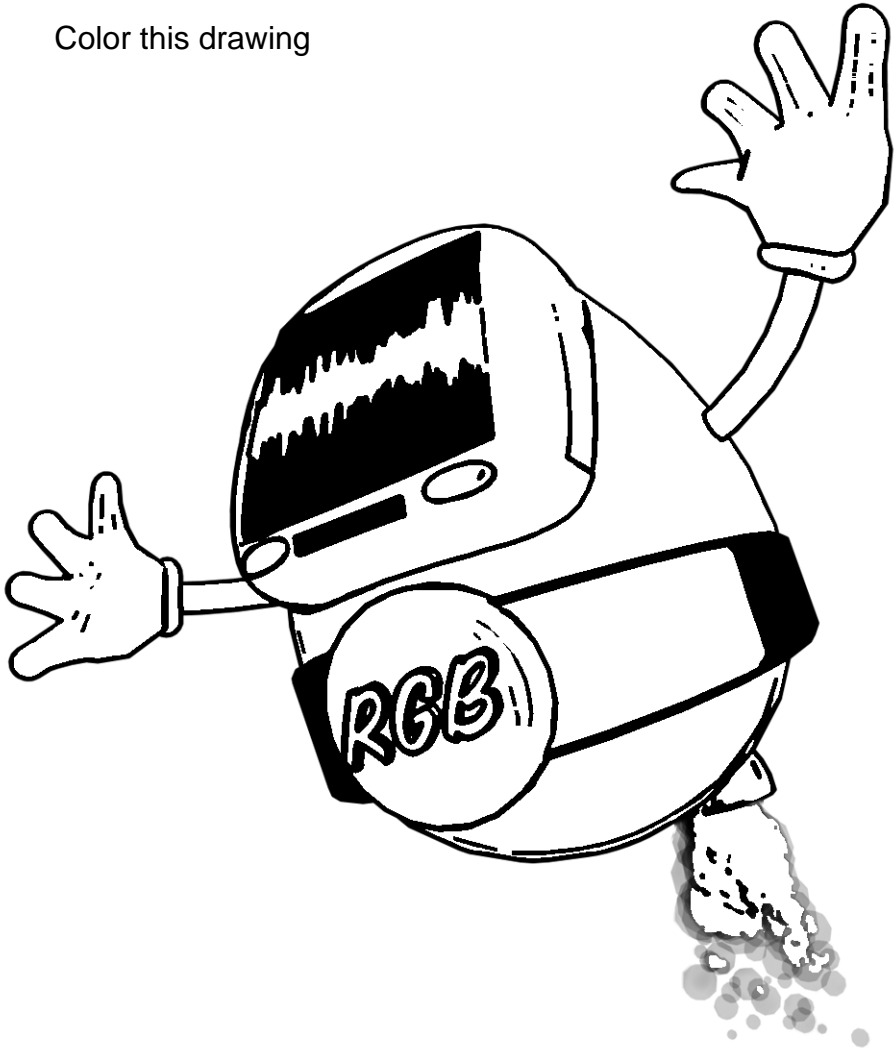
Enjoy it!!!

