

Unit 2

Unit at a Glance

- ▶ **Language Focus:** Give and Carry Out Commands, Verify
- ▶ **Reading Strategy:** Ask Questions
- ▶ **Topic:** Energy

Catching THE LIGHT

**BIG
Question**

**What is the
power of
the sun?**

BERLIN, GERMANY

A man aligning two self-built solar umbrellas for cooking at a "No Waste" open-air cooking and picnic event

Share What You Know



Do It!

- 1 **Think** of words that describe the sun. Make a list.
- 2 **Choose a word** from your list and draw it.
- 3 **Share your drawing** with the class.



Give and Carry Out Commands

Listen to Alfredo and Susana's song. Then use **Language Frames** to give commands to a partner. Have your partner restate the commands before doing them.

Make Sun Tea

How I want some iced tea, Susana, Susana,
Will you make some for me, Susana my friend?

You can make tea with sunlight, Alfredo, Alfredo,
In an hour it's done right, Alfredo my friend.

Put tea bags in water, Alfredo, Alfredo,
It gets hotter and hotter, Alfredo my friend.

Then you put in some fresh ice, Alfredo, Alfredo,
And the iced tea is quite nice, Alfredo my friend.

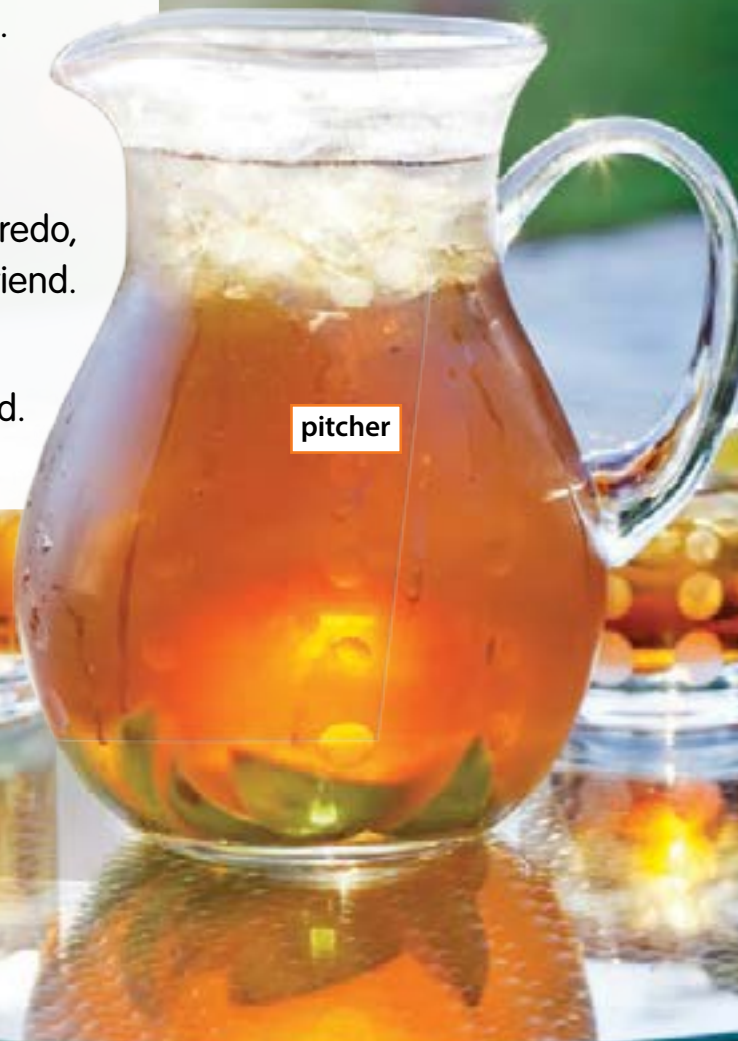
Give the pitcher to me, Susana, Susana,
And I'll make the iced tea, Susana my friend.

Tune: "There's a Hole in the Bucket"

Language Frames

- Put _____.
- Give _____ to _____.

Song  



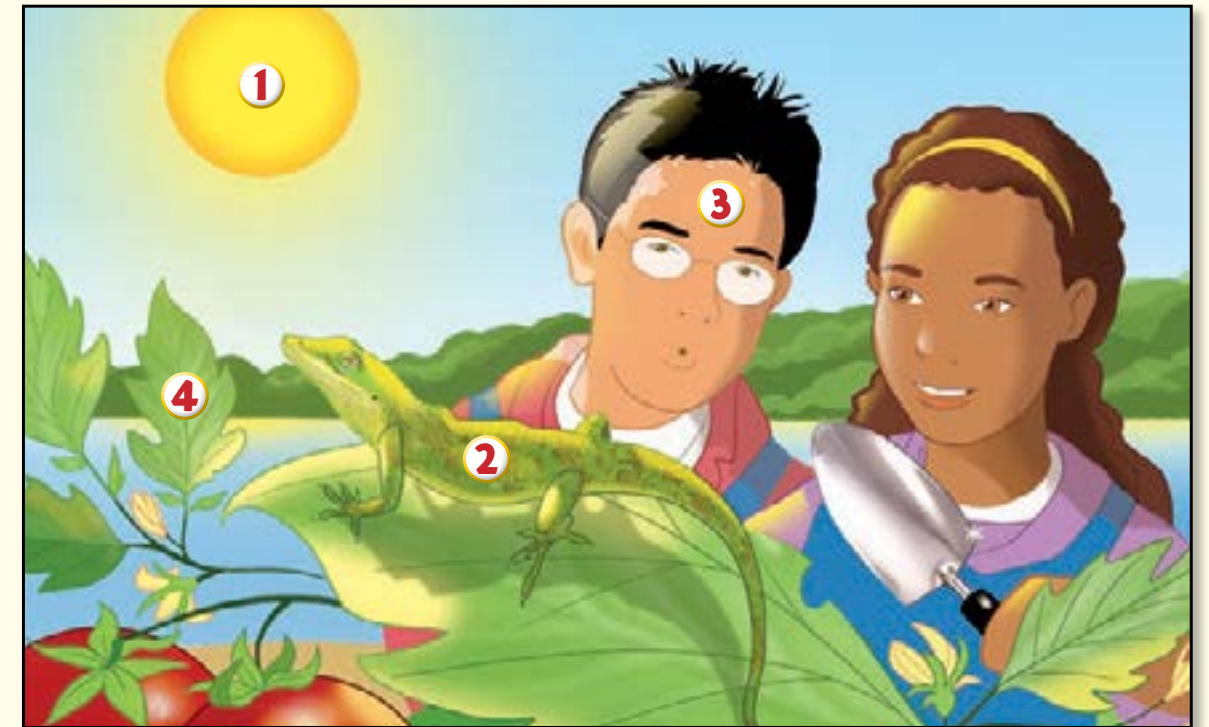
Science Vocabulary

Key Words

Look at this illustration. Use **Key Words** to talk about how the sun **transmits** energy.

Key Words

absorb
heat
reflect
thermal
transmit



- 1 The sun transmits energy, or sunlight.
- 2 Plants, animals, and objects can **reflect** or **absorb** the sunlight.
- 3 Light that is absorbed can change into **thermal** energy, or **heat**.
- 4 Plants change sunlight into food.

Talk Together

How do plants and animals use the power of the sun? With a group, use **Key Words** to describe what a day in your life might be like without any sunshine at all.

Character

When you think about the conflict, or problem, that **characters** in a story face, you often think about their roles, or parts they play, in the conflict. You also think about their functions, or what they do.

Look at these pictures of Alfredo and Susana.



Map and Talk

You can use a character chart to describe characters' roles and functions in a conflict. Here's how you make one.

Character Chart			
Character	Role	Function	Conflict
Alfredo	learner	tries to get Susana to make tea for him	Susana wants Alfredo to make the tea.
Susana	teacher	tries to teach Alfredo to make sun tea	Alfredo wants Susana to make the tea.

Write each character's name here.

Write each character's role here.

Write each character's function here.

Write each character's conflict here.

Talk Together

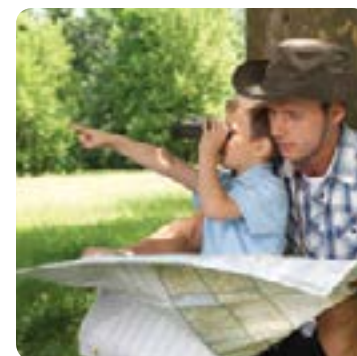
With a partner, think of a story with a conflict. Use a character chart to show each character's role and function in the conflict.

More Key Words

Use these words to talk about "Ten Suns" and "How the Fifth Sun Came to Be."

assume

verb



When you **assume** something, you think it is true without checking the facts.

event

noun



An **event** is something that happens. The street fair is a big **event**.

explanation

noun



An **explanation** gives a reason or makes something easy to understand.

power

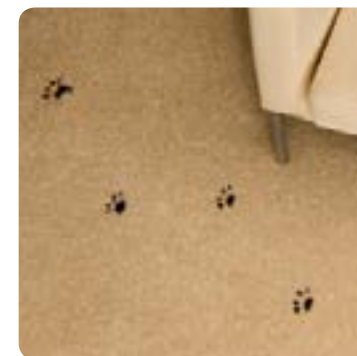
noun



Power is strength or energy. This machine has the **power** to lift heavy things.

theory

noun



A **theory** is an idea that explains something. Her **theory** is that the dog did it.

Talk Together

Work with a partner. Write a question using a **Key Word**. Answer the question using a different **Key Word**. Use all the words twice.

Question: What is a theory?

Answer: an explanation of something.

Learn to Ask Questions

Look at the cartoon. When you wonder or get confused about something, you usually **ask a question** and then try to find the answer.



When you read, you can **ask questions**, too. The answers to some questions can be found **in the story**. Read to find the answers. This will help you understand the story better.

How to Ask Questions



1. As you read, ask a question.

I wonder _____.



2. Look for an answer in the text. You might find the answer right there in the text, or you might have to think and search.

I read _____.
So _____.



3. Think about the answer. Read on and ask more questions.

Now I wonder _____.

Language Frames

- ? I wonder _____.
- 👁 I read _____.
So _____.
- 📖 Now I wonder _____.

Talk Together

Read Susana's story. Read the sample. Use **Language Frames** to ask questions. Tell a partner about them.

Science Fiction

How the Sun Got Hot Again

Astronauts Sofie and Karl were ready to go into space. They were on a special mission. The sun had been growing colder every day. It was getting harder and harder to survive on Earth.

Sofie had an **explanation**. A **thermal** force deep inside the sun had stopped working. If her **theory** was right, setting off a huge explosion on the sun's surface should strengthen its **power**.

The spaceship took off. Before long, the sun was a huge ball right in front of them. It was as majestic as they had imagined it. "The **heat** shields on our spaceship are working," Sofie noted.

"We'd melt if they weren't," Karl said nervously. Soon, it was time to send off the explosives. Sofie pressed a button. The little ship holding the explosives made its way to the sun.

Sofie turned the big ship around. They needed to get far from the sun before the explosion. KA-BOOM! The shock waves rocked the spaceship. Sofie spoke to Mission Control. "It worked!" she cried.

"Excellent!!" Karl exclaimed. "I **assume** that tomorrow's headlines will read: 'Astronauts Saved the Sun!' This **event** will go down in history!"



"I wonder what is happening to the sun.
I read that a thermal force has stopped working.
So now I know what happened.
Now I wonder if their mission will succeed."

◀ = a good place to stop and ask a question

Read a Story

Genre

A **myth** is a very old story. Its purpose is to explain something about the world. Myths often include gods and characters who have special powers, but who act in human ways.

Point of View

Point of view describes who tells a story. In the third-person point of view, a narrator outside of the story tells the story. The narrator uses words like *he*, *she*, or *they* to explain what characters experience, think, and feel.

But the gratitude of the earth's people and the importance of their work meant nothing to the boys. They found their task boring.

Ten Suns

A Chinese Myth

retold by **Eric A. Kimmel** • illustrated by **Marilee Heyer**

► **Set a Purpose**

Find out about an unusual family who lives in the sky.



Long ago, when the world was new, a giant mulberry tree grew on the far side of the sea, on the edge of the **eastern horizon**. Its roots plunged deep into the earth. Its branches scraped the sky.

Nestled in the topmost branches of this tree stood a **jade** palace. Hammered sheets of gold formed its roof. Its windows were made of the thinnest **panes of amethyst and lapis lazuli**. This was the palace of Di Jun, the eastern emperor, the god who ruled the regions of the sky where the sun arises.

eastern horizon the land where the sun rises

jade green stone

► **panes of amethyst and lapis lazuli** purple and blue crystal



In those days, there were ten suns: the children of Di Jun and his wife, Xi He. They never walked across the sky together. That would produce too much **heat** for the world to **bear**. Instead, every morning before dawn, Xi He would awaken one of her sons. They would climb into her dragon chariot and drive to a point on the eastern horizon where Xi He's son would begin his walk.

bear survive



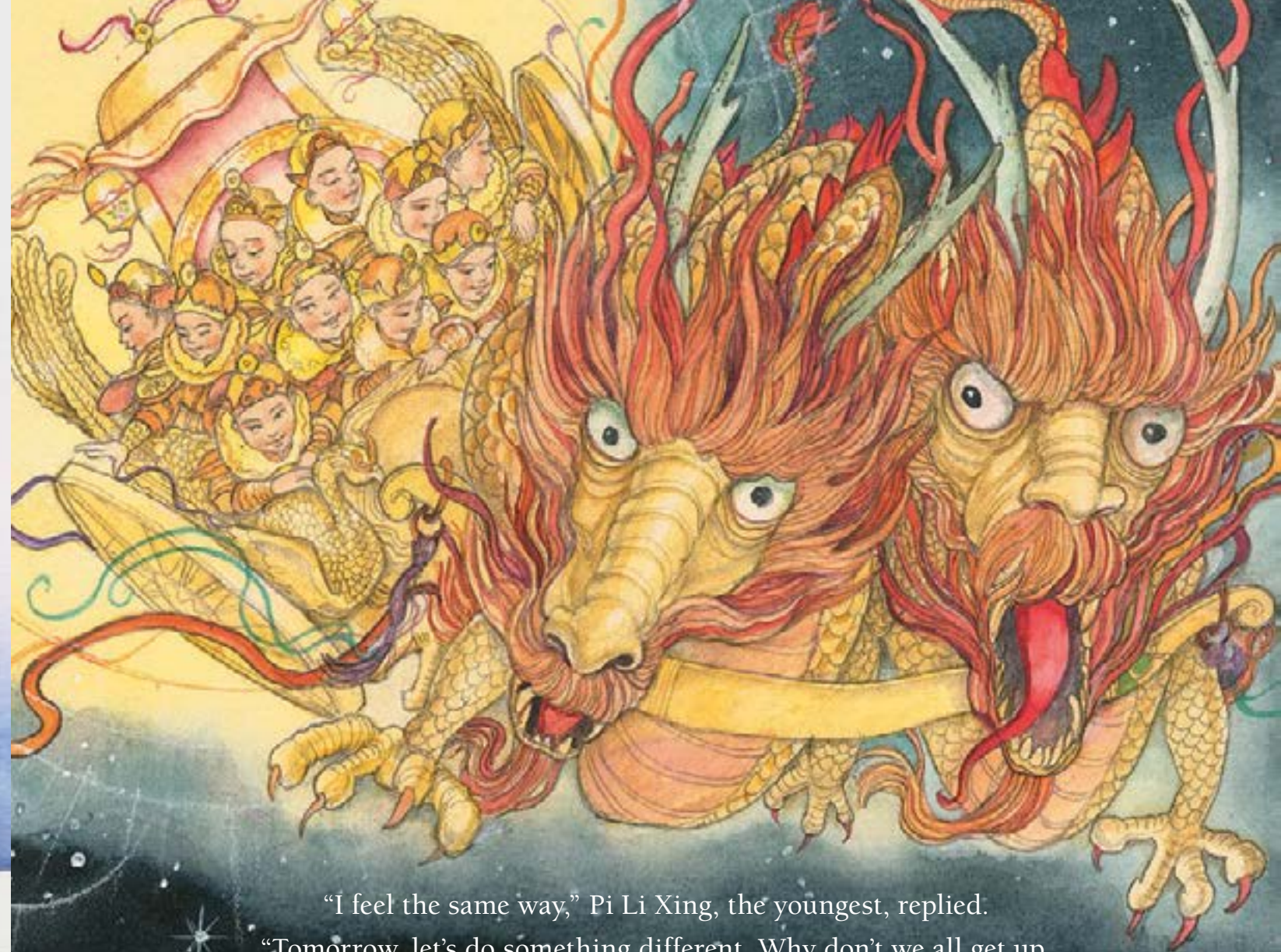
Each day, one of the suns would walk across the sky from east to west. When the people on Earth saw the sun crossing the heavens, bringing warmth and light, they offered thanks to Di Jun, Xi He, and their family.

But the **gratitude** of the earth's people and the importance of their work meant nothing to the boys. They **found their task** boring. Day after day, year after year, century after century, they followed the same path across the sky. There was no one to talk to, nothing new to see, nothing to do except follow that same **weary track** over and over again.

One night, as Di Jun's boys lay in bed, they began talking. Huo Feng Huang, the oldest, said, "I would not mind walking the path so much if I **had some company**."



gratitude thankfulness
found their task thought their job was
weary track old path
had some company was not alone



"I feel the same way," Pi Li Xing, the youngest, replied. "Tomorrow, let's do something different. Why don't we all get up early, take the dragon chariot, and walk across the sky together?"

