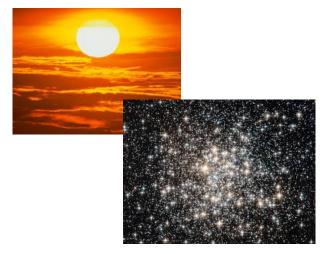


Objective Concepts (gravity, climate, solar system, hydrogen, helium, elements, ultraviolet rays, cluster, galaxy, Milky Way Galaxy); Sight words (surface, core, dangerous, causes, amount, glowing, tiny, twinkling)



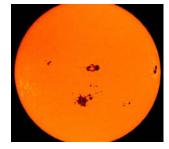
Vocal	oulary
surface	amount
core	glowing
dangerous	tiny
causes	twinkling

# The Sun and the Stars

By: Sue Peterson

Scientists know many things about the Sun. They know

how old it is. The Sun is more than 4½ billion years old. That would be too many candles to put on a birthday cake!



They also know the Sun's size. The Sun may seem small, but that is because it is so far away. It is about 93 million miles (150 million kilometers) away from the Earth. The Sun is so large that the diameter of the Sun is

109 times the Earth's diameter. The Sun also weighs as much as 333,000 Earths.

The Sun is made up of gases: 75% hydrogen and 25% helium. Hydrogen is the simplest and lightest of all of the known elements. When you combine hydrogen with oxygen, you get water. You probably know what helium is. It is the gas that can be put into balloons to make them stay in the air and float.

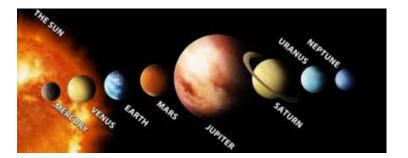
Scientists also know the temperature of the Sun. The surface of the Sun is about 10,000 degrees Fahrenheit (5,600 degrees Celsius). That might sound hot, but the Sun's core is even hotter. The core is the central region where the temperature reaches about 27 million degrees Fahrenheit (15 million Celsius).

The Sun is the center of our Solar System. Besides the

Sun, the Solar

System is made up

of the planets,



moons, asteroid belt, comets, meteors, and other objects.

The Earth and other planets revolve around the Sun.

The Sun is very important. Without it, there would be only darkness and our planet would be very cold and be without liquid water. Our planet would also be without people, animals, and plants because these things need sunlight and water to live.

The Sun also gives out <u>dangerous</u> ultraviolet light which <u>causes</u> sunburn and may cause cancer. That is why you need to be careful of the Sun and wear sunscreen and clothing to protect yourself from its rays.

Scientists have learned many things about the Sun.

They study the Sun using special tools or instruments such as telescopes. One thing they do is to look at the <u>amount</u> of light from the Sun and the effect of the Sun's light on the Earth's climate.

The Sun is actually a star. It is the closest star to the Earth. Scientists also study other stars, huge balls of glowing gas in the sky. There are over 200 billion stars in

the sky. Some are much larger than the Sun and others are smaller than the Earth. They all look tiny because they are so far away from the Earth. This distance is measured in light-years, not in miles or kilometers. (One light-year is equal to the distance that light travels in one year. This is about six trillion miles or ten trillion kilometers!)

Stars look like they are twinkling because when we see them, we are looking at them through thick layers of turbulent (moving) air in the Earth's atmosphere. That is why the words are written in the song: *Twinkle, Twinkle, Little Star.* 

Stars have lifetimes of billions of years. They are held together by their own gravity. Over half of the stars in the sky are in groups of two. They orbit around the same center

other. There are also larger groups of stars called



clusters. These clusters of stars make up galaxies. Our Solar System is located in the Milky Way Galaxy.

## **Practice**

## Language Work

Α.	Fill in the blan	nk and spell.	
	s <u>ur</u> fac <u>e</u>	s f a c	
	c <u>or</u> e	c e	
	c <u>au</u> ses	c s e s	
	am <u>ou</u> nt	a m n t	
	t <u>i</u> n <u>y</u>	t n	
В.	dangerous		rline the word used.
	glowing		
	twinkling		

1. gravity	a.	the kind of weather a place has
2. climate	b.	the Sun and everything that revolves around it
3. solar syste	m c.	a force which tries to pull two objects toward each other
4. hydrogen	d.	the central region
5. helium	e.	the simplest and lightest of known elements
6. elements	f.	an element in air that can be used to inflate balloons
7. core	g.	a number of things together
8. ultraviolet ı	rays h.	simple substances from what things are made
9. cluster	i.	light from the Sun that can harm
Multiple-Choice	• Questions (P	Put an X in front of the correct answer.)
Sun?  a. There is b. The dia c. Scientis	s darkness witl nmeter of the S	un is 109 times the Earth's diameter. un with special tools.
b. The Su	n and stars are n and stars are n and stars are n and stars are	e fun to look at.

C. Matching. Draw lines between the words and what they mean.

3.	<ul> <li>What does the text say about the size of stars?</li> <li>a. They are all the same size.</li> <li>b. They are all small and you can see them twinkle.</li> <li>c. Some stars are larger than the Sun and others are smaller than the Earth.</li> <li>d. They are all smaller than the Sun.</li> </ul>
<u>De</u>	efinitions (Write the meaning of each word as it is used in the text.)
1.	surface
2.	glowing
3.	twinkling
E>	tended Response (Answer in complete sentences.)
1.	Why do you think the author included a section on the Sun and another section on stars in the same text?

Why do	es the Su	n look so s	small, but	it is really	large?	

#### **Answer Sheet**

Answers for Matching, Multiple-Choice Questions, and Extended Response

#### The Sun and the Stars

Matching

1(c); 2(a); 3(b); 4(e); 5(f); 6(h); 7(d); 8(i); 9(g)

**Multiple-Choice Questions** 

- 1. b
- 2. d
- 3. c

**Extended Response (Accept reasonable answers.)** 

- 1. They have similar features and they are both part of the solar system. They are both in the sky. And the Sun is a star.
- 2. Free expression
- 3. The sun is very far away. (Various facts are listed in the text about the size, etc.)