# Introduction

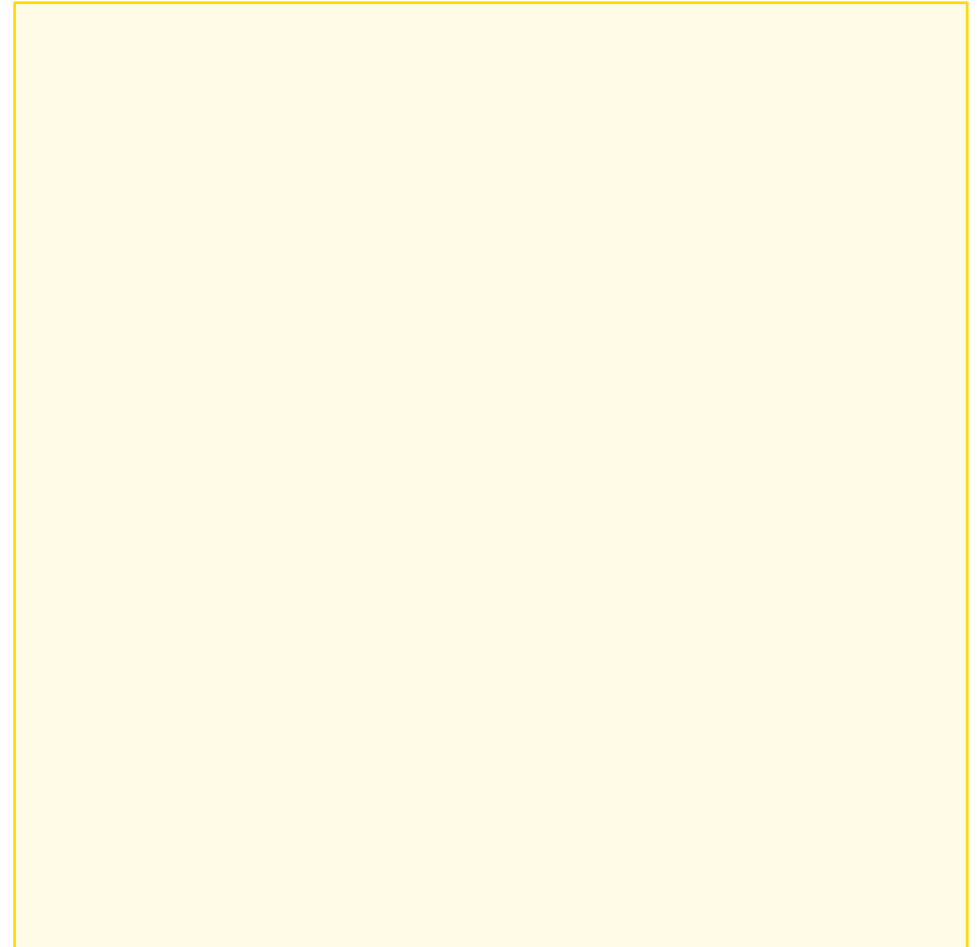
In a planetarium we can see projected images of stars, planets, constellations, etc. in a way that we enjoy ourselves while learning other things at the same time.

In our visit we are going to meet RGB and Alex. RGB is a last generation ROBOT who has travelled in space. Alex is the astronaut who accompanies RGB in this adventure.

Color this drawing



Draw Alex as you imagine her to be.





# RGB will teach you many things about the following space elements

**1. A star:  
The Sun**

**2. A planet:  
Neptune**

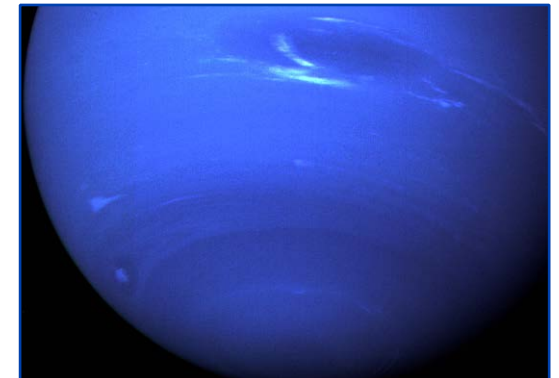
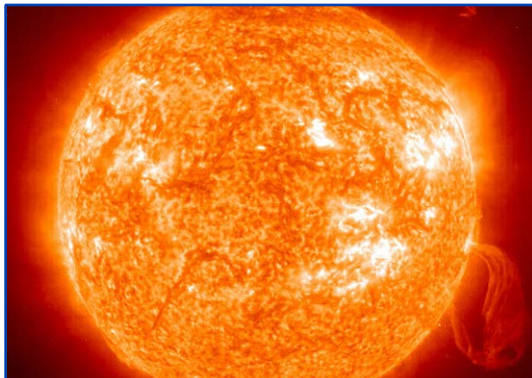
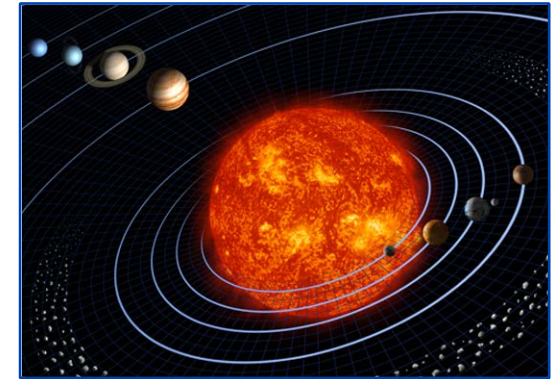
**3. A satellite:  
The Moon**

**4. The Solar  
System**

**5. A galaxy**

**6. The Earth**

Match the names in the boxes above with the photographs below.



RGB will teach you many things about the following space elements

## Interviewing RGB

Match the names of the box with the sentences.

1. A star: The Sun

2. A planet: Neptune

4. The Solar System

5. A galaxy

a. A round celestial body such as the Earth or Mars that moves around a star such as the sun.