The others agreed. "A splendid idea!"

In the dark of night, while their parents slept, the boys **arose**, put on their brightest **garments**, **hitched** the dragon to their mother's chariot, and rode across the star-swept sky to the eastern horizon. Laughing, chattering, with their arms around one another's shoulders, they began their walk.

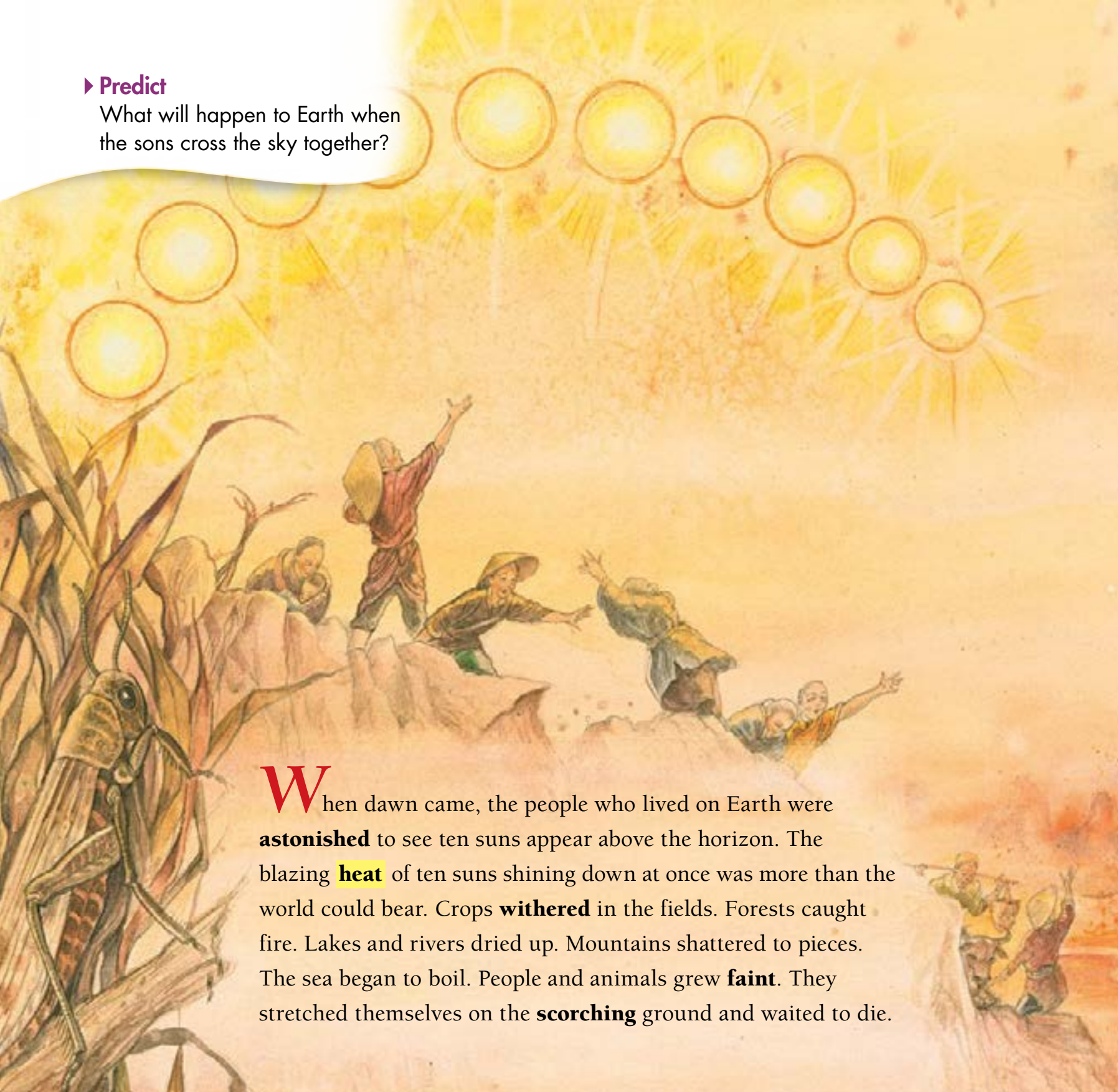
arose got out of bed
garments clothes
hitched connected

► Before You Continue

1. **Ask Questions** Why are the children called both *suns* and *sons* in the story? Where can you find the answer?
2. **Character/Plot** What is the role of the sons in the story? What is their conflict?

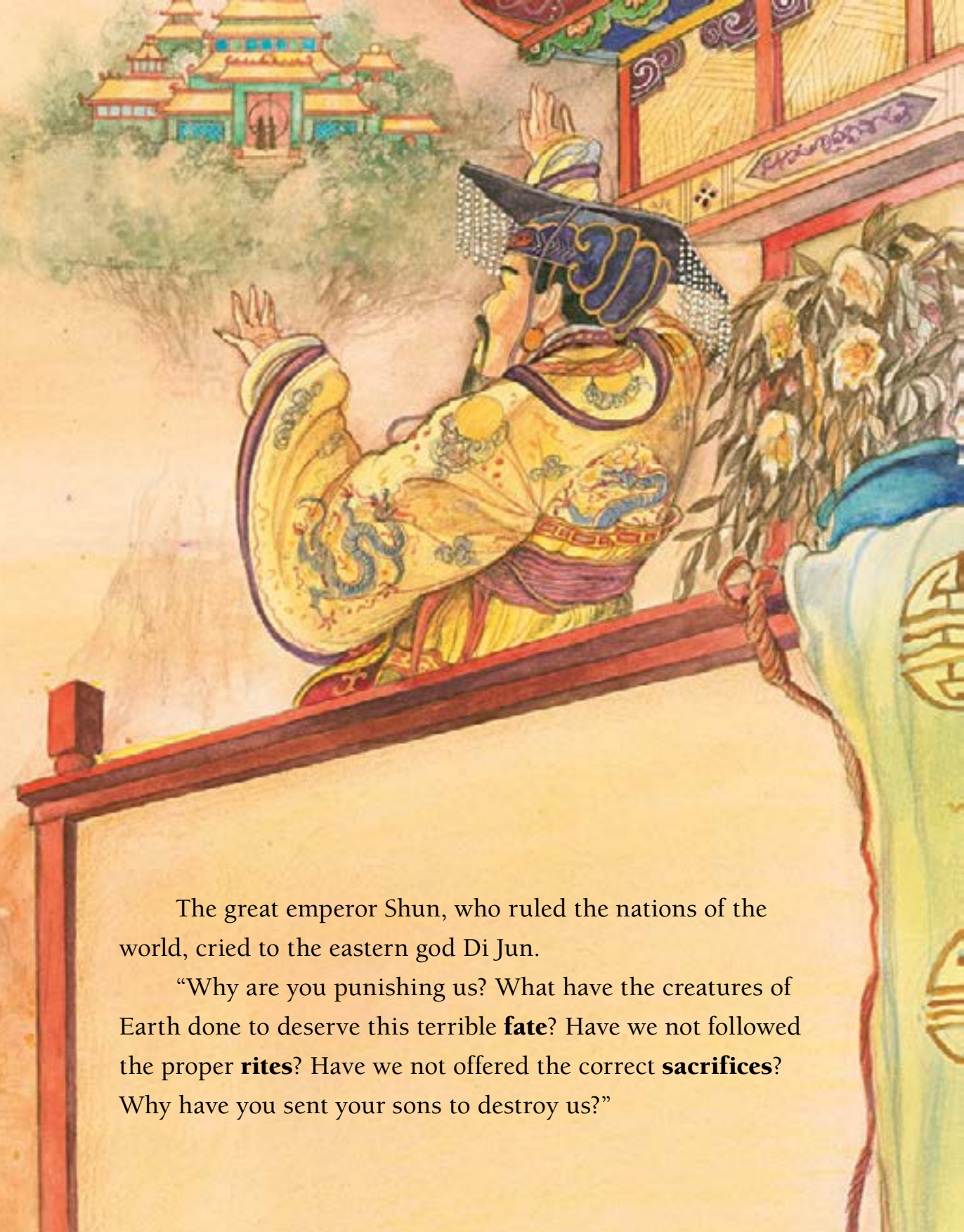
► **Predict**

What will happen to Earth when the sons cross the sky together?



When dawn came, the people who lived on Earth were **astonished** to see ten suns appear above the horizon. The blazing **heat** of ten suns shining down at once was more than the world could bear. Crops **withered** in the fields. Forests caught fire. Lakes and rivers dried up. Mountains shattered to pieces. The sea began to boil. People and animals grew **faint**. They stretched themselves on the **scorching** ground and waited to die.

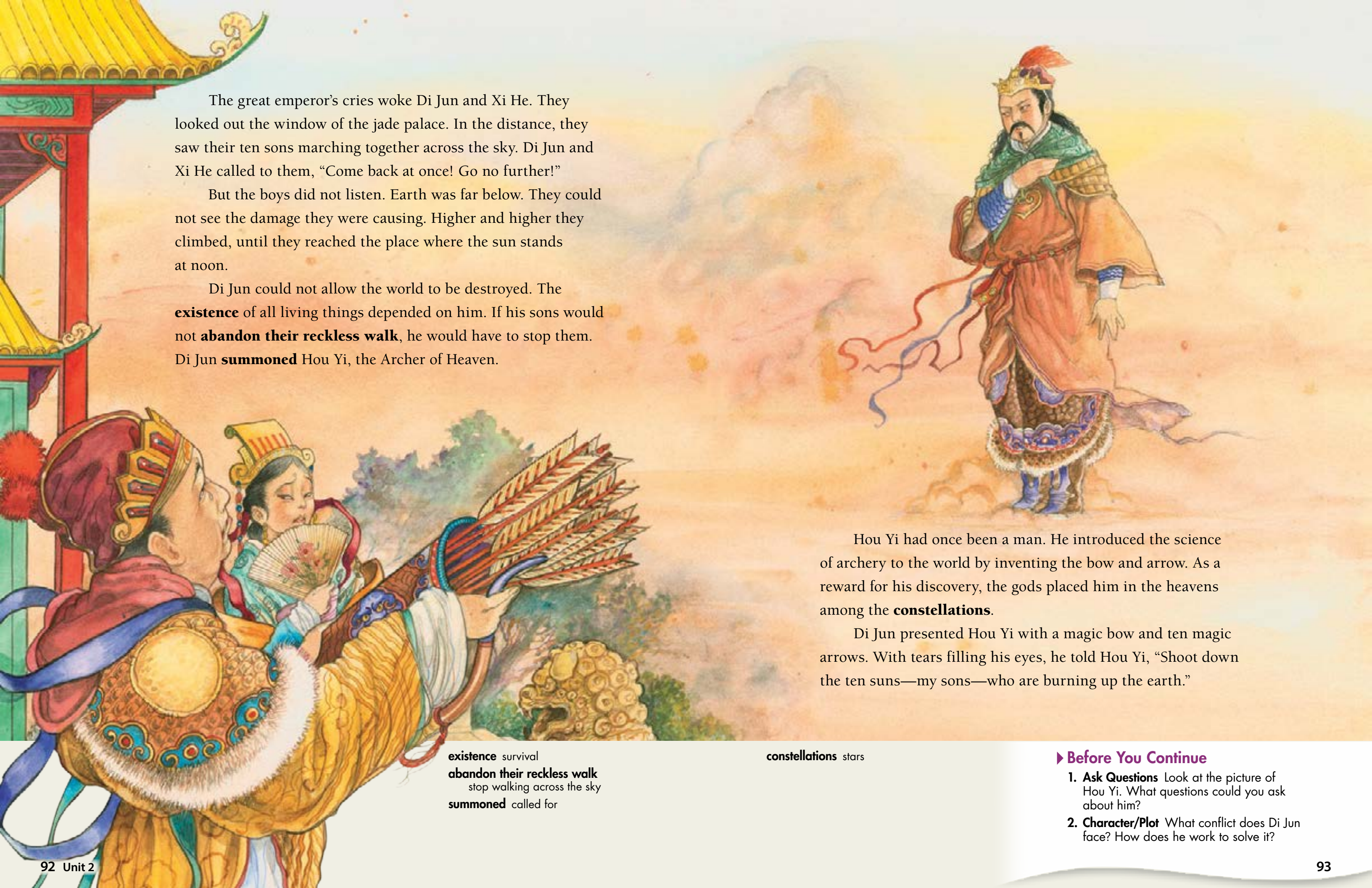
astonished very surprised
withered dried up and died
faint weak and dizzy
scorching burning hot



The great emperor Shun, who ruled the nations of the world, cried to the eastern god Di Jun.

“Why are you punishing us? What have the creatures of Earth done to deserve this terrible **fate**? Have we not followed the proper **rites**? Have we not offered the correct **sacrifices**? Why have you sent your sons to destroy us?”

fate ending
rites ceremonies
sacrifices gifts to the gods

An illustration of Di Jun and Xi He looking out from a palace window. Di Jun is in the foreground, wearing a yellow robe with a fur collar and a red headpiece. Xi He is behind him, wearing a blue robe and a yellow headpiece. They are looking out at a landscape with a large, ornate stone lion in the foreground and a large, ornate building in the background. The sky is a mix of orange and yellow, suggesting a sunset or sunrise.

The great emperor's cries woke Di Jun and Xi He. They looked out the window of the jade palace. In the distance, they saw their ten sons marching together across the sky. Di Jun and Xi He called to them, "Come back at once! Go no further!"

But the boys did not listen. Earth was far below. They could not see the damage they were causing. Higher and higher they climbed, until they reached the place where the sun stands at noon.

Di Jun could not allow the world to be destroyed. The **existence** of all living things depended on him. If his sons would not **abandon their reckless walk**, he would have to stop them. Di Jun **summoned** Hou Yi, the Archer of Heaven.



Hou Yi had once been a man. He introduced the science of archery to the world by inventing the bow and arrow. As a reward for his discovery, the gods placed him in the heavens among the **constellations**.

Di Jun presented Hou Yi with a magic bow and ten magic arrows. With tears filling his eyes, he told Hou Yi, "Shoot down the ten suns—my sons—who are burning up the earth."

existence survival
abandon their reckless walk
stop walking across the sky
summoned called for

constellations stars

► Before You Continue

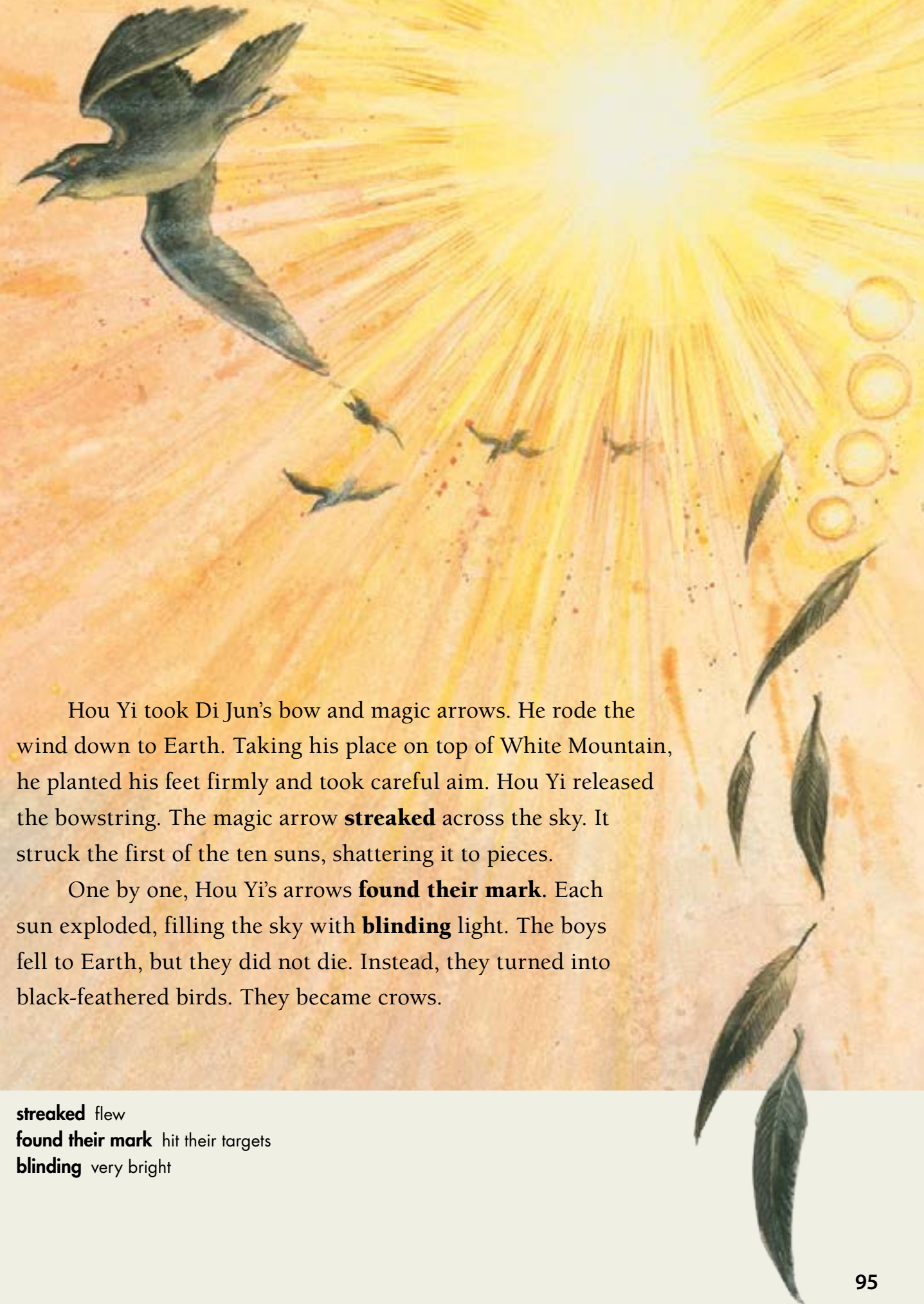
1. **Ask Questions** Look at the picture of Hou Yi. What questions could you ask about him?
2. **Character/Plot** What conflict does Di Jun face? How does he work to solve it?

