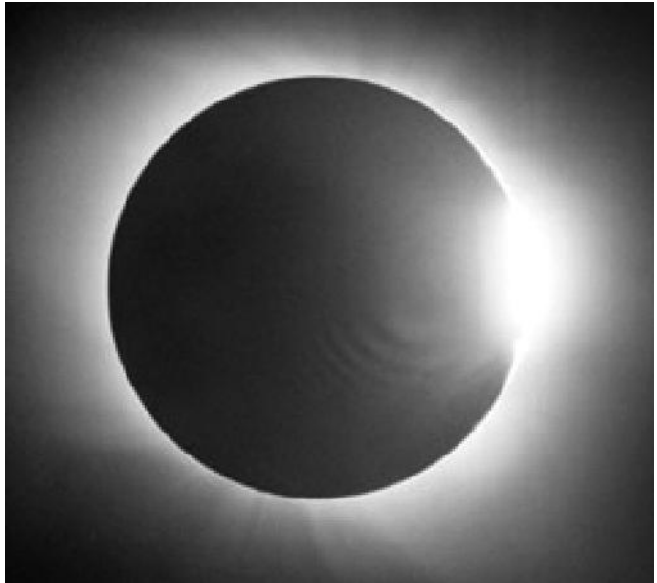


**A. Read the following text and answer the questions below**

## ***Observing Solar Eclipses***

A solar eclipse occurs when the Moon, during its monthly revolution around Earth, happens to line up exactly between Earth and the Sun. Why isn't there an eclipse every month? Because solar eclipses occur during a new moon, but not at every new moon. Most often the Moon passes a little higher or a little lower than the Sun. There is a solar eclipse about twice a year, when the Moon's and the Sun's positions line up exactly.



The glory of a solar eclipse comes from the dramatic view of the Sun's corona, or outer atmosphere, which we can see only when the brilliant solar disk is blocked by the Moon. The corona is not just light shining from around the disk: It is actually the outermost layer of the solar atmosphere. Although the gas is very sparse, it is extraordinarily hot (800,000 to 3,000,000 Kelvin), even hotter than the surface of the Sun!

A solar eclipse is only visible from a small area of Earth. It's unlikely that, during your lifetime, you will ever see a total solar eclipse directly over the place you live. Many people travel long ways to experience a total solar eclipse. If you're lucky, you might someday see a partial solar eclipse (one where the Moon doesn't quite cover all the Sun's disk) nearby.

1. Do solar eclipses happen every month?
2. How often do solar eclipses occur?
3. What is the Sun's corona?
4. Why do people travel to see a total solar eclipse?
5. What happens during a partial solar eclipse?

**B. Many people love observing solar eclipses. In the following section some people tell about their experiences during eclipses. Complete their stories.**

\_\_\_\_\_ : one word or contraction                      .....: one or more words

I (OBSERVE) ..... the most impressive eclipse in my life  
\_\_\_\_\_ Maracaibo, Venezuela, last 26 February. I (BE) ..... in  
the capital city, Caracas, the day before because I (NOT BE) .....  
sure what to do. Finally I (DECIDE) ..... to take the first plane to  
Maracaibo. The most amazing thing to me during an eclipse is to see the sunlight  
disappearing \_\_\_\_\_ the moon and the rare darkness that (COVER) .....  
everything. Definitely, this is the most beautiful thing that you can ever see in your life. If you  
(CAN TRAVEL) ..... to witness the next total eclipse, go! You'll  
never regret it.

Javier Rondon  
Venezuela

My wife and \_\_\_\_\_ love Total Eclipses. We (GO) ..... to  
Aruba to see this one last month. It was \_\_\_\_\_. I (TAKE) .....  
lots of pictures, but no pictures or video can even come close to the beauty of the actual  
event. If you saw one, you would understand what I say.

Jack Schenck  
USA

**C. A reporter is now interviewing Jack Schenck to get more information about his experience. Complete their conversation – fill in the gaps or underline the correct alternative.**

Reporter: Hello, Jack. Thanks for having us. We know you (go) ..... away  
a short time ago because there (be) ..... an eclipse. \_\_\_\_\_ we  
ask you some questions?

Jack: Sure.

Reporter: .....?

Jack: To Aruba, an island in the Caribbean.

Reporter: .....you go with?

Jack: My wife, of course, she always (GO) ..... with *I / me*.

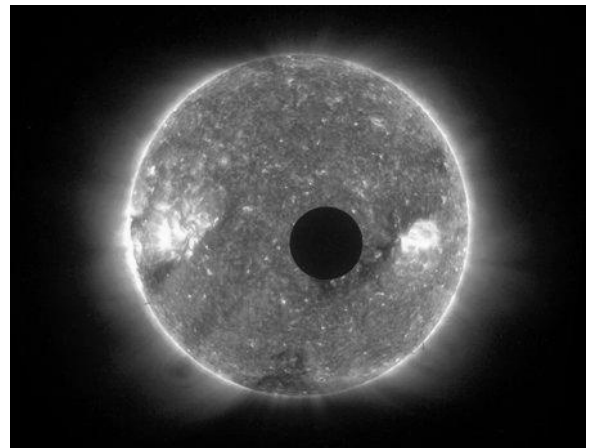
Reporter: .....there?