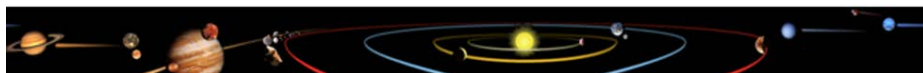
b. A very large group of stars, gas and dust.

c. A celestial body orbiting the earth or another planet, or an artificial body placed in orbit round the earth or another planet.

d. The sun together with the nine planets, asteroids and comets moving around it.

e. A large gaseous body such as the sun that gives out light.

What can you identify in this imaginary view?



Practise the following dialogue with your classmate.

**You:** What's your name?

**RGB:** My name is RGB. R for Red, G for Green and B for Blue.

**You:** What do you like doing most RGB?

**RGB:** I love travelling and exploring the universe.

**You:** Which is your favourite planet?

**RGB:** The Earth.

**You:** Where are you from?

**RGB:** I was created in Europe but my components come from many places.

**You:** Is there anything in you that was made in Spain?

**RGB:** My colour module was made in Spain.

**You:** What languages do you speak?

**RGB:** I can only speak English

Have you ever visited the planetarium in Pamplona?.

# The planets

There are eight planets and many dwarf planets in the solar system. The planets are listed below with the most famous dwarf planet, but there are two letters missing from each name. Complete them.

ME_CUR_	M_R_	_RANU_
VE_U_	_U_ITER	N_PT_NE
EA_T_	SATU__	P__TO

The names of the nine planets are hidden in this table. Find them by looking up and down and across.

V	M	E	R	C	U	R	Y
E	C	O	N	O	G	R	J
N	A	S	T	T	U	L	U
U	R	A	N	U	S	A	P
S	T	T	I	L	O	N	I
E	N	U	T	P	E	N	T
H	T	R	A	E	K	I	E
D	S	N	M	A	R	S	R

After you have found them, the letters left over make up a hidden message. What is it? \_ \_ \_ \_ \_

# Listening

## TEXT FROM THE VIDEO

Download the audio files that belongs to the planetarium show from [www.escuela.pamplonetario.org/index.php/Materials](http://www.escuela.pamplonetario.org/index.php/Materials)

There are two conversations between Alex and RGB.

**Listening 1.** Listen to the dialogue and fill in the gaps.

**ALEX:** What's your name?

**RGB:** My name is (1) ..... It comes from the three basic colours used by computers. R for (2) ....., G for Green and B for Blue. With them you can (3) ..... all the other colours in the Universe.

**ALEX:** What do you (4) ..... doing most RGB?

**RGB:** I love travelling and exploring the universe

**ALEX:** And, which is your (5) ..... planet?

**RGB:** After visiting many (6) ..... I can say that the best place to live on is the Earth.

**ALEX:** Where are you from?

**RGB:** I was created in (7) ..... but my components come from many places, for example, the (8) ..... comes from the US, the voice module from Japan, the rocket from (9) ..... and the colour (10) ..... was made in Spain.

**ALEX:** What languages do you speak?

**RGB:** Well, I can only speak (11) .....

**ALEX:** OK.

## Choose the right answer

**Listening 2.** Listen to the dialogue and fill in the gaps.

**ALEX:** Can you help us with the names of the (1) ....., RGB?

**RGB:** Yes, but in what order, by (2) ..... to the Sun or by (3) .....

**ALEX:** Well I don't know, both. Let's start by distance from the Sun.

**RGB:** The nearest planet to the Sun is (4) ....., then comes Venus, the third planet in the Solar System is (5) ....., after Earth comes the red planet: (6) ....., then Jupiter, Saturn, Uranus and (7) ....., the farthest planet from the Sun.

**ALEX:** Which is the (8) ..... planet in our Solar System?

**RGB:** The biggest one is (9) ....., the second biggest is (10) ....., Uranus is a little bigger than Neptune but it has less mass so we can consider both to be approximately the same size. The fifth planet in size is Earth, then comes (11) ..... which is quite similar to Earth, then (12) ..... and finally the smallest one, Mercury.

Answer the questions

1. The name RGB comes from .....  
A) The colours in the Universe.  
B) The colours used by computers.  
C) Mars
2. **RGB** likes .....  
A) Singing to the Universe.  
B) Going through the Universe.  
C) Swimming.
3. **RGB**'s favourite place is .....  
A) The Universe.  
B) Mars.  
C) Earth.
4. **RGB** can ..... speak English.  
A) only.  
B) mainly.  
C) fully.

## Choose the right answer

Fill in the gaps.