► Predict

Who will save Earth, and how?

Hou Yi **refused**. “How can I harm your boys? They are like my children. I taught them to shoot with a bow and arrow. We both still love them, even when they **disobey**.”

“I love the creatures of Earth, too. I must protect them,” Di Jun told Hou Yi. “Do not be afraid. You will not harm the boys. My sons will not be hurt, but they will be changed. Never again will they cross the sky as suns. They will be gods no more. Hurry! Do as I command. **There is no time to spare**. Earth is dying.”



Hou Yi took Di Jun’s bow and magic arrows. He rode the wind down to Earth. Taking his place on top of White Mountain, he planted his feet firmly and took careful aim. Hou Yi released the bowstring. The magic arrow **streaked** across the sky. It struck the first of the ten suns, shattering it to pieces.

One by one, Hou Yi’s arrows **found their mark**. Each sun exploded, filling the sky with **blinding** light. The boys fell to Earth, but they did not die. Instead, they turned into black-feathered birds. They became crows.

refused would not agree to shoot down the suns

disobey don’t do what we tell them to do

There is no time to spare.
We do not have a lot of time.

streaked flew

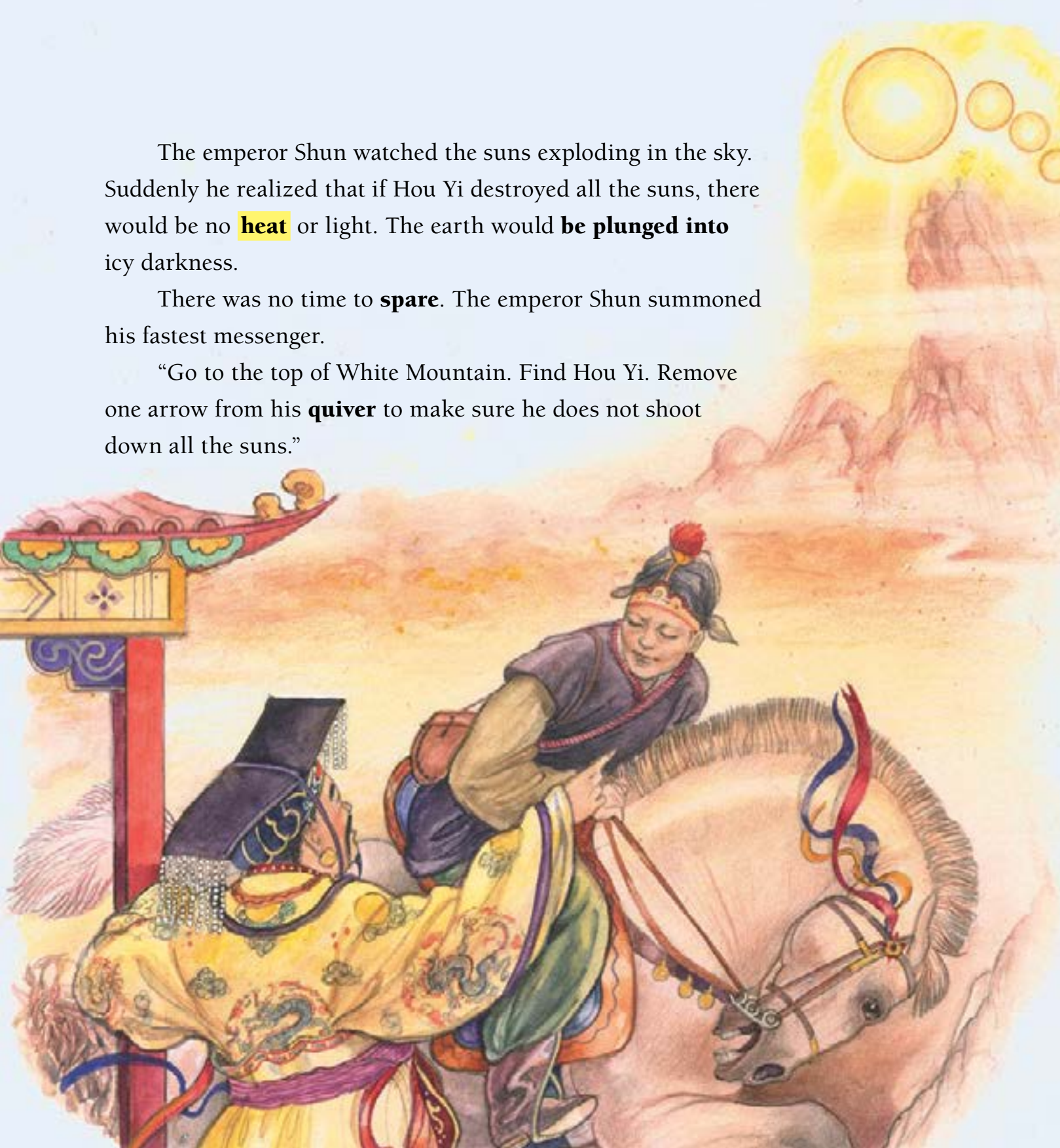
found their mark hit their targets

blinding very bright

The emperor Shun watched the suns exploding in the sky. Suddenly he realized that if Hou Yi destroyed all the suns, there would be no **heat** or light. The earth would **be plunged into** icy darkness.

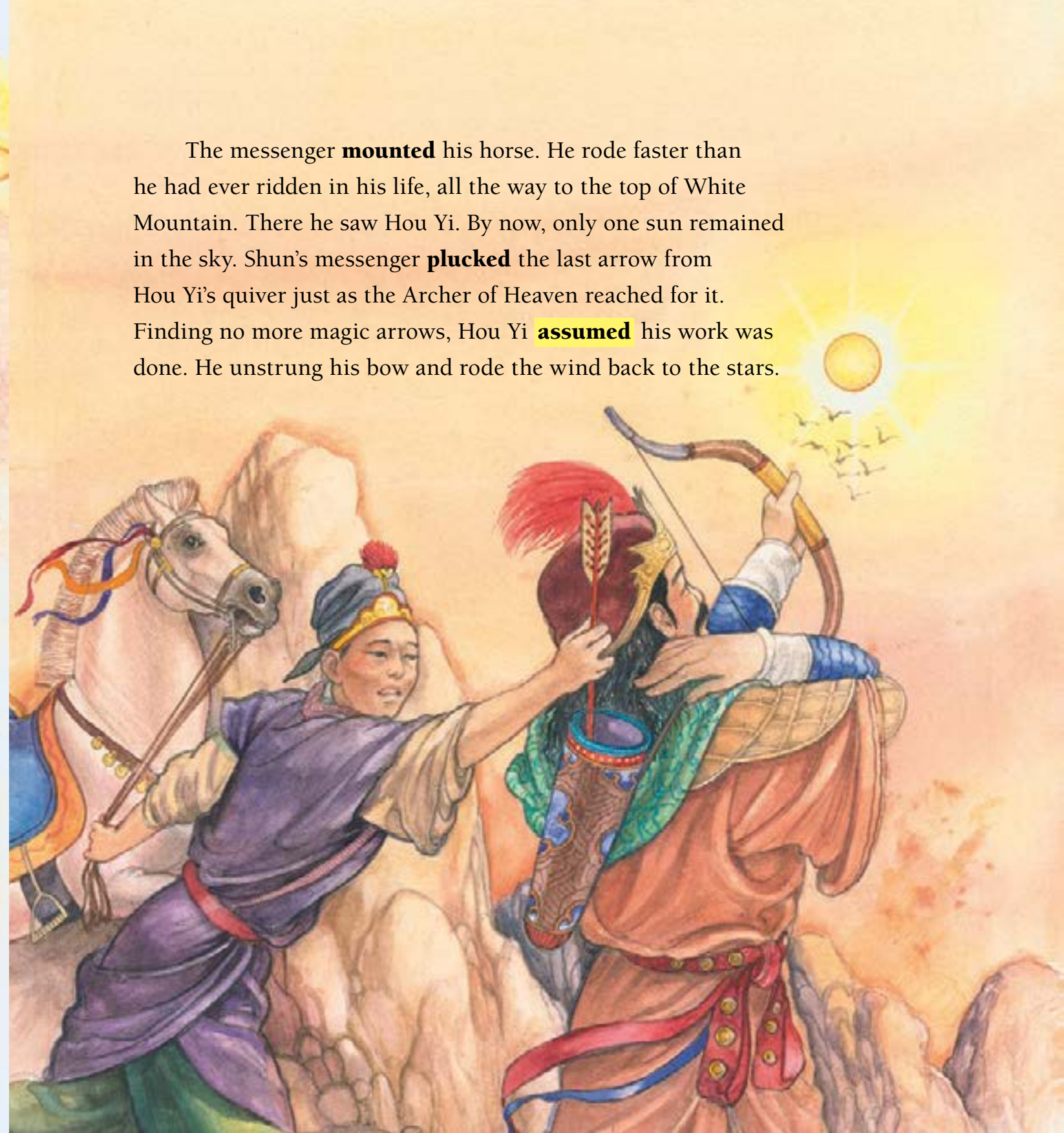
There was no time to **spare**. The emperor Shun summoned his fastest messenger.

“Go to the top of White Mountain. Find Hou Yi. Remove one arrow from his **quiver** to make sure he does not shoot down all the suns.”



be plunged into suddenly become a place of
spare wait
quiver bag of arrows

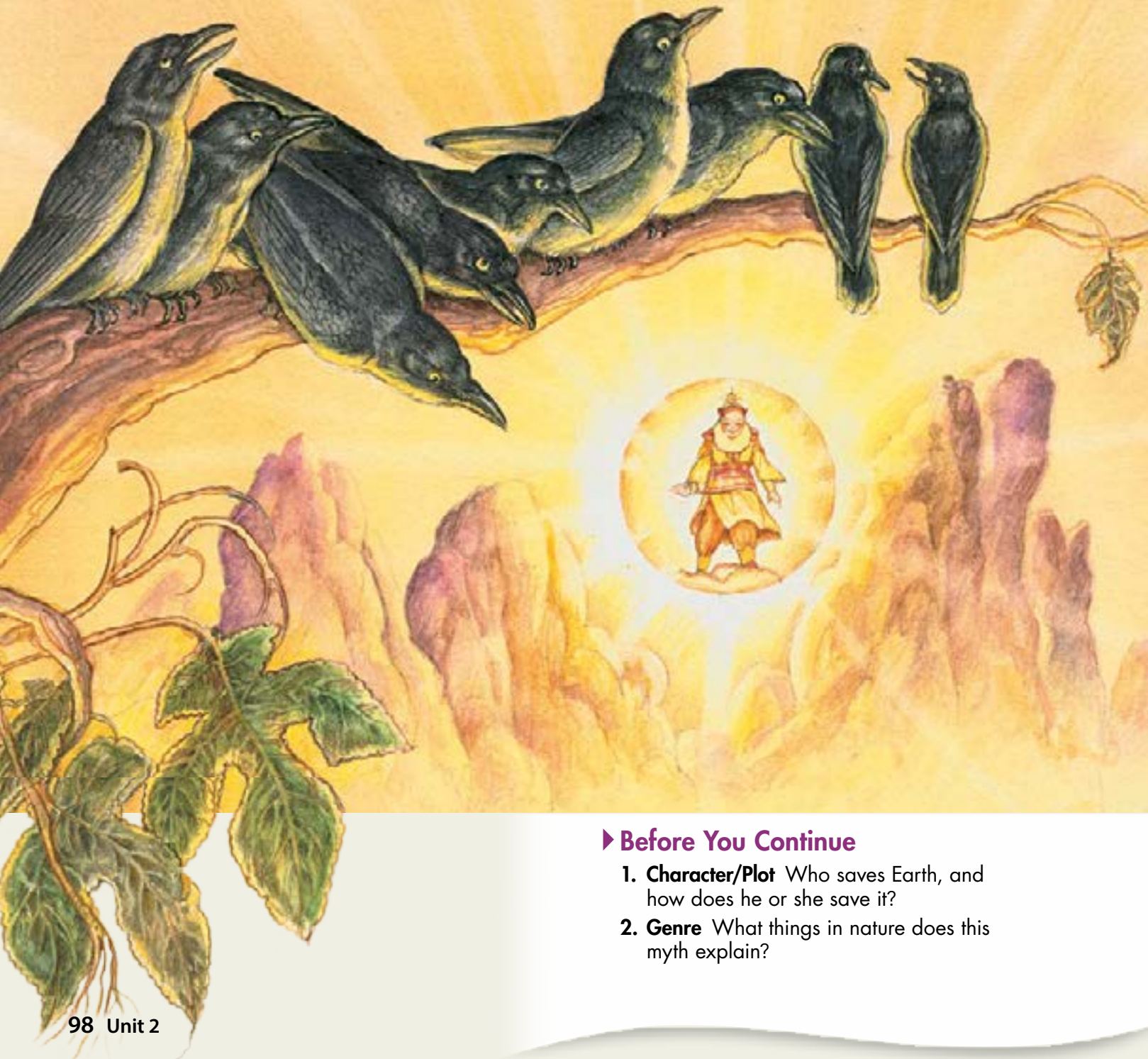
The messenger **mounted** his horse. He rode faster than he had ever ridden in his life, all the way to the top of White Mountain. There he saw Hou Yi. By now, only one sun remained in the sky. Shun's messenger **plucked** the last arrow from Hou Yi's quiver just as the Archer of Heaven reached for it. Finding no more magic arrows, Hou Yi **assumed** his work was done. He unstrung his bow and rode the wind back to the stars.



mounted climbed onto
plucked took

Since that day, only one sun shines overhead. Every morning, the crows gather on White Mountain to greet the dawn. “Gua! Gua!” they call to their brother, the sun, as he begins his lonely walk across the sky.

For they remember that once, they too were gods and hope for the day when their parents, Di Jun and Xi He, will forgive them. ❖



► Before You Continue

1. **Character/Plot** Who saves Earth, and how does he or she save it?
2. **Genre** What things in nature does this myth explain?

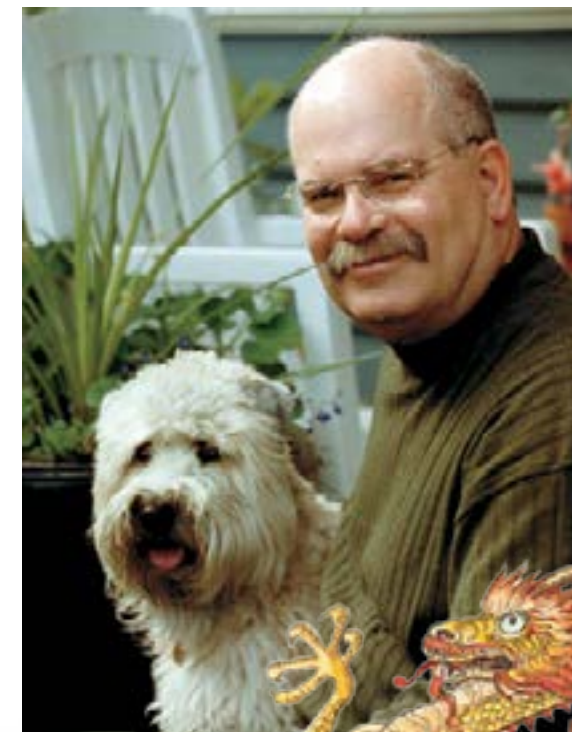
Meet the Author

Eric A. Kimmel

AWARD
WINNER

Eric A. Kimmel says that his greatest love is to share stories from different countries and cultures. It must be true, because he has retold over fifty tales from around the world! He often travels to different countries, and he is always looking for story ideas.

In China, Eric visited the Forbidden City, where Chinese emperors lived hundreds of years ago. There, the most important buildings face toward the east, to honor the Sun.



◀ Eric Kimmel likes to travel the world in search of story ideas.

Writing Tip

The author doesn't just say that the suns were hot. Instead, he uses words like “blazing,” “scorching,” and “blinding” to describe them. Such vivid words make the myth more exciting for the reader. Write a description of the moon rising in the sky. Use vivid words to describe its light.

Talk About It

- Describe two elements of the story that make it a **myth**.

I know "Ten Suns" is a myth because _____.

- Imagine that you are Di Jun. **Give commands** to a messenger. Say what he must do in order to save the world. Use your own words.

Go _____. Then _____.

- Tell a partner about a part of the story that you thought was hard to understand. Explain how you asked yourself questions to understand it better.

I wondered _____.

I read _____. So _____.

Then I wondered _____.

Key Words

absorb	power
assume	reflect
event	theory
explanation	thermal
heat	transmit

Reread and Retell

Character

With a partner, discuss the characters and the conflict in "Ten Suns." Then make a character chart to talk about the characters' roles and functions in the conflict.

Character Chart

Write the characters' roles here.

Write the characters' functions here.