Jack: We watched a total solar eclipse and went *for / on* long walks on the island to enjoy  
the place.

Reporter: .....did you stay?  
 Jack: Four days. I **went / got** home like a new man! Here are **mine / my** photos.  
 Reporter: Great! Can we have a look at \_\_\_\_\_?  
 Jack: Sure. Look at the colours in the sky.  
 Reporter: ..... a good time?  
 Jack: Of course we did- it was great! An unforgettable experience!  
 Reporter: Well, Jack. We're happy to hear you had such a great time. Thank you.

**D. On Feb. 25, 2007, NASA scientists were calibrating some cameras aboard the STEREO-B spacecraft and they pointed the instruments at the sun. Listen to a description of what they saw and tick the correct alternative.**

1. What did they see?
  - The sun, the earth and the moon.
  - The sun and the earth.
  - The sun and the moon.
  
2. What did the moon look small?
  - Because the picture was taken from the earth.
  - Because of the position of the STEREO-B spacecraft.
  - Because there was a solar eclipse.



**E. Imagine you went to a special place to view an eclipse. Write an e-mail to a friend and give him/her the following information. Write about 100 words.**

- Where you are
- Who is with you
- What is the place like
- What you did yesterday
- What you are doing at the moment

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**F. How much do you know about eclipses? Read the following article and make a summary in Spanish using your own words.**

## What to See During an Eclipse

by Ron Hipschman

If you are lucky enough to find yourself inside the path of totality there's lots to see. Let's digress briefly and look at what there is to see on the sun itself.

The sun has a surface temperature of about 6000 degrees Centigrade. The word "surface" is a bit misleading as the sun is not a solid ball, but rather a gaseous body. If you heat up a gas enough, it becomes ionized (the gas loses outer electrons) and the gas becomes opaque. This opaque and very bright surface of the sun is called the "photosphere." Because the gases of the photosphere are moderately dense, they give off an incandescent white light, like the filament of a lamp.

Before an eclipse starts—assuming you have the correct and safe viewing apparatus—you can view the entire face of the sun. This is a good chance to see sunspots. Sunspots are slightly cooler areas (about 1500 degrees C cooler) on the sun that look dark compared with the blinding photosphere.

Above the photosphere, the gases are cooler, more rarefied, and give off a spectrum of light that is representative of the chemical elements that compose that gas, mainly hydrogen. This thin layer, the upper atmosphere of the sun, is called the "chromosphere" because of its colorful nature. Normally you can't see the chromosphere, but the eclipse gives us just the right conditions to observe this beautiful phenomenon. There are always eruptions on the sun which throw huge amounts of glowing gas, often much larger than the earth, high above the sun's surface. These "prominences" are easily visible along the edge of the sun during the total eclipse. The incredibly hot outer atmosphere of the sun, called the "corona," is also only visible during totality.

A series of 25 horizontal dotted lines spanning the width of the page, intended for writing or drawing.

## Key

### Section A.

1. No (they don't)
2. During a new moon, when the moon lines up between the Earth and the Sun // About twice a year.
3. The outer atmosphere // The outermost layer of the solar atmosphere
4. (any acceptable answer)
5. The moon covers partly the sun's disk

### Section B.

Observed – in – was – wasn't – decided – behind – covers – can travel –

I – went – wonderful (any plausible adjective) – took

### Section C.

went  
was  
can  
Where did you go?  
Who did  
goes  
me  
What did you do  
for  
How long  
got  
them  
Did you have

### Section D 6 marks

1-c 2-b

Listening Script

"What an extraordinary view," says Lika Guhathakurta, STEREO Program Scientist at NASA headquarters. The fantastically-colored star is our own sun as STEREO sees it in four wavelengths of extreme ultraviolet light. The black disk is the Moon. "We caught a lunar transit of the sun," she explains.

"The images have an alien quality," notes Guhathakurta. "It's not just the strange colors of the sun. Look at the size of the Moon; it's very odd." When we observe a lunar transit from Earth, the Moon appears to be the same size as the sun—a coincidence that produces intoxicatingly beautiful solar eclipses. The silhouette STEREO-B saw, on the other hand, was only a fraction of the sun's diameter. "It's like being in the wrong solar system."

The Moon seems small because of STEREO-B's location. The spacecraft circles the sun in an Earth-like orbit, but it lags behind Earth by one million miles. This means STEREO-B is 4.4 times further from the Moon than we are, and so the Moon looks 4.4 times smaller.