**RGB:** Jupiter is a planet made of (1) ..... . There isn't a stable surface to (2) ..... on. So, we landed on one of its moons, (3) ..... . From there we had a wonderful view: the giant (4) ..... with three of its moons on the horizon.

**ALEX:** Vamos a pedirle a RGB que nos haga una descripción de los colores de este planeta. Listen RGB, could you please (5) ..... the different colours of Jupiter?

**RGB:** Sure. There are some white (6) ..... . They all run parallel to the Equator. You can also see yellow clouds and Jupiter's most (7) ..... feature: the Red Spot. This is a hurricane bigger than (8) ..... and, as far as we know, is there to stay. The first time it was observed was more than (9) ..... years ago. Can you imagine a hurricane as big as Earth being (10) ..... for so long?

**ALEX:** Yes, everything about (11) ..... is superlative.

Answer the questions

1. Jupiter is a planet made of .....  
A) gas  
B) water  
C) metals
2. **RGB** and Alex landed on a Jupiter's .....  
A) rocket station.  
B) planet.  
C) moon
3. There are many ..... around Jupiter.  
A) planets  
B) clouds.  
C) meteorites
4. Jupiter is a very ..... planet.  
A) small  
B) large  
C) tiny

# Choose the right answer

After visiting the Planetarium, can you answer the following questions?

1. Who is **RGB**?

a) an astronaut

b) a ROBOT

c) a spaceship

2. Who is Alexandra?

a) an astronaut

b) a ROBOT

c) a spaceship

3. Where does the name **RGB** come from?

a) from the three computer colours

b) from Europe

c) from the planets

4. What languages does **RGB** speak?

a) English

b) English and Spanish

c) none

5. Does Alex speak Chinese?

a) Yes

b) We don't know

c) no

6. Where did Alex and **RGB** go?

a) to the sun

b) to the Equator

c) to Mars, Jupiter and the Moon

7. Did **RGB** fall through a black hole?

a) Yes, he did

b) There is no information.

c) No, he didn't.

8. Did they land on Jupiter?

a) Yes, they did

b) No, they couldn't

c) They didn't try.

True or false?

1. **RGB** is an old ROBOT

a) X

b) OK

c) There is no information

2. Alex is a short name for Alexandra

a) X

b) OK

c) There is no information

3. The three colours in **RGB**'s name are red, yellow and blue.

a) X

b) OK

c) There is no information

4. **RGB** knows lots of things about the Universe

a) X

b) OK

c) There is no information

5. **RGB** can see and describe colours.

a) X

b) OK

c) There is no information

6. The sun is a star.

a) X

b) OK

c) There is no information

7. The planets orbit around the sun.

a) X

b) OK

c) There is no information

8. **RGB** was assembled in Europe

a) X

b) OK

c) There is no information

9. The celestial body closest to Earth is the Moon.

a) X

b) OK

c) There is no information

10. The Moon is bigger than Earth

a) X

b) OK

c) There is no information



# Choose the right answer

True or false?

1. The Moon is a satellite.

a) X                      b) OK                      c) There is no information

2. We would weigh approximately four times less on the Moon.

a) X                      b) OK                      c) There is no information

3. You would jump higher, and longer in the Moon..

a) X                      b) OK                      c) There is no information

4. Earth is called the blue planet.

a) X                      b) OK                      c) There is no information

5. The Moon is grey.

a) X                      b) OK                      c) There is no information

6. The red planet is Mars.

a) X                      b) OK                      c) There is no information

7. The main gas in Mars is carbon dioxide.

a) X                      b) OK                      c) There is no information

8. Martians live in caves.

a) X                      b) OK                      c) There is no information

9. Gravity on Mars is stronger than on Earth.

a) X                      b) OK                      c) There is no information

10. There are many asteroids between Mars and Jupiter.

a) X                      b) OK                      c) There is no information

True or false?