Write the characters' roles in the conflict here.

Character	Role	Function	Conflict
Di Jun	father		His sons want to light the sky all at once.
ten suns			

With your partner, use the chart to describe the characters and what happens to them. Use the sentence frames and **Key Words**. Record your retelling.

Di Jun's conflict is with his sons. He wants _____. But his sons want _____.

Write About It

Do you think that Di Jun made the right decision about his sons? Write a paragraph that explains your answer. Include details from the myth in your **explanation**. Use **Key Words**.

I think that Di Jun _____.
One reason I think that is _____. Another reason is that _____.



Fluency

Practice reading with intonation. Rate your reading.

Talk Together

How did the sons misuse their **power**? Draw a picture showing what happened. Use **Key Words** as labels. Share your picture with the class.

Word Origins

Many English words include a **root** that came from another language. When you come to a word you don't know, look for a root to help you determine the meaning of the word.

This chart shows some common roots.

Root	Origin	Meaning	Example
graph	Greek	write	autograph, paragraph
cred	Latin	believe	credible, credit
wis, wit	Old English	know	wisdom, witness



If *auto* means *self*, and the Greek root *graph* means *write*, what do you think the word *autograph* means?

Try It Together

Read the paragraph. Then answer the questions. Use the chart to help you.

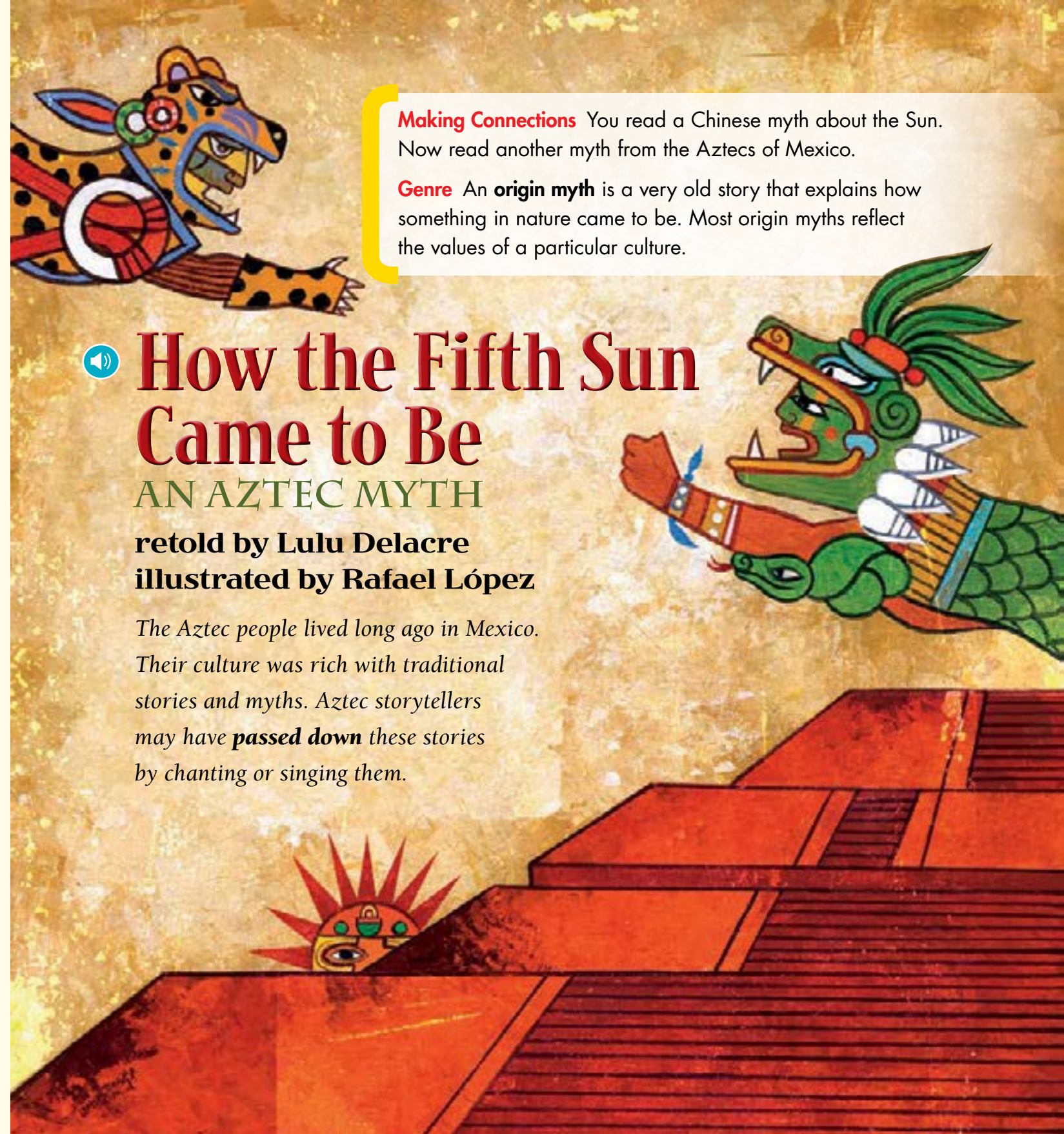
Characters in myths often possess great wisdom. Others can be reckless. Though it seems incredible, in the myth "Ten Suns," a father must sacrifice his sons to save the world from disaster.

1. Look for the Old English root in the word *wisdom*. What do you think wisdom means?

- A damaged
- B without care
- C knowledge
- D proved something to be true

2. Look for the Latin root *cred*. What do you think incredible means?

- A caused by heat
- B hard to believe
- C relating to three
- D stories or myths



Making Connections You read a Chinese myth about the Sun. Now read another myth from the Aztecs of Mexico.

Genre An **origin myth** is a very old story that explains how something in nature came to be. Most origin myths reflect the values of a particular culture.

How the Fifth Sun Came to Be

AN AZTEC MYTH

retold by Lulu Delacre
illustrated by Rafael López

*The Aztec people lived long ago in Mexico. Their culture was rich with traditional stories and myths. Aztec storytellers may have **passed down** these stories by chanting or singing them.*

passed down taught

Before You Continue

- Genre** What **event** in nature do you think this myth will be about?
- Ask Questions** Based on the introduction, what questions do you have about Aztec storytellers?



In the times before **the current era**, there had been four worlds. Each time a new world was created, it was destroyed. The gods Tezcatlipoca and Quetzalcoatl were in constant battle to become the ruling sun of each world.

The first world was ruled by Tezcatlipoca, the **Jaguar Sun**. Under his rule, jaguars roamed the earth until they **devoured** all the people. This brought an end to the first world and let Quetzalcoatl become the second sun, the Wind Sun.

The Wind Sun ruled the second world and life on Earth returned. Then, wanting to rule again, Tezcatlipoca kicked Quetzalcoatl from the throne. Their conflict caused giant **hurricanes** to destroy the second world.

Quetzalcoatl returned and **selected** another god to become the third sun, the Rain Sun. Animals, plants, and humans again returned to the earth. But one day, Quetzalcoatl, being jealous of the Rain Sun's successful rule, sent a rain of fire that poured over everything. Blazing fireballs **charred** every home, animal, and plant, leaving only blackness **in their wake**.

Quetzalcoatl then chose a new god to become the Water Sun, ruler of the fourth world. For a while, things went well. Then the sky fell to the earth and a great flood swept away all human life. **Thus** ended the fourth world.



the current era today's world

◀ **Jaguar** Great Cat

devoured ate

hurricanes wind storms

selected chose

charred burned

in their wake wherever they had been

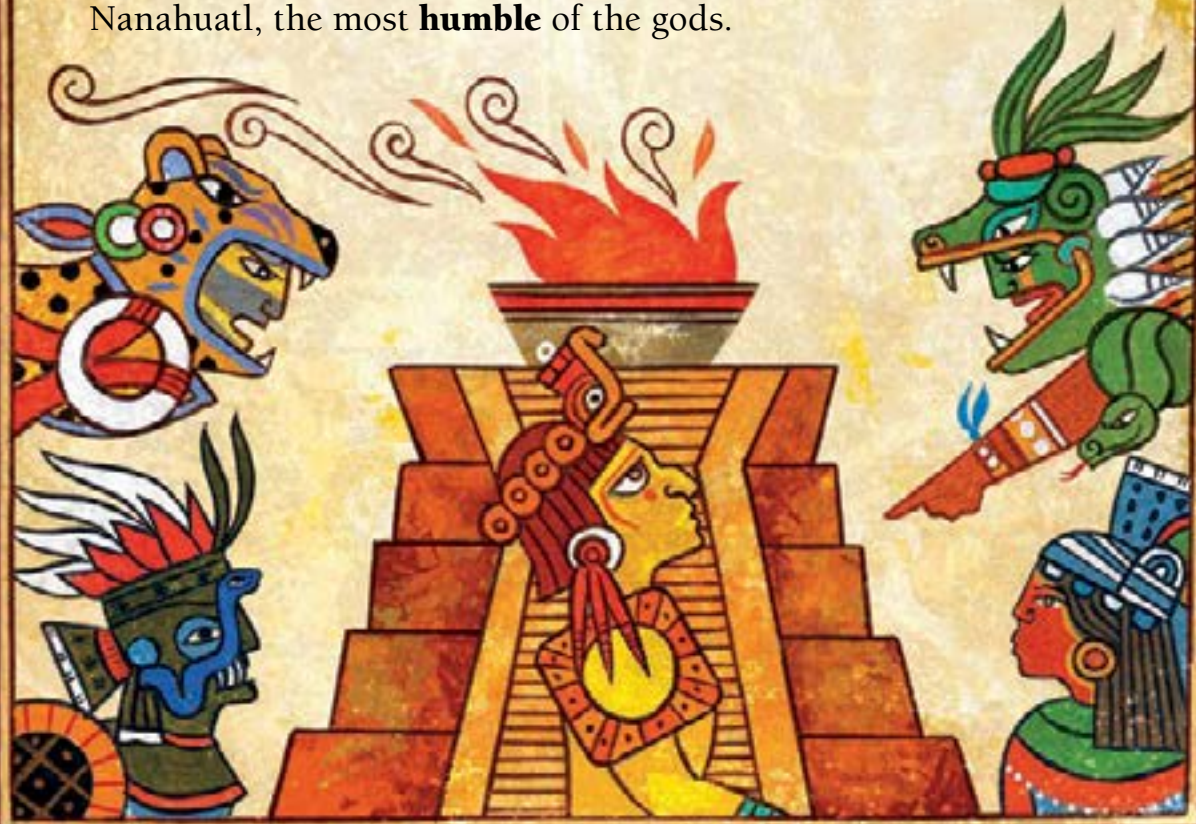
Thus That was what

► Before You Continue

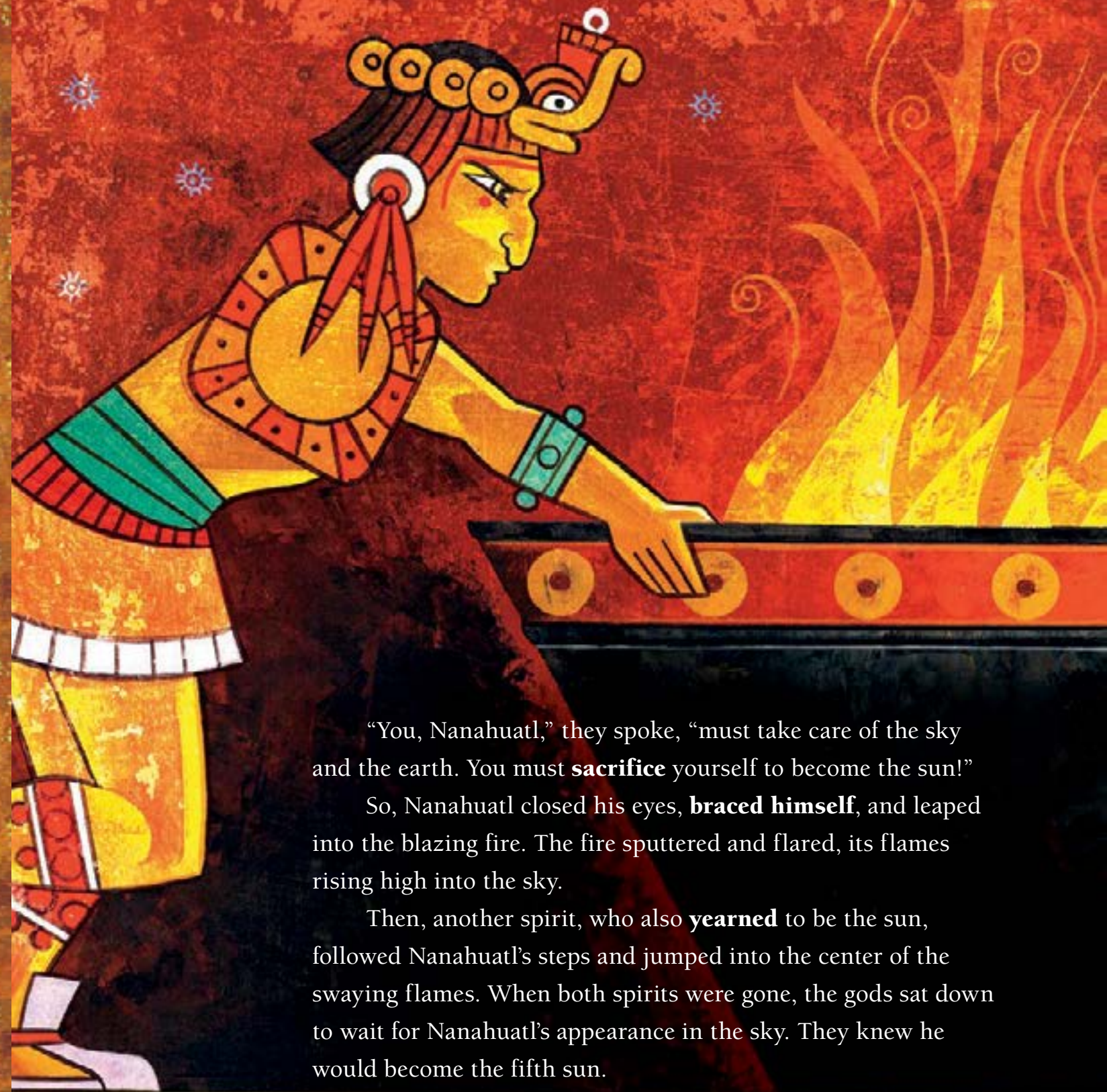
1. **Generalize** How did the Aztecs explain natural disasters, such as floods and hurricanes? Give an example.
2. **Compare Characters** What roles do Quetzalcoatl and Tezcatlipoca play in the story? What is their conflict?

So it was that Quetzalcoatl **took it upon himself to** bring back the human race for the last time. He traveled far to find a way to populate the earth with men, women, and children once again. Once he brought back the people, he realized that the earth was still dark in an eternal night. A bitter cold enveloped it. No plants would grow without warmth and light, and animals and humans would go hungry.

Therefore, when the gods were called to a meeting in **sacred Teotihuacán**, Quetzalcoatl was first to arrive. There, surrounded by huge stone pyramids, burned the divine **hearth**. For a long time, the spirits talked until they reached an agreement. They pointed to Nanahuatl, the most **humble** of the gods.



took it upon himself to decided that he would
sacred Teotihuacán the city of the gods
hearth fireplace
humble modest; respectful



“You, Nanahuatl,” they spoke, “must take care of the sky and the earth. You must **sacrifice** yourself to become the sun!”

So, Nanahuatl closed his eyes, **braced himself**, and leaped into the blazing fire. The fire sputtered and flared, its flames rising high into the sky.

