

Kitt Peak National Observatory

Is there an observatory located near you?

1 The Kitt Peak National Observatory in Arizona is one of the most important astronomical research sites in the world. With 21 different telescopes aimed at the stars, Kitt Peak astronomers have made many discoveries that help us better understand the universe. For instance, research conducted at Kitt Peak has produced new information about how stars are formed. Research there has also helped find better ways to measure the incredible distances across the galaxies.

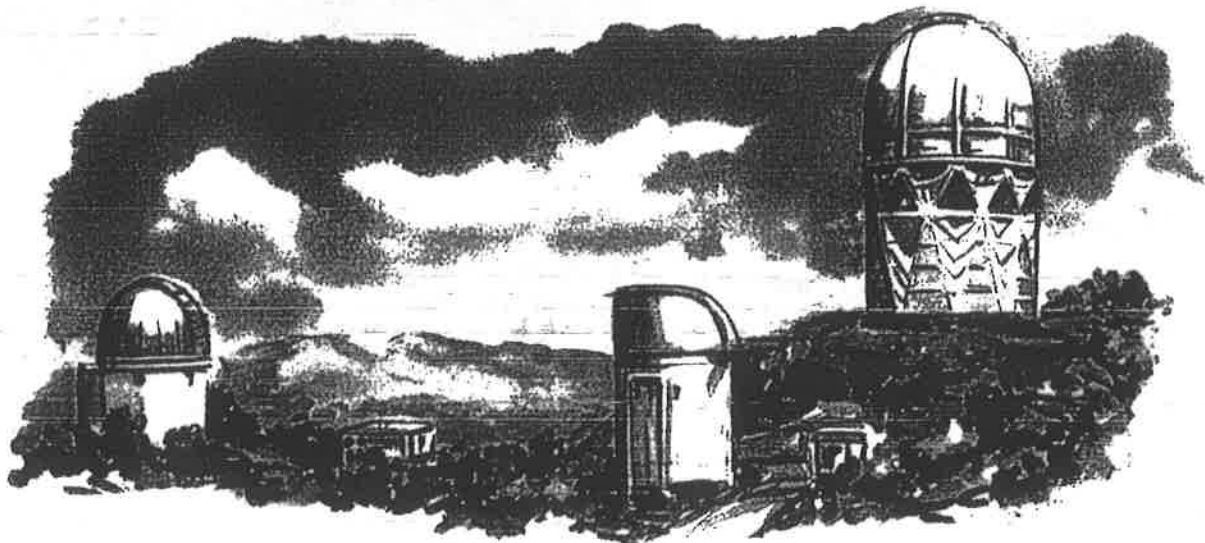
2 Kitt Peak is located 55 miles southwest of Tucson in the Quinlan Mountains that rise from the Sonoran Desert. This land is part of the Tohono O'odham Nation, the Native American people who have lived there for many centuries. Kitt Peak was originally called *Ioligam*, the Tohono O'odham word for the manzanita bush that grows there.

3 In the mid-1950s, scientists started a search for the best place to put a national observatory. From more than 150 potential mountain sites, Kitt Peak was chosen as the best location. Today, Kitt Peak is just one part of the National Optical Astronomy Observatory. The NOAS also has telescopes in New Mexico, Hawaii, and Chile. These telescopes work together so that there is always the best possible view of outer space.

4 Kitt Peak National Observatory offers daily tours of its facilities, but it also has a special night program that allows anyone to come and enjoy a close-up view of the universe. The Nightly Observing Program lets visitors look through either of two powerful telescopes to see astronomical features not visible to the naked eye.

5 At Kitt Peak, you might see any of the planets. You might also see meteors and comets that pass by. If you see a thick band of light flowing across your view, that is probably the Milky Way galaxy. Galaxies are groups of millions, and even billions, of stars that are grouped together and move as one through the universe. The Milky Way is the galaxy that contains our solar system.