1. Sometimes asteroids impact on planets.

a) X                      b) OK                      c) There is no information

2. Jupiter has more than sixteen moons.

a) X                      b) OK                      c) There is no information

3. Jupiter is a tiny planet.

a) X                      b) OK                      c) There is no information

4. Saturn is famous because of its rings.

a) X                      b) OK                      c) There is no information

5. There are nine planets in the solar system.

a) X                      b) OK                      c) There is no information

6. The nearest planet to the sun is Mars.

a) X                      b) OK                      c) There is no information

7. The furthest planet from the sun is Uranus.

a) X                      b) OK                      c) There is no information

8. The biggest planet is Jupiter.

a) X                      b) OK                      c) There is no information

9. The smallest planet is Mercury..

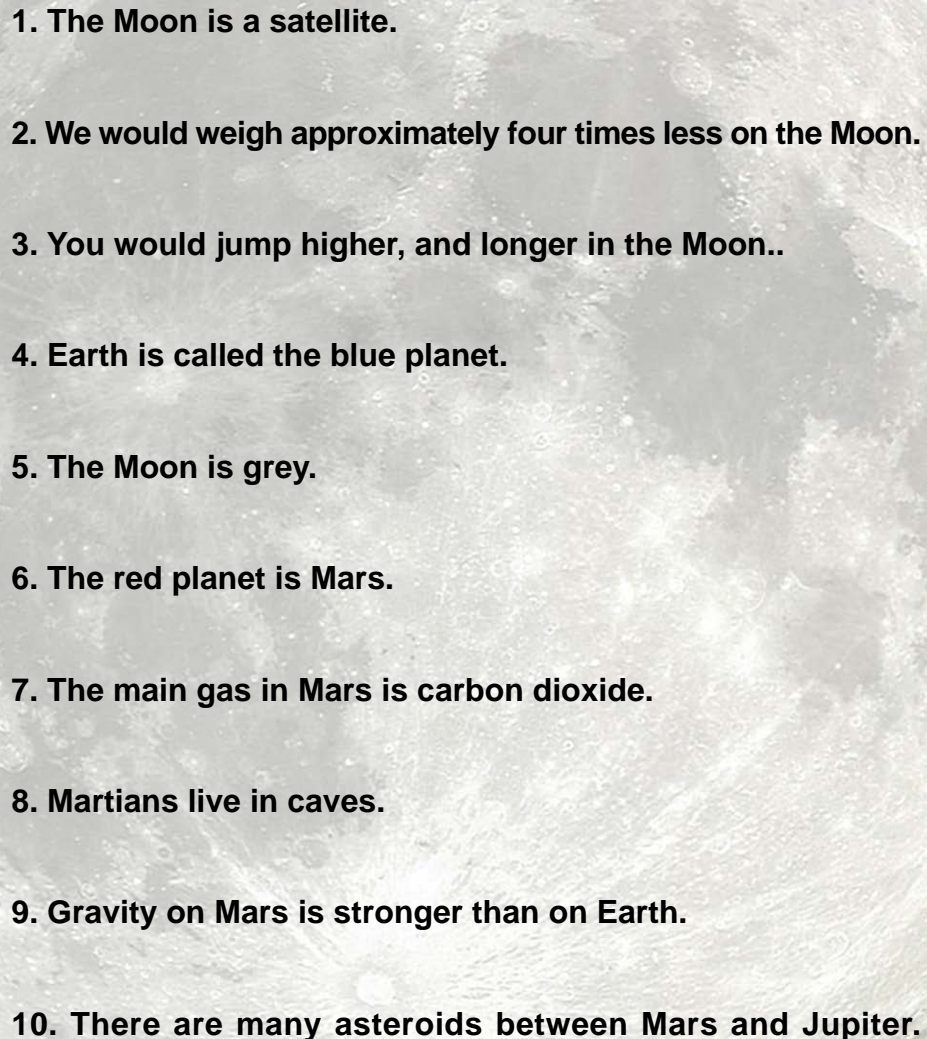
a) X                      b) OK                      c) There is no information