Then, another spirit, who also **yearned** to be the sun, followed Nanahuatl’s steps and jumped into the center of the swaying flames. When both spirits were gone, the gods sat down to wait for Nanahuatl’s appearance in the sky. They knew he would become the fifth sun.

sacrifice give up
braced himself got ready
yearned wished

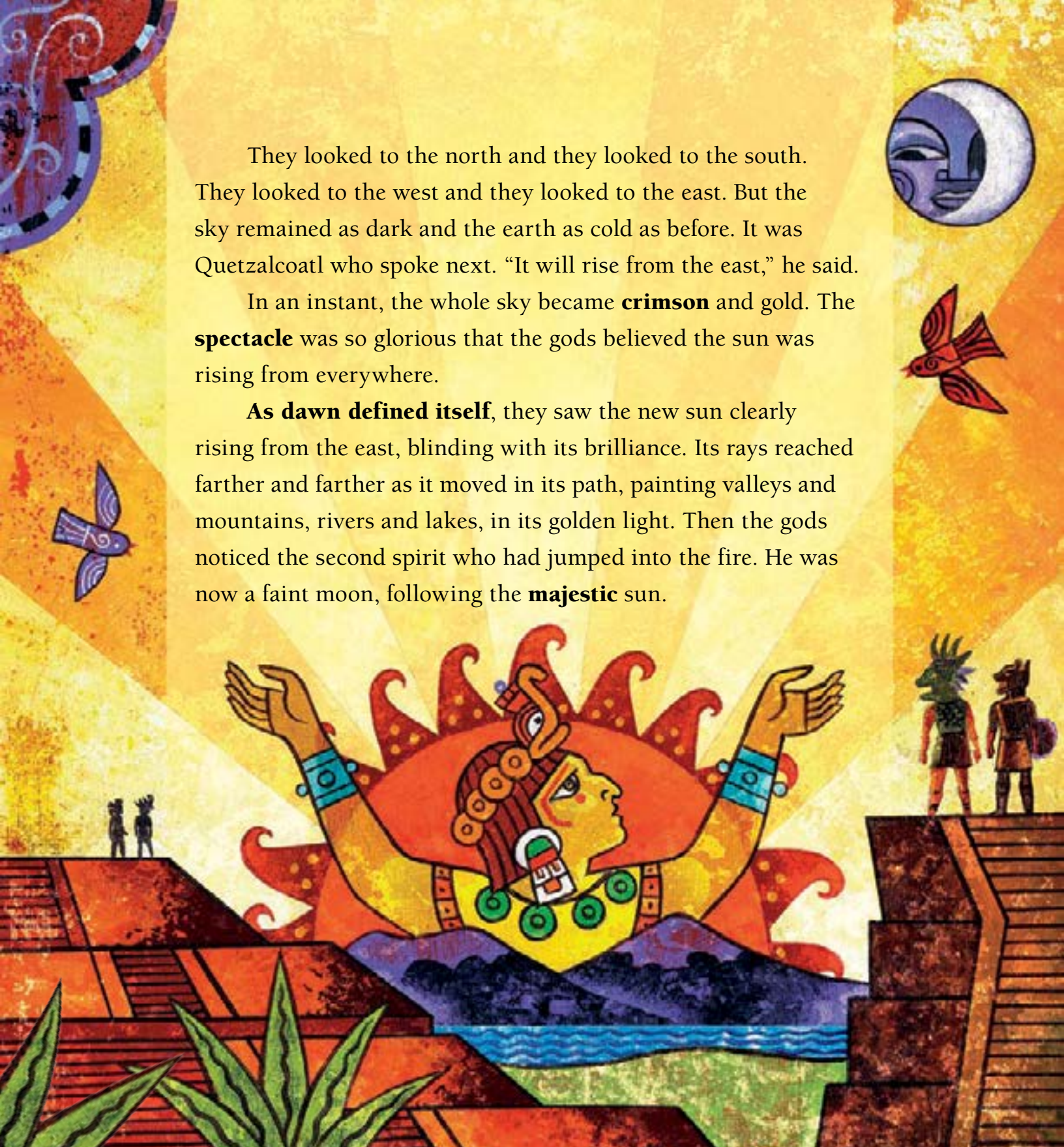
► Before You Continue

1. **Character** How does Quetzalcoatl’s role change?
2. **Make Inferences** Why do you think the gods choose a humble god to become the new sun?

They looked to the north and they looked to the south. They looked to the west and they looked to the east. But the sky remained as dark and the earth as cold as before. It was Quetzalcoatl who spoke next. “It will rise from the east,” he said.

In an instant, the whole sky became **crimson** and gold. The **spectacle** was so glorious that the gods believed the sun was rising from everywhere.

As dawn defined itself, they saw the new sun clearly rising from the east, blinding with its brilliance. Its rays reached farther and farther as it moved in its path, painting valleys and mountains, rivers and lakes, in its golden light. Then the gods noticed the second spirit who had jumped into the fire. He was now a faint moon, following the **majestic** sun.



crimson deep red

spectacle show of light

As dawn defined itself In the morning light

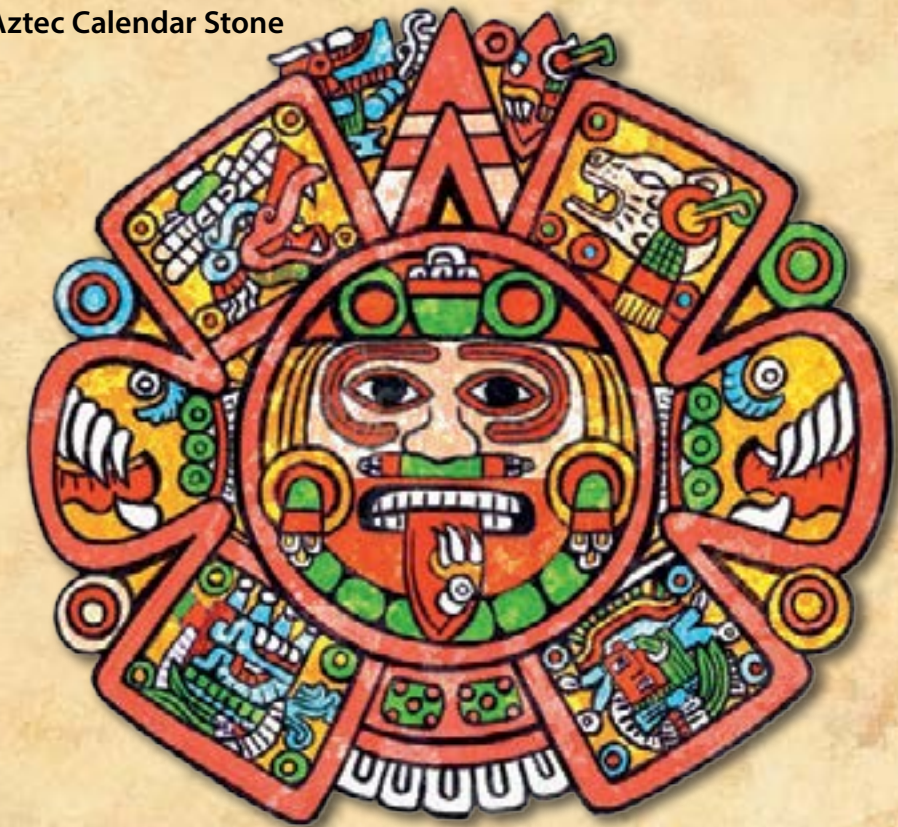
majestic marvelous and brilliant

It is said that the gods **knelt** at the sight of this spectacular fifth sun and gave praises to its **power**. They saw how its warmth affected seeds and made plants grow. They saw how its rays made water rise and pour back down in the form of light rain.

Now the people of the earth would live and **prosper**. And that was good.

According to the ancient Aztec calendar stone, we still live in the fifth world, ruled by the **Sun of Movement**. ♦

Aztec Calendar Stone



This is a drawing of the center part of the Aztec Calendar Stone, which was discovered in Mexico City in 1790. It shows the gods representing the five worlds. The fifth god is at the center.

knelt got on their knees

prosper do well

Sun of Movement Fifth Sun

► Before You Continue

1. **Ask Questions** What question do you have about the god who became the moon?
2. **Imagery** How does the author's description of the new sun help you understand its **power**?

Compare Myths

“Ten Suns” and “How the Fifth Sun Came to Be” are **origin myths**. Work with a partner to fill in the chart below. Then talk about how the myths are alike and how they are different.

Comparison Chart

	“Ten Suns”	“How the Fifth Sun Came to Be”
The type of myth		Aztec
What the myth explains		
Setting		Mexico
The characters	Gods: Heroes: Other:	Gods: Heroes: Other:
What the story is about	Beginning: Middle: End:	Beginning: Middle: End:
The story’s message		

Key Words	
absorb	power
assume	reflect
event	theory
explanation	thermal
heat	transmit

Kinds of Sentences

There are **four kinds of sentences**.

Grammar Rules Kinds of Sentences	
A statement tells something.	This myth is about gods and heroes.
A command tells you to do something.	Go quickly and take this message.
An exclamation shows strong feeling.	One sun is hot enough!
<ul style="list-style-type: none">A question asks something. You can <i>answer</i> some questions with <i>yes</i> or <i>no</i>.Other questions ask for more information. They begin with question words.	<p>Do you like myths? Yes.</p> <p>Is this myth from Mexico? No. It’s from China.</p> <p>When? What? Why? Who? Where? How?</p>

Read Sentences

Read the passage. What kinds of sentences can you find? What question words do you see? Work with a partner.

The great emperor Shun cried out to Di Jun. “Why are you punishing us?” Shun’s cries woke Di Jun and Xi He. They called to their sons. “Come back at once!”

Write Sentences

Look at the illustration on pages 94–95. Write two sentences about what Hou Yi is doing. Include one question. Compare your sentences with a partner’s.

Talk Together

Think about the two selections and the chart above. How do the two myths help you understand the importance of the Sun? Use **Key Words** to discuss your ideas.

Verify

Listen to the song. Then use **Language Frames** to verify information of your own.

Solar City

We'll build a solar city,
That's powered by the sun.
We will check our progress,
Until our goal is won.

Solutions to pollution,
That is our final aim.
They said we couldn't do it,
But look at what we've gained!

Tune: "This World Is What We Make It"

Language Frames

- _____ said _____.
- We will check _____.
- But _____.

Song  

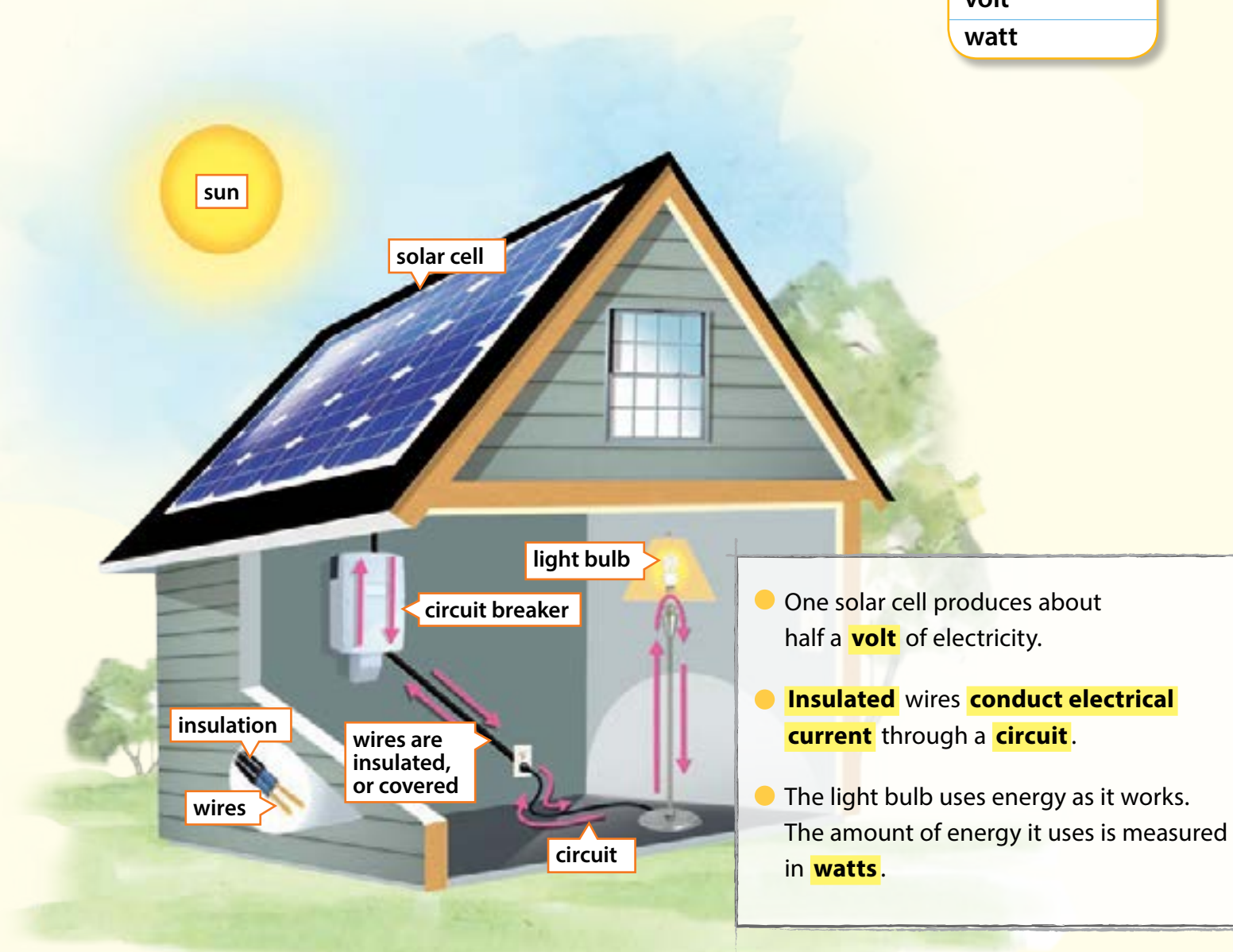
Science Vocabulary

Key Words

Look at the diagram. Use **Key Words** to talk about how **solar** electricity works.

Key Words

circuit
conduct
current
electrical
insulate
solar
volt
watt



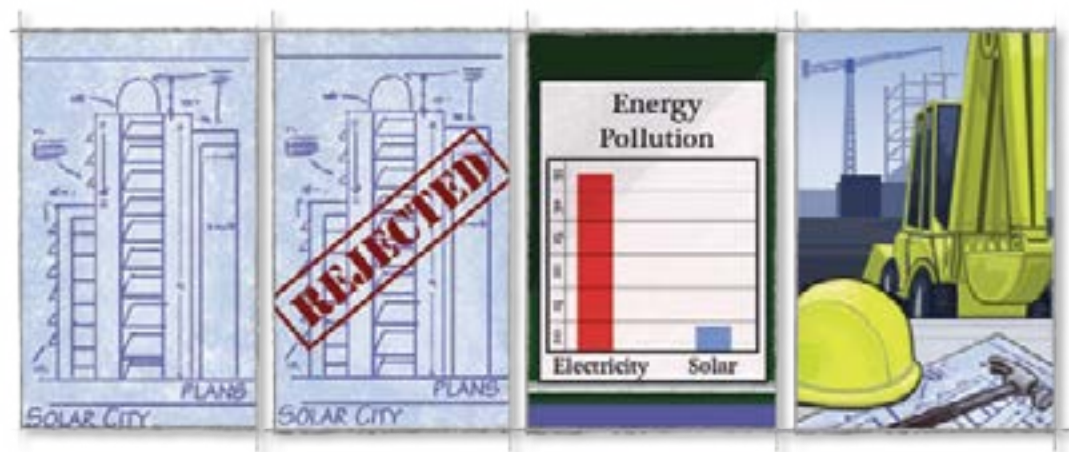
Talk Together

How do we capture the sun's power? Talk with a partner. Use **Language Frames** from page 112 and **Key Words** to verify how people use solar energy.

Goal and Outcome

When you start a project, first you think about a **goal**, or what you want to happen. Sometimes during the project, you encounter problems, or obstacles. Then you use strategies to fix the problems. The **outcome** is the final result of the project.

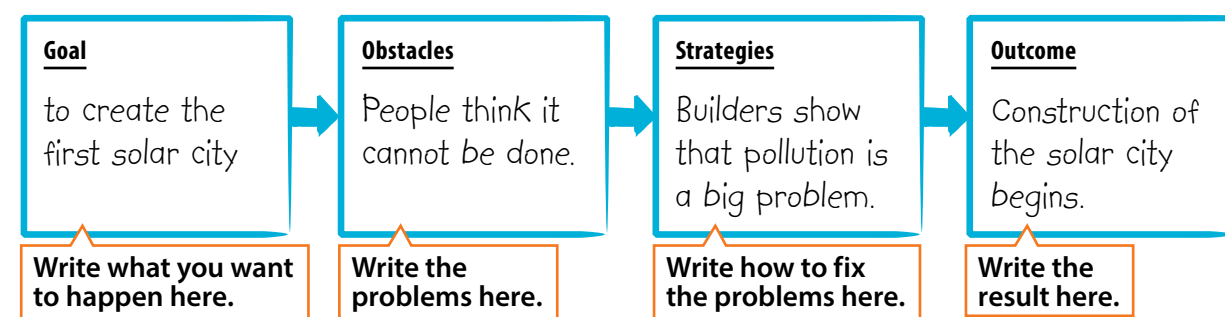
Look at these pictures from the song "Solar City."



Map and Talk

You can use a goal-and-outcome chart to talk about a project. Here's how you make one.

Goal-and-Outcome Chart



Talk Together

With a partner, think of a project in your school. Use a goal-and-outcome chart to show the possible goal, obstacles, strategies, and outcome.

Academic Vocabulary

More Key Words

Use these words to talk about "Energy for the Future" and "How to Make a Solar Oven."

alternate

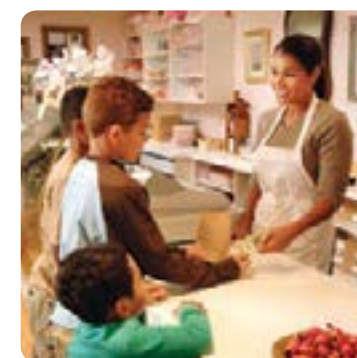
adjective



Alternate means different. He must find an **alternate** location.

decrease

verb



To **decrease** means to become less or smaller. When I spend money, my savings **decrease**.

energy

noun



Energy is the power to do work. It takes a lot of **energy** to run a marathon.

obstacle

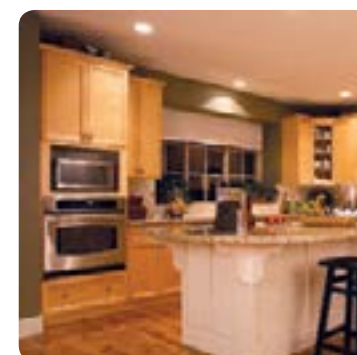
noun



An **obstacle** is something that stops you from succeeding. A broken leg is an **obstacle** to riding a bike.

rely

verb



If you **rely** on something, you need it. We **rely** on electricity in our home.

