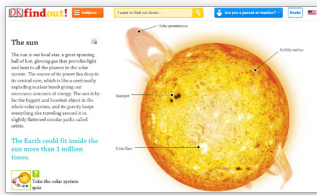


## Curriculum aims

- Understand the movement of the planets around the sun in the solar system
- Investigate how the sun is an essential source of heat and light on Earth
- Explore the significance of sun worship in ancient cultures

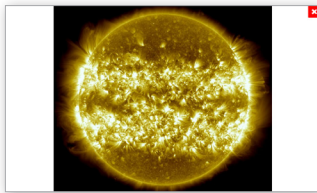
## Introduction—The sun, the star at the center of our solar system



<http://www.dkfindout.com/us/space/solar-system/sun/>  
<http://www.dkfindout.com/us/gallery/space/features-sun/>

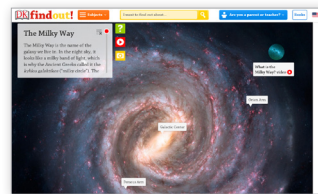
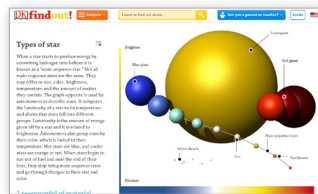
### Activity:

Read aloud the introduction text on The sun screen, and ask students to make a note of five facts that fascinate them about the sun. They could gather further information from the captions and by looking at the Features of the sun gallery. They can share their facts with other students in the class. Have they found the same or different facts interesting? Take a class vote on the best sun fact.



## What is a star?—Comparing the sun with other stars

<http://www.dkfindout.com/us/space/stars-and-galaxies/what-is-star/>  
<http://www.dkfindout.com/us/space/stars-and-galaxies/types-star/>  
<http://www.dkfindout.com/us/space/stars-and-galaxies/milky-way/>



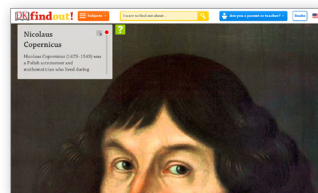
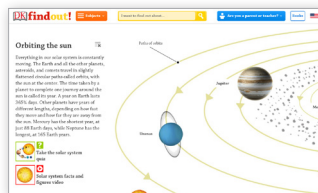
### Activity:

Ask students to write their own definition of a star, and then check against the information on What is a star? screen. Using the screens, explain that the sun is just one of many types of star, and is positioned on the outside of one of the arms of the Milky Way galaxy. In small groups, ask the class to investigate how the sun compares with other stars, compiling a list of similarities and differences.

### Notes:

## The solar system—Explaining how the planets move around the sun

<http://www.dkfindout.com/us/space/solar-system/>  
<http://www.dkfindout.com/us/space/solar-system/orbiting-sun/>  
<http://www.dkfindout.com/us/science/famous-scientists/nicolaus-copernicus/>  
<http://www.dkfindout.com/us/video/space/solar-system-facts-and-figures-video/>



### Activity:

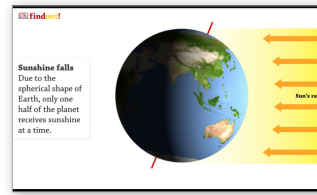
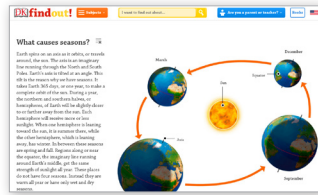
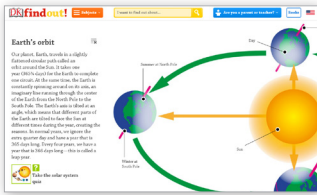
The solar system is the name for the collections of planets and smaller objects traveling around the sun at its center. This heliocentric model was the breakthrough idea of a 15th century Polish astronomer, Nicolaus Copernicus. Discuss as a class why this was a controversial idea at that time.

The movement of the planets is relative to the sun, with each one varying in different year lengths depending on how fast they move and how far away they are from the sun. Ask students to collect information about the length of a year and the speed for each of the planets. What observations do they make from this data? Finish this activity by watching the Solar system facts and figures video.

### Notes:

## Earth's orbit—Understanding Earth's rotation around the sun

<http://www.dkfindout.com/us/space/solar-system/earths-orbit/>  
<http://www.dkfindout.com/us/earth/seasons/what-causes-seasons/>  
<http://www.dkfindout.com/us/video/space/day-to-night-video/>  
<http://www.dkfindout.com/us/earth/seasons/shortest-and-longest-days/>



### Activity:

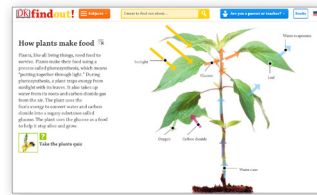
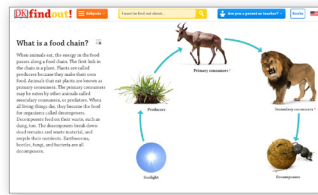
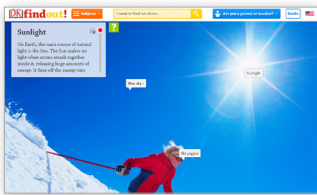
Divide the class into two groups. Ask one group to investigate how the Earth's orbit causes the seasons at different times of the year. Ask the other group to explore how the Earth's spinning creates day and night. Students can prepare a group presentation to explain their understanding. They may wish to make models, or draw diagrams.