10. Venus is similar in size to Earth.

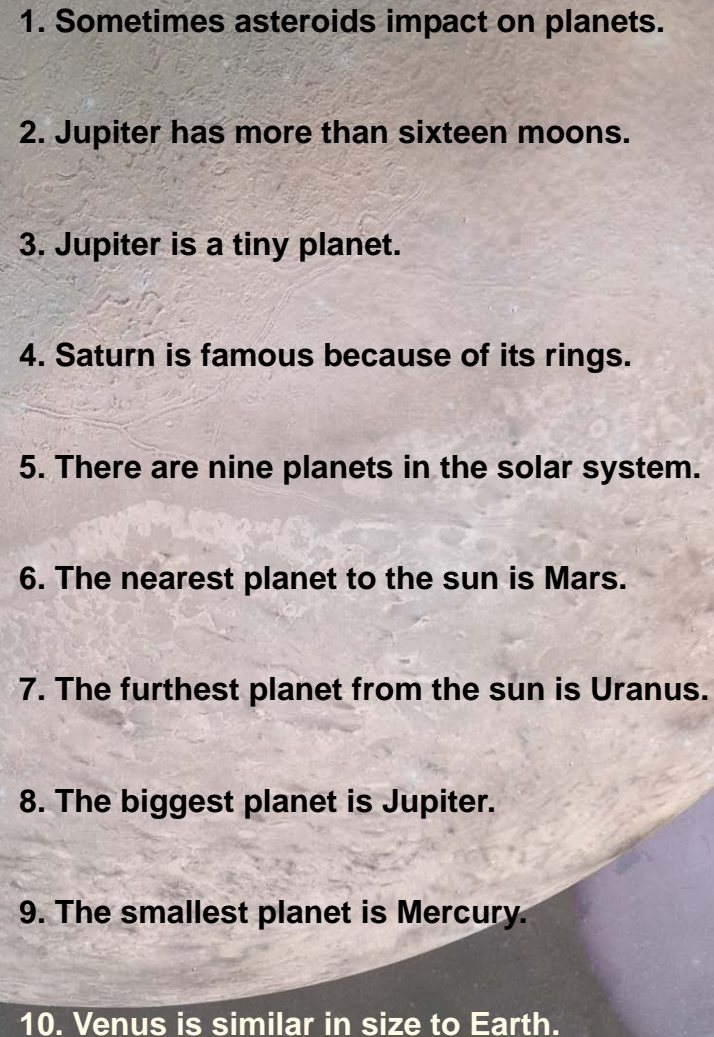
a) X                      b) OK                      c) There is no information

# Choose the right answer

True or false?

- 
1. The Moon is a satellite.
  2. We would weigh approximately four times less on the Moon.
  3. You would jump higher, and longer in the Moon..
  4. Earth is called the blue planet.
  5. The Moon is grey.
  6. The red planet is Mars.
  7. The main gas in Mars is carbon dioxide.
  8. Martians live in caves.
  9. Gravity on Mars is stronger than on Earth.
  10. There are many asteroids between Mars and Jupiter.

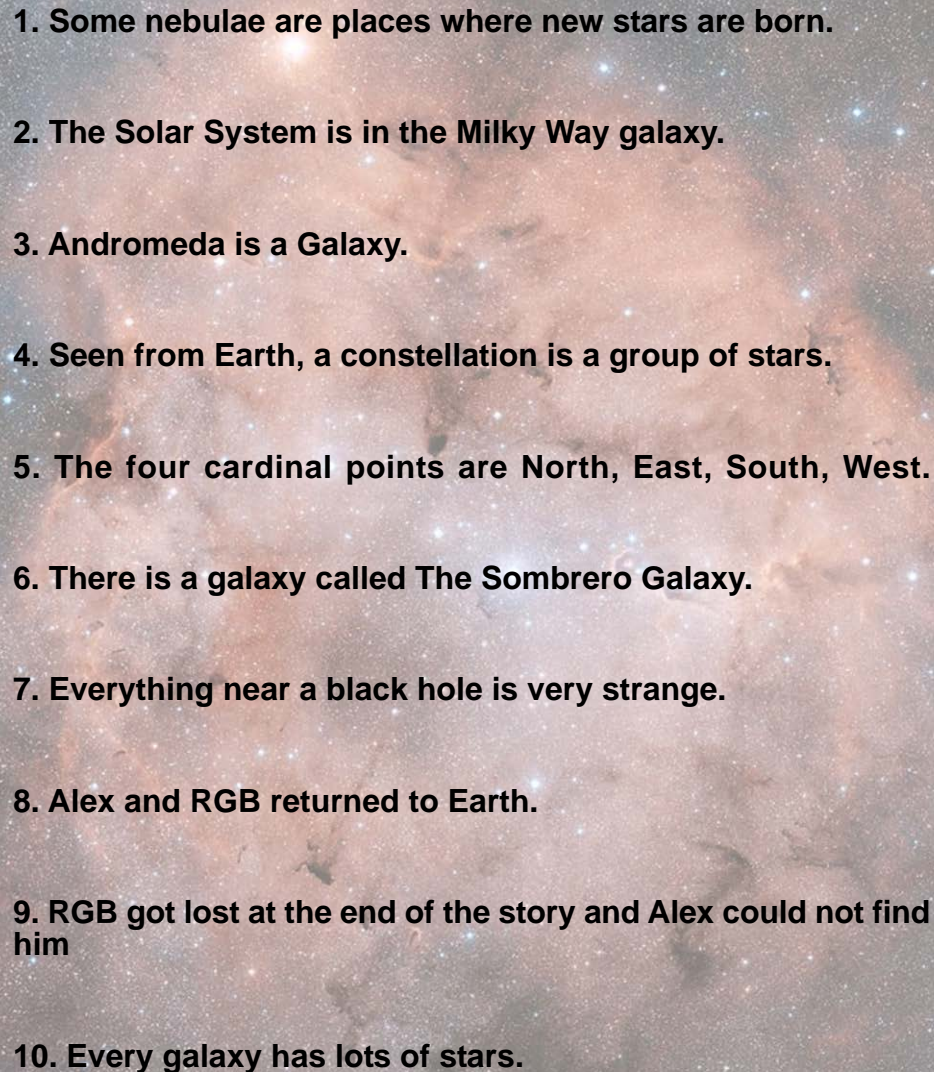
True or false?