Talk Together

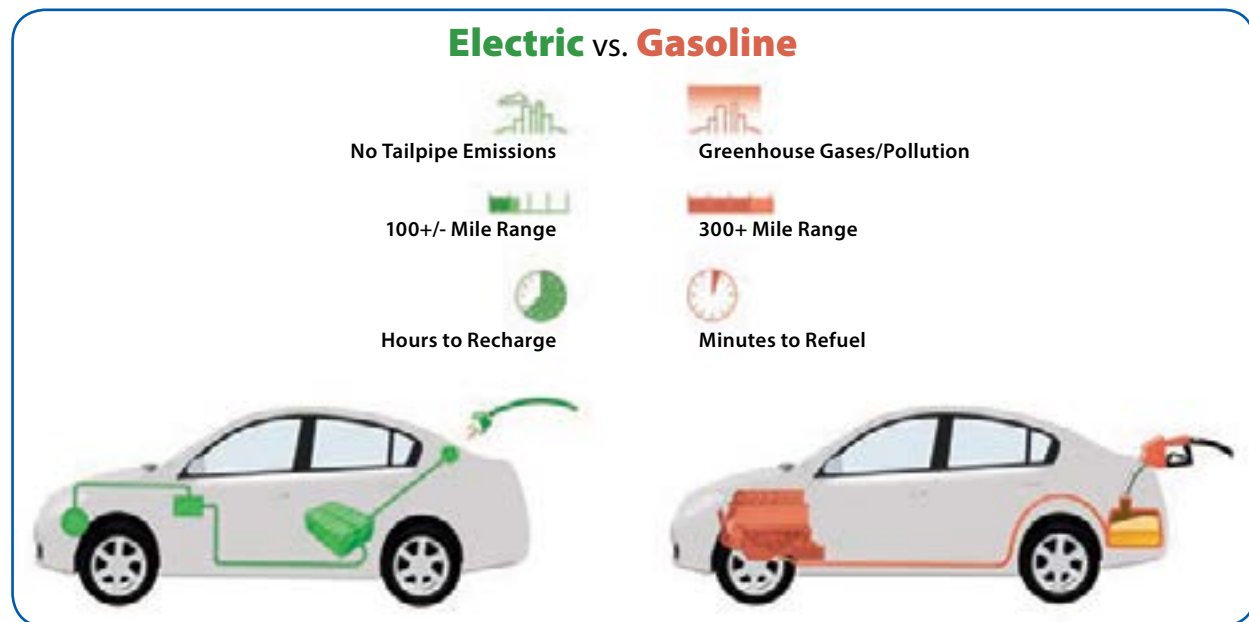
With a partner, make an Expanded Meaning Map for each **Key Word**.

Expanded Meaning Map

Definition source of power	Characteristics powerful strong
Examples electricity sunlight	Non-examples rock pencil

Learn to Ask Questions

Look at the diagram. Sometimes when you see an image, you **ask questions** about it. You may have to look again or look more carefully to find the answers.



When you read, you can **ask questions**, too. The answers to some questions are **in your head**. Think to come up with answers. This will help you understand the text better.

How to Ask Questions

- | | | |
|---|--|---------------------|
| ? | 1. As you read, ask yourself a question. | I wonder _____. |
| ☁ | 2. Think about your experiences and what you know. | I think/know _____. |
| 📖 | 3. Think about the answer. Read on and ask more questions. | Now I wonder _____. |

Language Frames

- ? I wonder _____.
- ☁ I think/know _____.
- 📖 Now I wonder _____.

Talk Together

Read the blog. Read the sample. Use **Language Frames** to ask questions. Tell a partner about them.

Blog

Clean & Green Company Blog

https://eltnl.com/reachhigherseries

Clean & Green Company Committed to a green future for all

HOME ABOUT THIS BLOG PICTURES

Tuesday, June 24 | Author: C&G CEO

A New Way of Living

Today we started construction on our planned **solar** city. We are going to build 10,000 homes, as well as schools, office buildings, hospitals, and places to shop. And everything will use solar **energy**. It's an **alternate** way of living. We think this is the most exciting project we have ever worked on!

Friday, June 27 | Author: C&G CEO

Capturing the Sun

We are imagining a city filled with lights, even at night. Solar-powered street lamps will light the way for electric cars and for people walking along the street. Isn't technology grand?

Tuesday, July 1 | Author: C&G CEO

A Clean and Green Community

Even though we've encountered some **obstacles**, we know we are on the right path. We are six months behind, but in another six months, people will be living here and breathing clean air. We won't have to **rely** on burning coal. Just think of how a solar city will **decrease** pollution.

"I wonder how this will work.
I think about how solar panels heat my house.
Now I wonder how many solar panels a school will need."

◀ = a good place to stop and ask a question

ALTERNATIVE ENERGY

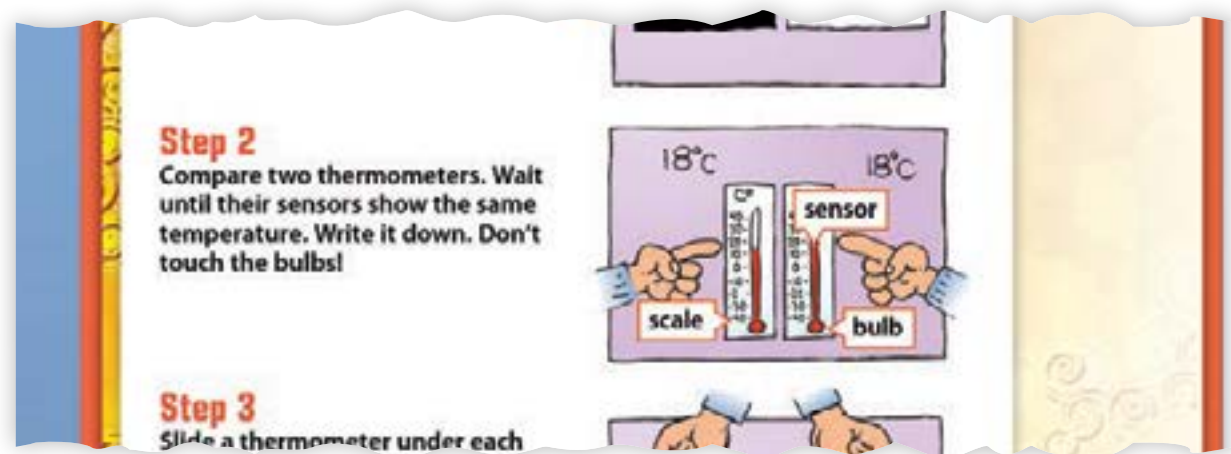
Read a Blog

Genre

A **blog** is a site on the Internet where someone posts his or her writing. Blog entries, or *posts*, usually appear in time order. In the past, people called such sites *web logs*. The name was later shortened to *blogs*.

Text Feature

A **diagram** shows the parts of something or how something works. A diagram often includes descriptive labels and may help illustrate a step in a process.

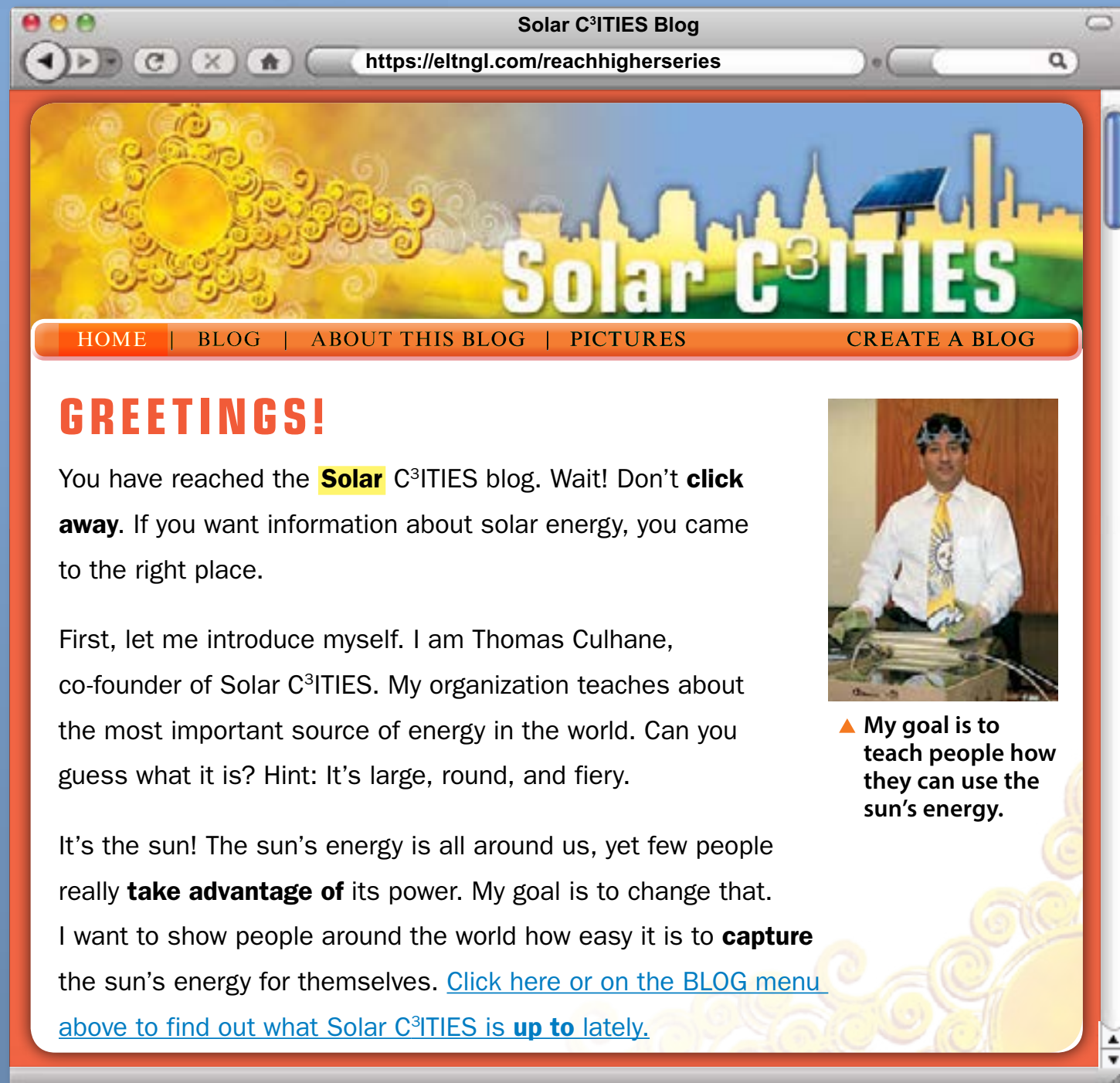


ENERGY for the FUTURE

by Thomas Taha Rassam Culhane

► Set a Purpose

Find out how we use the sun's **energy**.



Solar C³ITIES Blog
https://eltngl.com/reachhigherseries

HOME | BLOG | ABOUT THIS BLOG | PICTURES | CREATE A BLOG

GREETINGS!

You have reached the **Solar** C³ITIES blog. Wait! Don't **click away**. If you want information about solar energy, you came to the right place.

First, let me introduce myself. I am Thomas Culhane, co-founder of Solar C³ITIES. My organization teaches about the most important source of energy in the world. Can you guess what it is? Hint: It's large, round, and fiery.

It's the sun! The sun's energy is all around us, yet few people really **take advantage of** its power. My goal is to change that. I want to show people around the world how easy it is to **capture** the sun's energy for themselves. [Click here or on the BLOG menu above to find out what Solar C³ITIES is up to lately.](#)

▲ My goal is to teach people how they can use the sun's energy.

click away leave this Web site
take advantage of make good use of
capture use
up to doing



Solar C³ITIES Blog
https://eltngl.com/reachhigherseries

HOME | BLOG | ABOUT THIS BLOG | PICTURES | CREATE A BLOG

Category: [Cairo, Egypt](#) | Date: Monday, April 5, 2010

Welcome to the City of the Sun

This week I am in Cairo, Egypt. I am here to teach a group of students how to use the sun's **energy** to heat water for their school. At our first meeting, I held up a large black **panel**. "We'll use something like this to heat the water," I told them. The students were confused. "Where is the **flame**?" they asked.

Over the next two weeks, the students will learn that to create heat energy, they don't always need a flame. In fact, they will become energy experts. I will post our lessons on this blog, along with updates on our progress. Our goal is to have their **solar** water heater **in place** by April 16th.

POSTED BY: Thomas Culhane

[2 COMMENTS](#) [LINKS TO THIS POST](#)

▲ I tell the kids they are going to become energy experts.

▲ Cairo was known by ancient Egyptians as "The City of the Sun."

Search All Posts
 [GO!](#)

BLOG ARCHIVE
[January](#)
[February](#)
[March](#)

POSTS BY CATEGORY
[Cairo, Egypt](#)
[What Is Energy?](#)
[Chemical Energy](#)
[Electrical Energy](#)
[Light Energy](#)
[Thermal Energy](#)
[Putting It Together](#)
[Finding Solutions](#)
[We Did It!](#)

April

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

[<< March](#)

panel board
flame fire
in place ready to use

► Before You Continue

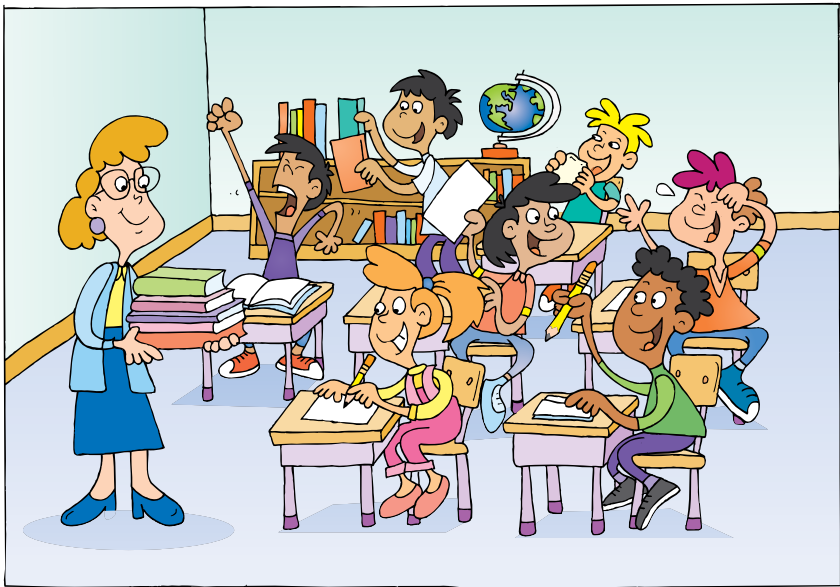
- 1. Goal/Outcome** What two goals are stated in the blog?
- 2. Analyze** Look at the headings and images. Does this blog seem informal? Why or why not?

What Is Energy?

Today I gave the students their first lesson in **energy**. I explained that energy is the ability to do work. Work isn't just what students do to get good grades, however. In science, work is what causes objects to move and change—including **human objects**. So when you move your body, even a little, you're doing work.

You don't have to be alive to do work, however. Objects can do work, too. Say you put some soup in the microwave. As soon as you press *On*, the **microwave** heats the soup. That change in temperature takes work.

All work requires energy. Luckily, energy comes in many different forms, and it can even change forms.



▲ Everybody in this picture is using energy to do work.

human objects people
microwave oven

Chemical Energy

One form of **energy** is chemical energy. You can find lots of it at the grocery store. That's because food is a form of chemical energy. When you eat food, chemical **reactions** inside your body break it down, giving you the energy you need to move and grow.



▲ Food, such as fruit, provides chemical energy.

Batteries also contain chemical energy. They power everything from watches, to cameras, to cell phones. They can even store energy to be used at another time.

Chemical energy **fuels** cars, too. The chemical energy in gasoline is what allows most buses, trains, and cars to get you where you need to go.



▲ Batteries like these power a variety of portable devices.

POSTED BY: Thomas Culhane

[2 COMMENTS](#) [LINKS TO THIS POST](#)

reactions responses; actions
Batteries Objects that store **energy**
fuels powers
portable movable

► Before You Continue

1. **Clarify** Reread the first paragraph on this page. How are chemical energy and work connected?
2. **Paraphrase** Use your own words to explain what energy is.

Electrical Energy

Today I told the students about something truly “**shocking**”—**electrical energy**. For many people in the world, electrical energy, or electricity, makes life a lot easier. It makes lights glow, computers hum, water hot, and turns bread into toast! Electrical energy does work for people, so they can use their own energy for other things.