Using this information, ask students to choose a place on Earth, such as the poles, their own town, or a place in another hemisphere, and explain the Earth's orbit on the shortest and longest days of the year in that place.

### Notes:

## Sun's light energy—Investigating how the sun makes life on Earth possible

<http://www.dkfindout.com/us/science/light/sunlight/>  
<http://www.dkfindout.com/us/animals-and-nature/food-chains/what-is-food-chain/>  
<http://www.dkfindout.com/us/animals-and-nature/plants/how-plants-make-food/>



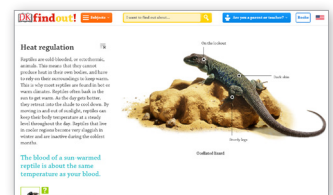
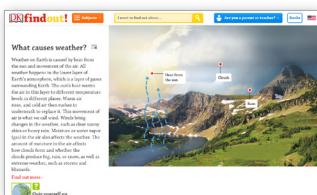
### Activity:

Ask students to write any thoughts about why the sun is important to us. As the lesson continues, they can add to their list. The Sunlight screen explains how the sun produces heat and light energy, which travels to Earth. Through scientific inquiry, explore the claim that sunlight has made life possible on Earth. Students could set up an experiment to demonstrate how a plant needs sunlight to grow, by placing one plant on a sunny windowsill and another in a dark cupboard. Make sure that for the length of the experiment, such as a week, the plants are watered the same amount.

### Notes:

## Sun's heat energy—Researching how the sun's heat affects life on Earth

<http://www.dkfindout.com/us/earth/weather/what-causes-weather/>  
<http://www.dkfindout.com/us/animals-and-nature/habitats-and-ecosystems/land-habitats/>  
<http://www.dkfindout.com/us/video/animals-and-nature/animal-adaptation-video/>  
<http://www.dkfindout.com/us/animals-and-nature/reptiles/heat-regulation/>



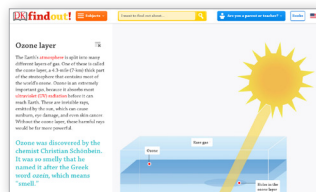
### Activity:

For a week, have students to record the day's temperature and weather. Ask them to write a conclusion about how the amount of heat from the sun affects the weather and why. Then look at the various land habitats and discuss what the temperature would be like in each habitat. Watch the video about how animals are adapted to their environments and listen out for the adaptations linked with the heat or cold. Have students select an animal or a plant on **DKfindout!** and consider how it is well adapted to the temperature in its habitat.

### Notes:

## Uses of sunlight—Identifying the positive and negative effects of the sun's rays

<http://www.dkfindout.com/us/gallery/science/energy-sources/>  
<http://www.dkfindout.com/us/transportation/history-aircraft/solar-powered-plane/>  
<http://www.dkfindout.com/us/earth/structure-earth/ozone-layer/>



### Activity:

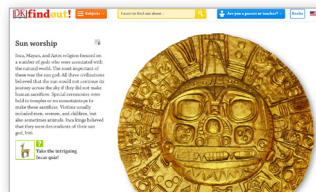
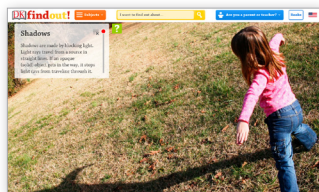
Ask students to research solar power and how people are using this as a renewable power source today. Encourage them to search for newspaper articles about solar power, pictures of solar-powered transportation, and buildings with solar panels. Have students investigate how the rays of the sun can harm us, and then ask them to identify how we can protect ourselves from the sun, for example: protecting the ozone layer and using sunscreen.

Encourage students to complete their list about why the sun is important to us, and have them choose a way of presenting this information, either as a poster, or in a booklet, or as a report.

### Notes:

## Sun worship—Exploring the significance of the sun in ancient cultures

<http://www.dkfindout.com/us/history/stone-age/stone-age-beliefs/>  
<http://www.dkfindout.com/us/science/light/shadows/>  
<http://www.dkfindout.com/us/history/incas/sun-worship/>



### Activity:

In ancient times, people knew that the sun was very important to their lives, even if they did not know the science explaining why. Ask students to select an ancient culture on **DKfindout!**, such as the Stone Age, the Incas, Mayans, or Aztecs and explore why and how they worshipped the sun. Students can consider how the seasonal changes affected how they lived and what they ate. Encourage students to be creative with presenting their piece of research.

### Notes:

## Assess the student's knowledge with the Seasons quiz

<http://www.dkfindout.com/us/quiz/earth/take-sizzling-seasons-quiz/>