- 
1. Sometimes asteroids impact on planets.
  2. Jupiter has more than sixteen moons.
  3. Jupiter is a tiny planet.
  4. Saturn is famous because of its rings.
  5. There are nine planets in the solar system.
  6. The nearest planet to the sun is Mars.
  7. The furthest planet from the sun is Uranus.
  8. The biggest planet is Jupiter.
  9. The smallest planet is Mercury.
  10. Venus is similar in size to Earth.



# Choose the right answer

True or false?

- 
1. Some nebulae are places where new stars are born.
  2. The Solar System is in the Milky Way galaxy.
  3. Andromeda is a Galaxy.
  4. Seen from Earth, a constellation is a group of stars.
  5. The four cardinal points are North, East, South, West.
  6. There is a galaxy called The Sombrero Galaxy.
  7. Everything near a black hole is very strange.
  8. Alex and RGB returned to Earth.
  9. RGB got lost at the end of the story and Alex could not find him
  10. Every galaxy has lots of stars.

# Planet order

In this box there are the names of the planets alphabetically ordered. EARTH, JUPITER, MARS, MERCURY, NEPTUNE, SATURN, URANUS, VENUS.

Write the names of the planets  
arranging them by size.

↓  
1. *Jupiter*

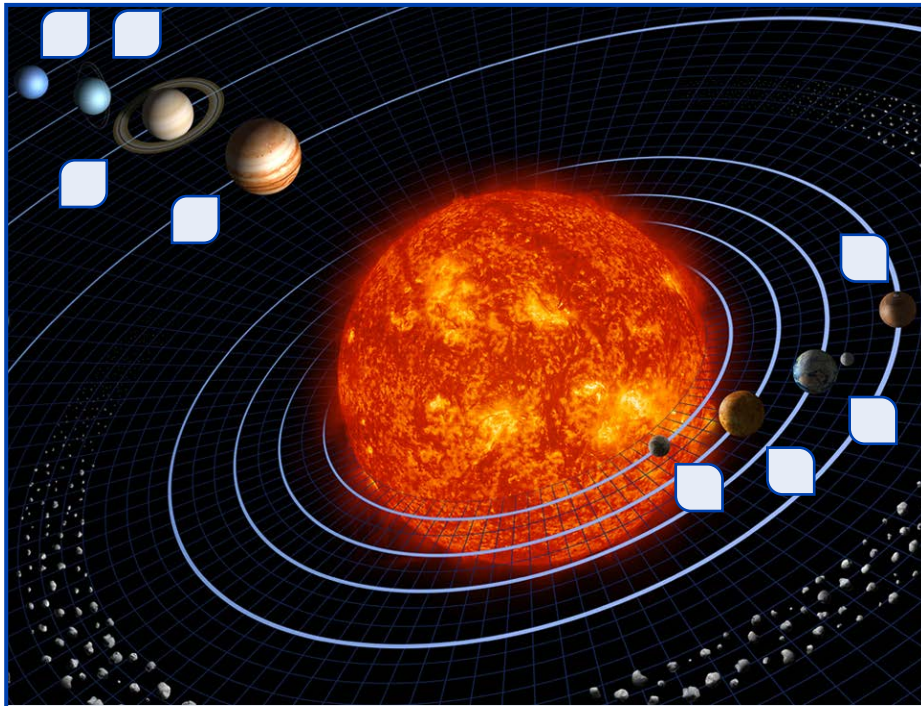
Write the names of the planets  
from nearest of the sun to  
farthest

↓  
1. *Mercury*

# Planet order

Name the planets in the picture and number them by their closeness to the sun.

Which is the biggest and most important celestial body in the solar system? Draw and colour it.



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_



\_\_\_\_\_

## Missing words

In the text below there are two words missing. In order to discover them read the text and complete the table. Insert one letter in each square.