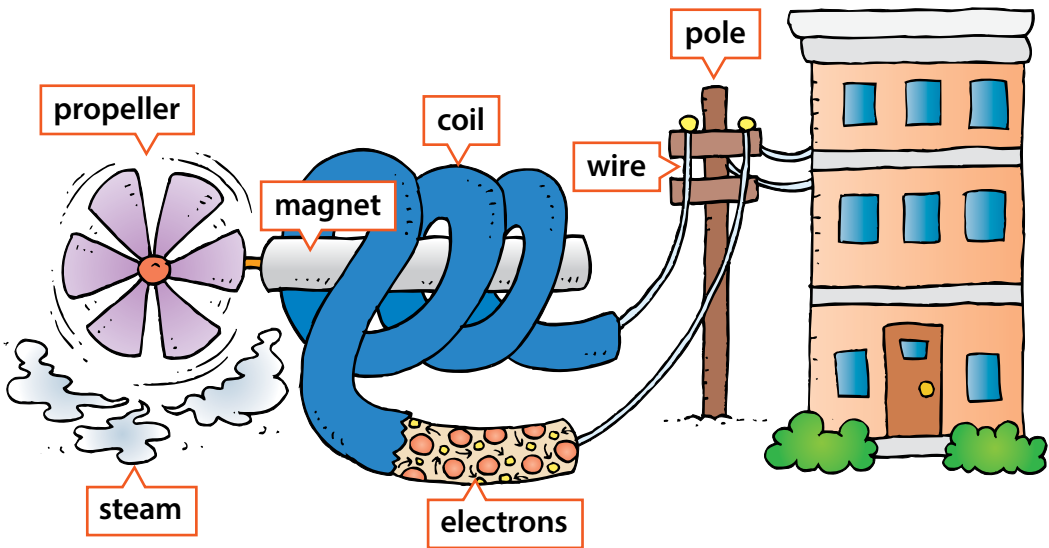
Most of the electrical energy in the world comes from power plants. A power plant is a place where machines called generators **transform** other forms of energy into electrical energy. Most power plants in the world get their energy from some form of chemical energy, like coal, oil, or natural gas.



▲ The electricity you use probably comes from an electrical power plant like this one.

shocking both amazing and charged with electricity
transform change

Have you ever boiled water on a stove? If so, then you understand how a fuel-based power plant works. Inside, burning fuel heats a large pool of water. At 100°C (212°F), the water boils, and steam rises from it. The **energy** contained in the steam turns a giant magnet surrounded by a **coil**. When the magnet spins, tiny, invisible **particles** inside the coil start to move. These particles are called electrons. Their movement creates **electrical** energy that flows through wires on poles to homes, businesses, and anywhere people need to plug something in.



▲ In a power plant, steam turns a magnet to produce electricity.

POSTED BY: Thomas Culhane

[7 COMMENTS](#) [LINKS TO THIS POST](#)

°C degrees Celsius
°F degrees Fahrenheit
coil large piece of wire wrapped into a roll
particles bits; pieces

- **Before You Continue**
1. **Ask Questions** What questions about power plants does the blog answer? What other questions do you have?
 2. **Use Text Features** What is inside the coil wrapped around the magnet? What does the coil connect to?

Light Energy

I came to class today carrying my electric guitar. “Today I am going to teach you about my favorite form of **energy**,” I told the students. “Light!”

What does an electric guitar have to do with light energy, you ask?

Well, thanks to **solar** cell technology, we can now use light energy directly, to create electricity. That means that I don’t need to plug in to **an outlet** to play the electric guitar. I can just point my cells at the sun, plug in my guitar, and make beautiful music.

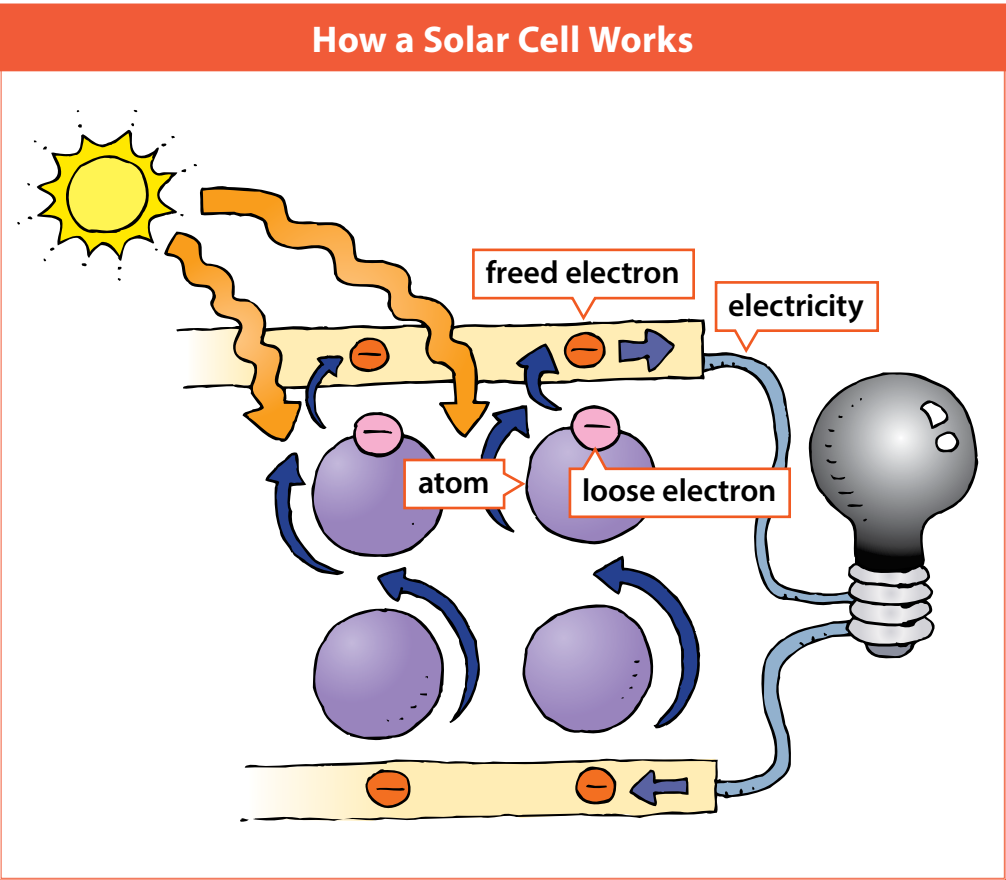


▲ Solar cells turn light energy into electrical energy for my guitar.



◀ Portable solar panels let me plug in my guitar wherever there is sunlight. That means I can play musical chairs outdoors.

Here is how **solar** cells work. You know that moving electrons create electricity. These electrons are held by larger particles, called atoms. Everything on Earth is made of atoms, and all atoms carry electrons. But some atoms are different than others. The atoms inside a solar cell, for example, are made to hold their electrons very loosely. When sunlight hits the cell, the atoms release their electrons easily. The freed electrons have electricity. That electricity goes by wire into a battery, or directly to a **circuit**.



POSTED BY: Thomas Culhane

[4 COMMENTS](#)

[LINKS TO THIS POST](#)

► Before You Continue

1. **Ask Questions** What question could you ask the author about **solar** cells?
2. **Analyze** How does the informal tone of this blog help you understand the information better?

an outlet place in the wall where you put a plug

Thermal Energy

I'm happy to say that **solar** cell technology is improving all the time. Soon, people may not have to **rely** on **distant** power plants for their **electrical energy**. But solar cells are still **relatively expensive**. There's an even easier way for people to use the power of the sun, and it's free!

Solar-powered water heaters use the sun's energy directly, without any special materials or technology. They take advantage of another important form of energy—thermal energy, or the energy of heat.

Thermal energy is all around us. Today, my students and I felt it in the warm air. Tonight, I feel it under my blanket. How do solar-powered water heaters capture it? They absorb it from sunlight.

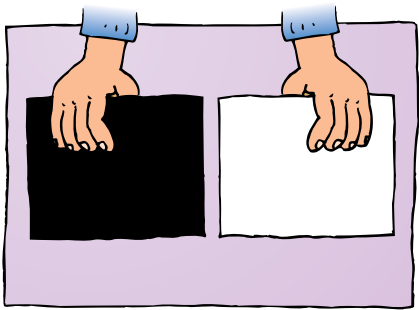
The sun's light **produces** both visible light and heat energy. When light hits an object, its heat energy may be reflected or absorbed. If it is completely reflected, the heat energy bounces back into space. If it is completely absorbed, however, its heat energy stays. And it can make things very hot!

Today, the students and I became **absorbed in** an experiment that tests heat absorption. Try it and see the power of absorption for yourself.

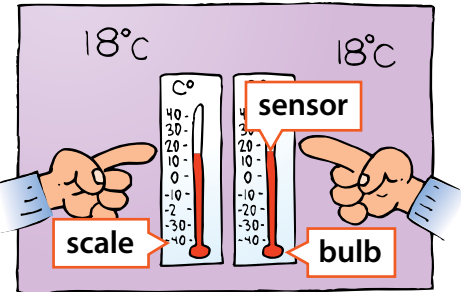
distant faraway
relatively expensive more expensive than other power sources
produces makes
absorbed in very interested in

Reflection and Absorption: An Experiment

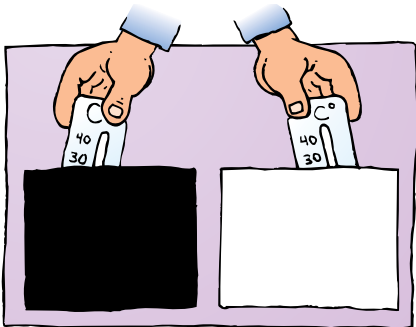
Step 1
Place one black and one white piece of paper in the sun.



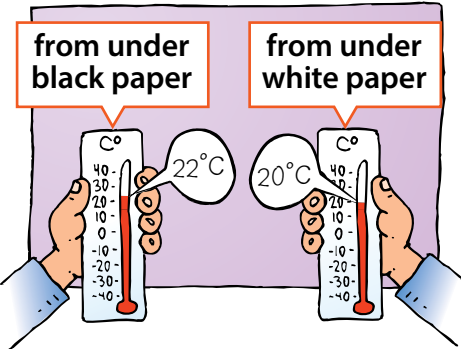
Step 2
Compare two thermometers. Wait until their sensors show the same temperature. Write it down. Don't touch the bulbs!



Step 3
Slide a thermometer under each piece of paper. Leave them in the sun for an hour.



Step 4
Compare the thermometers. Have the temperatures changed? Why?



POSTED BY: Thomas Culhane

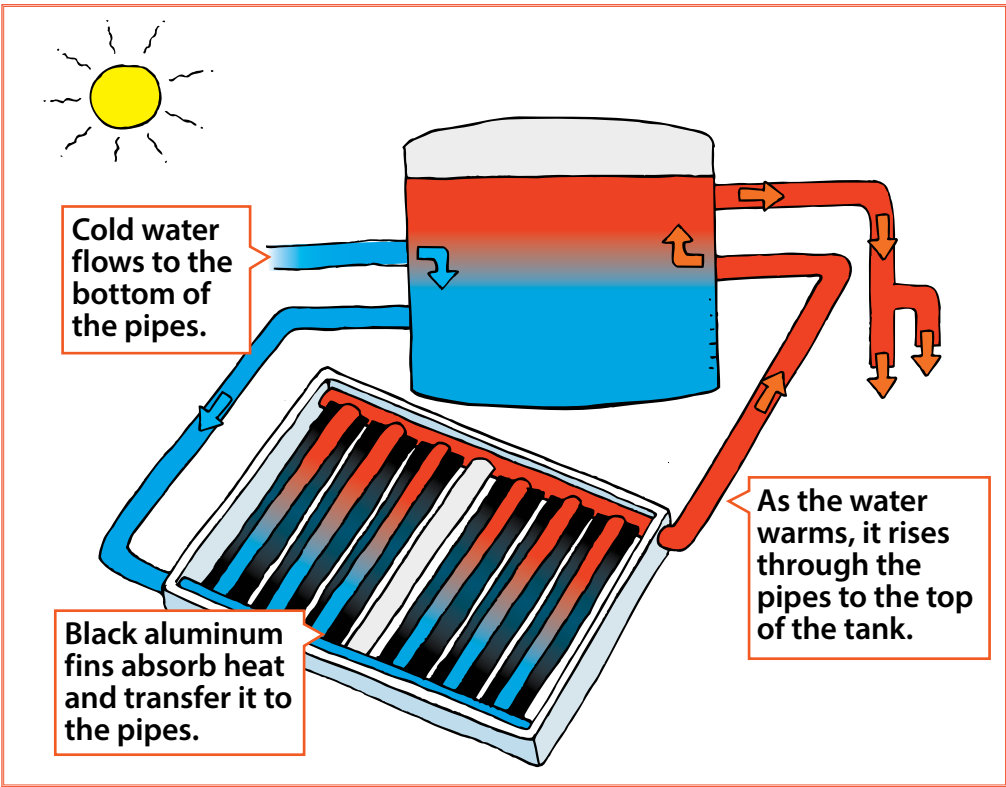
[5 COMMENTS](#) [LINKS TO THIS POST](#)

► Before You Continue

- 1. Interpret** What do the results of the experiment show about the color black?
- 2. Use Text Features** How do the sensor and scale work together to show the temperature?

Today, I held up the same black panel that I showed the students at our first meeting. This time, they knew exactly what it was for. “To absorb the sun’s thermal **energy**!” they shouted.

The students and I will use our **knowledge** of heat and light energy as we build our water heater. The heater will contain water pipes lined with black aluminum fins. The fins will absorb the sun’s heat energy and transfer it to the water in the pipes. As the water gets warmer, it will rise and move through the pipes into a storage **tank**.



▲ As the sun heats the water, it rises through the pipes and into a storage tank.

knowledge understanding
tank container

Our first task is to build another **solar** panel. Solar panels are large, thin boxes with glass lids. They can be made out of **aluminum**, plastic, wood, or any other material you can shape into a box. The students and I will build our panel using aluminum. We’re lucky because aluminum is **light** and easy to carry to a rooftop!

Next, we will **line** the box with **insulation**, and place our water pipes inside. The students know that the last step is also the most important: paint. The color black absorbs the most heat. So to make sure the pipes get really hot, we need to paint them, and their aluminum fins, black.

POSTED BY: Thomas Culhane

[8 COMMENTS](#) [LINKS TO THIS POST](#)

aluminum metal
light not heavy
line cover the inside of



▲ Solar panels are easy to make.



▲ Water pipes can be made of any common metal. Ours are made of copper.



▲ With a little black paint, the solar panel is finished.

► **Before You Continue**

1. **Goal/Outcome** What actions are the students taking to reach their goal?
2. **Ask Questions** What questions could you ask the author about how the water heater will work?

Today we had a problem. We tested our metal storage tank. It leaked! Then one student had an idea. He took me to a place where plastic barrels from a shampoo factory were being resold. The barrels were **inexpensive** and perfect for our hot water heaters.



▲ We have found a perfect hot water tank.

When we returned, the students cheered. “But how will the water in the tank stay hot?” asked one student. “Maybe it just needs a blanket,” said another.



▲ With insulation, the water tank will not lose its heat as fast.

Clearly, the students have become **energy** problem-solvers. At the end of the day today, we **insulated** our tank with a “blanket” of **fiberglass insulation** and then gave each other high-fives.

POSTED BY: Thomas Culhane

[9 COMMENTS](#) [LINKS TO THIS POST](#)

inexpensive not high-priced
fiberglass insulation cloth made from glass

Today we finally reached our goal. The students cheered as I carefully placed the tank on a stand above the **solar** panels and filled it with cold water. We waited for most of the day as the cold water made its way through the pipes inside the panels. At the end of the day, we opened the pipe that carries hot water down to the schoolyard.

It worked! Hot water flowed from the pipe. It was even hot enough for a shower. The students were amazed at how easy it was to use the sun’s **energy**. “This is just the beginning,” I told them. “The real power is what you have learned about energy. One day, your knowledge will help you change the world!” ♦

POSTED BY: Thomas Culhane

[14 COMMENTS](#) [LINKS TO THIS POST](#)



▲ Pipes inside our solar panels heat the water.



▲ The hot water is stored in our tank.



▲ The water is hot enough for a shower!

[NEWER POSTS >>](#)

[HOME](#) | [BLOG](#) | [ABOUT THIS BLOG](#) | [PICTURES](#)

[CREATE A BLOG](#)

► Before You Continue

1. **Goal/Outcome** What two **obstacles** did Culhane and the students face on Thursday?
2. **Explain** How are the students **energy** problem-solvers?

Talk About It

1. What kind of information does Thomas Culhane post on his **blog**? Give two specific examples.

2. Imagine that you and a partner are writing a report on **solar** technology. You need to collect facts and **verify** them. Talk to your partner about what you know from this blog and what you need to verify. Use your own words.

According to Mr. Culhane, solar technology _____. I will check _____ to verify that _____.

3. Think about the four types of **energy** discussed in this **blog**. Explain one of them and how you **rely** on it in your own life.

Key Words

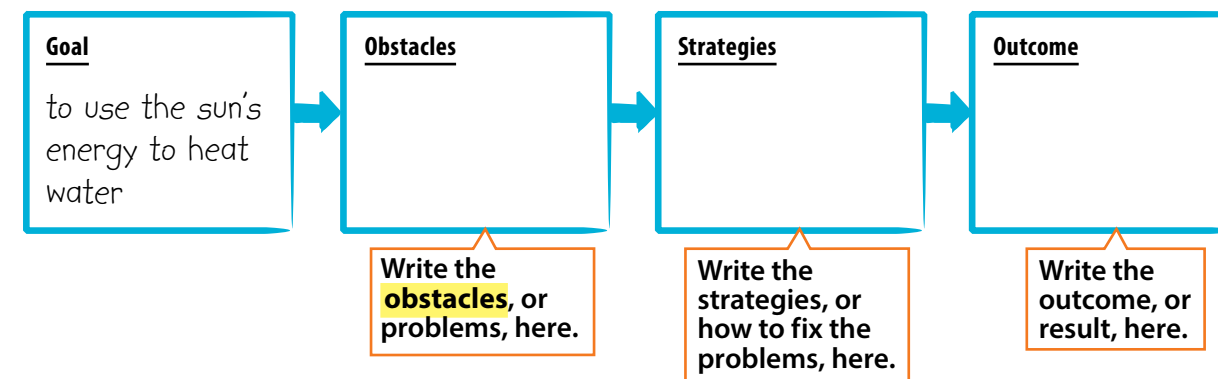
alternate	insulate
circuit	obstacle
conduct	rely
current	solar
decrease	volt
electrical	watt
energy	

Reread and Retell

Goal and Outcome

Make a goal-and-outcome chart to talk about what happened in "Energy for the Future."

Goal-and-Outcome Chart



Now, use the chart to retell the selection to a partner. Use **Key Words**. Record your retelling.

One obstacle was _____.
Thomas used this strategy: _____.
The outcome was _____.

Fluency

Practice reading with phrasing. Rate your reading.

Talk Together

Work together as a class. Describe how Thomas Culhane captures sunlight to heat water. Have one student draw a diagram on the board. Use **Key Words** as labels.

Write About It

A person who writes a **blog** often invites readers to ask questions. Write three questions about **solar energy** that you would like to post on Thomas Culhane's blog. Use **Key Words** and questions that start with *how*, *why*, *where*.

Why _____?
How _____?
Where _____?



More Word Origins

Many English words contain a **root** that came from another language. Knowing the meaning of a word's root can help you determine the meaning of the word.

This chart shows some common roots.

Root	Origin	Meaning	Example
meter	Greek	measure	thermometer, speedometer
port	Latin	carry	report, transport
tru	Old English	faithful	true, truth, truthful



The Old English root *tru* means *faithful*. What do you think the word *truly* means?

Try It Together

Read the paragraph. Then answer the questions. Use the chart to help you.

Solar panels can be made from plastic, wood, or aluminum. Some people use aluminum because it is portable and not heavy. When you make a solar panel, be sure the perimeter of the glass lid will fit the perimeter of the box.

1. Look for the Latin root in the word **portable**. What do you think **portable** means?

- A furniture
- B able to carry
- C a type of table
- D parts of a whole

2. Look for the Greek root **meter**. What do you think **perimeter** means?

- A wooden box
- B huge and heavy
- C measurement around
- D light and breakable



NATIONAL
GEOGRAPHIC
EXCLUSIVE

Making Connections Find out how the sun's **energy** can be used to heat food.

Genre A **how-to article** is a procedural text that gives instructions on how to do something. It may be in print or online. How-to articles are often written by an author or a contributor, who is an expert in the subject.

How To Make A Solar Oven

File Edit View History Bookmarks Tools Help

https://eltngl.com/reachhigherseries

Reach Higher Series

Your online source for learning how to do things

Search

- Arts and Crafts
- Business
- Computers
- Environment
 - Solar Oven
 - Compost Bin
 - Tin Can Garden
- Food
- Hobbies and Games
- Home and Garden
- Pets
- Relationships and Family
- Sports and Fitness
- Travel
- About Reach Higher Series
- Contact Reach Higher Series
- Contribute to Reach Higher Series

How to Make a Solar Oven
by Solargirl, **contributor**

The following directions will show you how to make your own **solar** oven. Solar ovens work like **concentrating solar power generators**. They reflect sunlight from a large area onto a small area, or focal point. The focal point absorbs the light, and can get very hot.

▲ solar oven

▲ concentrating solar power generator

NEXT >>

contributor person who writes the article for free

concentrating solar power generators machines that focus sunlight to make power

Before You Continue

- Use Text Features** Compare the pictures. How is light reflected into the oven and onto the generator?
- Analyze** What makes this how-to article formal?

How To Make A Solar Oven

File Edit View History Bookmarks Tools Help

https://eltngl.com/reachhigherseries

Reach Higher Series

Your online source for learning how to do things

Search

▶ Arts and Crafts

▶ Business

▶ Computers

▼ Environment

Solar Oven

Compost Bin

Tin Can Garden

▶ Food

▶ Hobbies and Games

▶ Home and Garden

▶ Pets

▶ Relationships and Family

▶ Sports and Fitness

▶ Travel

About Reach Higher Series

Contact Reach Higher Series

Contribute to Reach Higher Series

PAGE [2] OF 3

<< PREVIOUS | NEXT >>

Things You Will Need

To make your solar oven, you will need these tools and materials:

• one large pizza box

• a pen or pencil

• scissors


• aluminum foil


• clear plastic wrap

• tape

• black construction paper

• two long straws





Follow instructions carefully. Use materials and oven as instructed in the article.

Steps You Will Take

To make your solar oven, follow these steps:

Step 1



Draw a square on the lid of a pizza box. The square should measure about one inch from all four sides of the lid.

Step 2



Cut the square's sides and front. Do not cut the back edge of the square.

Step 3



Fold up along the uncut line to form a flap. This is your oven's "solar panel."



<< PREVIOUS | NEXT >>

panel energy collector

Before You Continue

- 1. Make Inferences** What do you think is the purpose of the oven's "solar panel"?
- 2. Steps in a Process** Which tools and materials do you use in the first three steps? What will you use next?

How To Make A Solar Oven

File Edit View History Bookmarks Tools Help

https://eltngl.com/reachhigherseries

Reach Higher Series

Your online source for learning how to do things

Search

▶ Arts and Crafts

▶ Business

▶ Computers

▼ Environment

Solar Oven

Compost Bin

Tin Can Garden

▶ Food

▶ Hobbies and Games

▶ Home and Garden

▶ Pets

▶ Relationships and Family

▶ Sports and Fitness

▶ Travel

About Reach Higher Series


Contact Reach Higher Series

Contribute to Reach Higher Series

PAGE [3] OF 3


<< PREVIOUS | NEXT >>

Step 4




Cut a piece of aluminum foil to fit the underside of the flap. Tape it in place. The foil will help reflect the sun's light into the box.

Step 5




Cut a piece of clear plastic wrap slightly bigger than the flap. Open the flap. Tape the plastic to the lid's underside, covering the opening.

Step 6



Tape a square of aluminum foil to the inside bottom of the box. This will help **insulate** it. Tape black construction paper over the foil. The paper will absorb the sun's thermal **energy**.



Step 7



Place food on the construction paper. **Solar** ovens work best for cooking things like nachos* at low temperatures. Close the lid and prop open the flap with straws. Tape the straws in place.

Step 8



Turn the oven toward the sun. Depending on the sun's **intensity**, your oven could reach 65°C (150°F) or more. Leave your oven in the sun until your food is warm.

Step 9



Solargirl's Cook Test Comparisons Table

Food	Solar Oven on a 30°C (86°F) Day	Regular Oven at 150°C (300°F)
nachos	cheese melted in 1 hour	cheese melted in 12 minutes
soup	turned warm but did not boil	boiled in 3 minutes
marshmallow	melted in 15 minutes	melted in 1 minute

* Tell a teacher or other adult before using a solar oven.

While your food is heating, think about how you can improve the design of your oven. Is there a better way to concentrate the sun's **energy** onto your box? Can you **insulate** it better? Finally, sit down and enjoy your food. You've **earned** it! ❖

Note: Solar ovens should only be used to heat up food that has already been cooked, such as nachos. Solar ovens should not be used to heat meat or eggs.

<< PREVIOUS

intensity strength
earned worked hard for

► Before You Continue

- 1. Paraphrase** In your own words, explain the last six steps in order.
- 2. Use Text Features** What can you conclude about **solar** ovens, based on Solargirl's cook test comparisons?

Compare Online Documents

You read two **online documents**. How are they alike? How are they different? Work with a partner to analyze and compare the online documents.

Comparison Chart

	"How to Make a Solar Oven"	"Energy for the Future"
Genre		
Point of View	Choose one: <ul style="list-style-type: none">• first person• second person• third person	Choose one: <ul style="list-style-type: none">• first person• second person• third person
Formal or Informal	Choose one: <ul style="list-style-type: none">• formal• informal	Choose one: <ul style="list-style-type: none">• formal• informal
Did the writer use: <ul style="list-style-type: none">• slang• exclamation points• abbreviations• questions• conversational voice		

Analyze the writing. If the writer used three or more of these writing styles, then the writing is informal.

Talk Together

Think about the two selections and the chart above. Use these resources and **Key Words** to discuss how people can use the sun's power.

Key Words

alternate	insulate
circuit	obstacle
conduct	rely
current	solar
decrease	volt
electrical	watt
energy	

Grammar and Spelling

Compound and Complex Sentences

A **compound sentence** has two independent clauses, or sentences. A **complex sentence** has an independent clause and a dependent clause.

Grammar Rules Compound and Complex Sentences

For **compound sentences**:

Use a **comma** plus a **conjunction** to join two independent clauses.

Plants use light energy, **and** people rely on it.

The sun's energy is all around us, **but** few people take advantage of it.

Machines can run on electrical energy, **or** they can use solar energy.

For **complex sentences**:

If the **dependent clause** comes first, put a **comma** after it.

Since the beginning of time, the sun has been a powerful force.

Do not use a comma if the **independent clause** comes first.

The sun has been a powerful force since the beginning of time.

Read Compound and Complex Sentences

Read the passage. What compound and complex sentences can you find?

We feel heat on a hot day because thermal energy is all around us. It comes from the movement of atoms. When they move quickly, they give off heat.

Write Compound and Complex Sentences

Write one compound sentence and one complex sentence describing light energy. Compare your sentences with the sentences of a partner.

Writing Project

Write As a Storyteller

Write a Myth

Write a myth that explains how something in nature came to be. You and your classmates will share your myths with a group of younger students.

Study a Model

A myth is a story that explains something about the world. It usually has gods or other non-human beings that act in human ways. Read Ted's myth about why there are earthquakes.

What Makes the Earth Quake?

by Ted Walzcak

The story begins by introducing the **characters**.

Before there were people in the world, there were **giants**. They were the ones who cared for the Earth. They planted forests. They built mountains. They made places for rivers to flow.

After a few thousand years, **some of the giants got pretty tired** of working. They wanted to have fun! So they started ripping up the trees and knocking down mountains. They even blocked rivers to make the land flood!

The writer uses **different kinds of sentences** to make the story interesting.

The gods were upset. What could they do? Finally, they decided to put the troublemakers in big caves deep inside the earth. That would stop the mischief!

Well, the trapped giants weren't very happy. When they pound on the walls of their caves, the ground above shakes and cracks. That's why we have earthquakes!

The writer describes the **conflict**, or problem.

Prewrite

1. **Choose a Topic** What event in nature could you use a myth to explain? Talk with a partner to choose an idea that would be fun to write about.

Language Frames

Tell Your Ideas

- I always wondered why _____.
- My favorite myth is _____. I could write something like that.
- My parents used to tell me _____. I could turn that into a story!

Respond to Ideas

- Your idea reminds me of _____.
- That's a great idea! Maybe you could _____.
- What characters would you use to _____?

Use sentences like these to help you choose your topic.

2. **Gather Information** What will happen in your story? Write down the details you will use to develop the characters and events.
3. **Get Organized** Use a chart to help you organize your details.

Character Chart

Character	Role	Function	Conflict
giants			want to have fun by destroying things
gods			

Draft

Use your chart and details to write your draft.

- Your title should say what the myth will be about.
- In the first paragraph, introduce your characters and setting.
- Next, write what the conflict is and how the characters react.

Writing Project, continued

Revise

1. Read, Retell, Respond Read your draft aloud to a partner. Your partner listens and then retells the myth. Next, talk about ways to improve your writing.

Language Frames

Retell

- Your myth explains _____.
- Your characters are _____, and your setting is _____.
- First, _____. Then, _____. Finally, _____.

Make Suggestions

- I couldn't picture your characters. You could add details about _____.
- I didn't understand why _____.

Use sentences like these to respond to your partner's writing.

2. Make Changes Think about your draft and your partner's suggestions. Then use revision marks to make your changes.

- Do all your details help develop your idea? Remove any that don't.

Finally, they decided to put the troublemakers in big caves deep inside the Earth. ~~Each one was the size of Mammoth Cave!~~ The gods figured ~~that~~ that would stop the mischief!

- Different types of sentences will make your writing more interesting. Turn some simple sentences into compound and complex sentences.

When

They pound on the walls of their caves. The ground above shakes and cracks.

Edit and Proofread

Work with a partner to edit and proofread your myth. Make sure you've punctuated compound and complex sentences correctly. Also check that you have used the correct end mark for each sentence. Use revision marks to show your changes.

Punctuation Tip

In a compound sentence, add a comma before the conjunction that connects the two parts.

Present

On Your Own Make a final copy of your myth. Choose a way to share your work with your classmates. You can read it aloud, or act it out.

Presentation Tips

If you are the speaker...	If you are the listener...
Make sure you change your tone to show questions and exclamations.	Listen for details that tell you what the writer is trying to explain or teach.
Make eye contact with your listeners to help them stay connected.	Smile or nod to show the speaker that you are enjoying the story.

In a Group Myths were usually passed on by storytellers. Arrange to visit a class of younger children and share your myths with them. Afterwards, ask them to draw pictures to go with your story. Later, you can post your myths on your school's Web site.



Share Your Ideas

Choose one of these ways to share your ideas about the **Big Question**.

Write It!

Write to an Astronaut

Write a letter to an astronaut. Include a question you would like to ask about the Sun. Use the Internet to search the NASA Web site for the address where you should send the letter.

Dear NASA
Astronaut,
I heard that the
view of the Sun from
space is amazing!
I have a question
about the Sun.

Talk About It!

Hold a Press Conference

With a partner, hold a "press conference" about the first solar oven at your school. First, prepare interesting facts and details. Tell this information to an audience of "reporters" (your classmates). Then invite the reporters to ask questions.

Do It!

Perform a Myth

Choose a myth from the unit. Work with a group of classmates to perform it as a play. Decide who will play each part. Then talk about how you will perform the key events. Create some props and costumes. Rehearse the play several times and then perform it for the class.

Write It!

Write a Song or Chant

Work with a partner to write a song or chant to introduce one of the selections. The song or chant should match the mood or feeling of the selection. Perform the song or chant for the class.



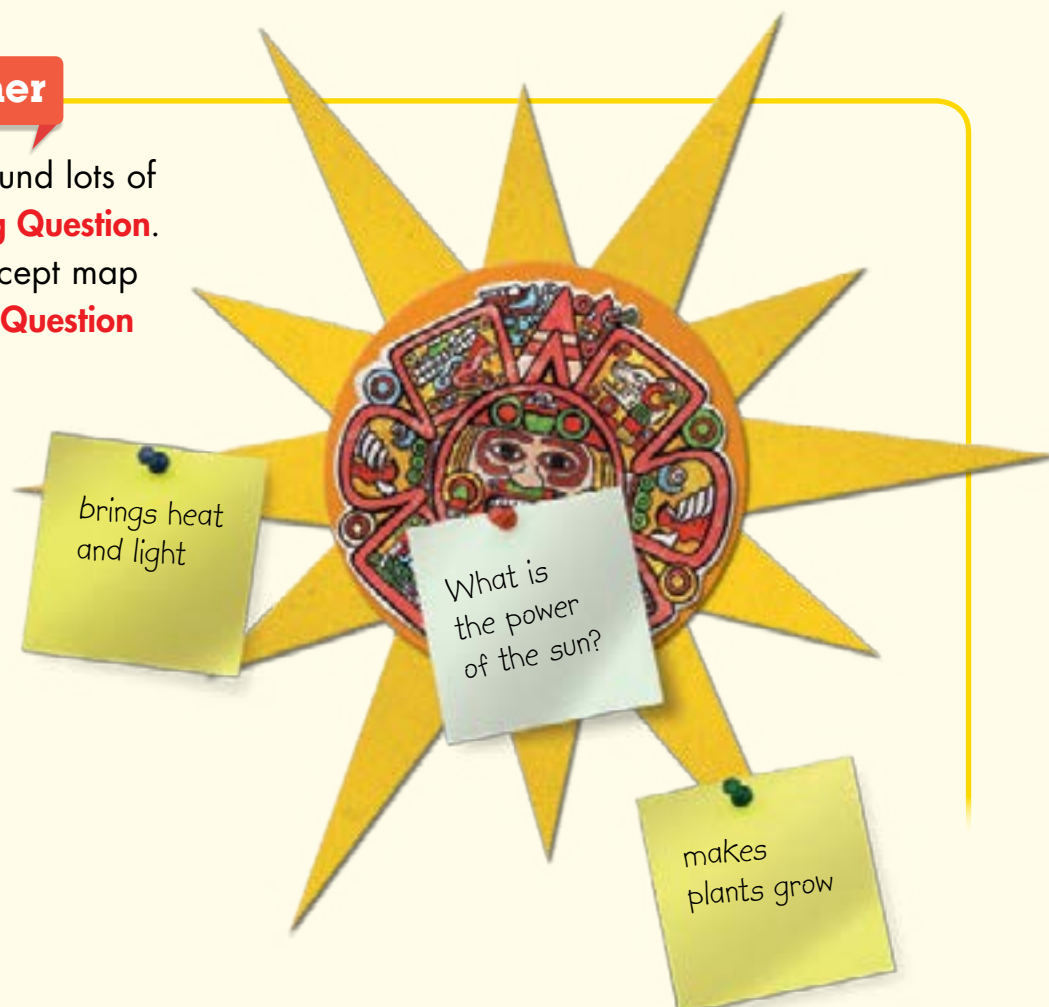
**BIG
Question**

What is the power
of the sun?

Talk Together

In this unit, you found lots of answers to the **Big Question**. Now, use the concept map to discuss the **Big Question** with the class.

Concept Map



Write a Compare and Contrast Blog

Use the concept map to write a blog that explains how the power of the sun affects people and nature.