Word 1

Word 2

The solar system is a tiny part **2** \_\_\_\_\_ the universe. **2** \_\_\_\_\_ which we. **1** \_\_\_\_\_ a part. It consists **2** \_\_\_\_\_ eight planets that revolve round the sun, the central star. The course every planet describes is called an orbit. Some **2** \_\_\_\_\_ them **1** \_\_\_\_\_ made **2** \_\_\_\_\_ rock and metal, others **1** \_\_\_\_\_ made **2** \_\_\_\_\_ gaseous materials. Some planets have satellites that follow them such as the earth and the moon.

## A dialogue

Here is a short dialogue for you to practise with your classmate.

**ALEX:** Listen RGB, how far is the Moon from Earth?

**RGB:** The Moon is three hundred and eighty thousand kilometres from Earth.

**ALEX:** OK, how long does light take to cover this distance?

**RGB:** The light takes more than one second to travel this distance.

**ALEX:** Is the Moon bigger or smaller than Earth?

**RGB:** The Moon is smaller than Earth. The diameter of the Earth is almost four times larger than that of the Moon. That's why you would weigh six times less on the Moon than on Earth.

**ALEX:** What colour is the Moon?

**RGB:** The Moon is grey. The sky seen from the Moon is always black there and you can see the stars even in the middle of the day, with the sun high above the horizon.

Cross out the sentences that give the wrong information about RGB.

1. **RGB** is egg-shaped.
2. He is tall and thin.
3. **RGB**'s face is like a screen. Our friend has two little arms and no elbows. He has only eight fingers.
4. **RGB** has no legs but has a rocket at his tail, which propels him through the sky .
5. He has a big grey belt with his name on in big colourful letters.
6. He speaks Russian.
7. His rocket is purple.



# Mars's missions

Since 1960 some orbiters, landers and rovers have been launched toward Mars. Some of missions went wrong, but some of them went very well! Now, we are going to think about them...



The rover called Curiosity landed in Marte in summer of 2012, but 6 automatic ships have sent us information before Curiosity's arrival. Find information about them:

1. Which are their names?
2. When arrived them to Mars?
3. Who of them are still operating?
4. Find some information or dates that they have sent us.

CURIOSITY. Find information about Curiosity to reply the following questions in your notebook.

1. When did Curiosity to Mars? How long was its journey?
2. How much distance has it done until now in the red Planet?
3. What is the most important thing that Curiosity's discovered?
4. What do you want that Curiosity discover?
5. Are more rovers than Curiosity in Mars? Is any of them operating?
6. Find the phrase: *Seven minutes of terror*. What does it mean?
7. Draw Curiosity below:

# Mars's missions

*REACH FOR THE STARS* is the first song that Curiosity sent us; the singer is *Will.I.am*. Is the first song we've listened from other planet. Find it on internet and sing it in the class.

Why they say the sky is the limit  
When I've seen the footprints on the moon  
Why do they say the sky is the limit  
When I've seen the footprints on the moon  
And I know the sky might be high  
But baby it ain't really that high  
And I know that Mars might be far  
But baby it ain't really that far  
Let's reach for the stars

Reach for the stars  
Let's reach for the stars  
Reach for the stars  
Let's reach for the stars  
Reach for the stars  
Let's reach for the stars

(let me see your hands up)  
(let me see your hands up)

Can't nobody hold us back  
They can't hold us down  
They can't keep us trapped  
Tie us to the ground  
Told your people that we don't mess around  
When we turn it up  
Please don't turn us down  
We will turn it up  
Louder than we was before

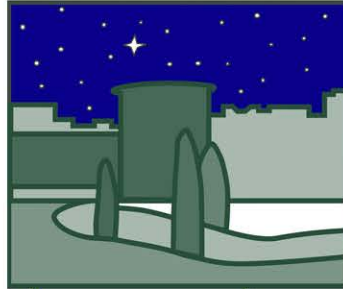
Like the lion out the jungle, you can hear us roar  
When I lie in here, it's like a sonic blaster  
Flying just like NASA, out of space master

Hands up, reach for the sky  
Hands up, get 'em up high  
Hands up, if you really feel alive  
Live it up, live it up

Why they say the sky is the limit  
When I've seen the footprints on the moon  
Why do they say the sky is the limit  
When I've seen the footprints on the moon  
And I know the sky might be high  
But baby it ain't really that high  
And I know that Mars might be far  
But baby it ain't really that far  
Let's reach for the stars  
Reach for the stars

Let's reach for the stars  
Reach for the stars  
Let's reach for the stars  
Reach for the stars  
Let's reach for the stars  
(let me see your hands up)

**planetario**



**de pamplona**



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