6 Some other interesting things you might see are nebulae and clusters. Nebulae (the plural form of *nebula*) are enormous clouds of gas and dust where stars are formed. Astronomers give them descriptive names such as the *Swan Nebula* and the *Cat's Eye Nebula*. Clusters are groups of stars that are always seen together. A couple of clusters you might see are the Butterfly Cluster and the Wild Duck Cluster. While some astronomical objects are named, many astronomical objects are only referred to by numbers.



Vocabulary Skills

Write the words from the passage that have the meanings below.

1. places; locations

_____ Par. 1

2. guided or directed

_____ Par. 1

3. possible

_____ Par. 3

4. buildings that are used for a specific purpose

_____ Par. 4

5. words that describe something

_____ Par. 6

Write the words from the passage that match the abbreviations below.

6. HI _____

7. AZ _____

8. NM _____

Read each sentence below. Then, write the word from the **-ight** word family that best completes the sentence.

9. Kitt Peak offers a special _____ program where you can use powerful telescopes to view the universe.
10. You _____ be able to see a meteor or a comet.
11. The words *site* and _____ are homophones, or words that sound the same but are spelled differently and have different meanings.

Reading Skills

1. Check the line beside the word that best describes what type of nonfiction selection this is.

_____ biography

_____ informational

_____ persuasive

2. On the lines below, write a sentence that summarizes paragraph 1.

3. In which mountain range is Kitt Peak located?

Study Skills

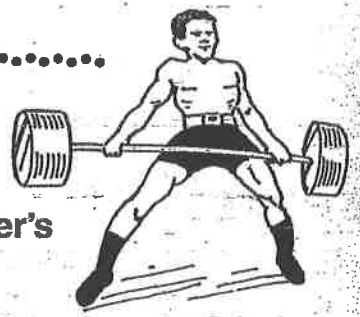
Rates for Guided Tours at Kitt Peak

Adults	\$2.00 per person
Children (ages 6–12)	\$1.00 per person
Children under 6	free
Tohono O'odham Members	free

1. Who can get a free guided tour at Kitt Peak?
- _____
2. How much would it cost for two adults to take the tour?
- _____
3. How much would it cost for two 10-year-olds and one 5-year-old to take the tour?
- _____

IDENTIFYING SOLIDS

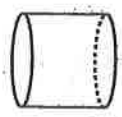
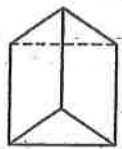
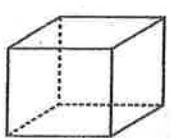
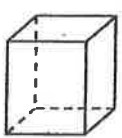
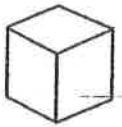

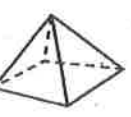
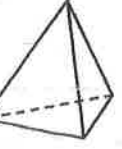
Getting into Shape



➔ Match the figure with its name. Then write the number's matching letter at the bottom to solve the riddle.

Riddle: What part of a computer squeaks?

1. cube
2. square pyramid
3. cylinder
4. square prism
5. cone
6. triangular pyramid
7. triangular prism
8. rectangular prism

- E. 
- S. 
- E. 
- M. 
- T. 
- O. 
- H. 
- U. 

1 2 3 4 5 6 7 8



Conflict Over North American Lands

Cross-Curricular Focus: History/Social Sciences

The Age of Exploration lasted from the early 15th century until the middle of the 17th century. During this time period, European nations explored the world by sea. They wanted to trade goods with other people to make a profit. They also wanted to find shorter routes to their existing trade partners. Some adventurers wanted to find out information about the world. Cartographers were constantly revising maps based on the latest travels. Through the maps and journals of explorers, people of the known world improved their knowledge of geography.

Spain was the first European nation to claim land in the Americas in the 1560s. They were eager to get as much land as possible for Spain. Much of Mexico, South America, and Florida once belonged to Spain. England wanted to claim its share as well, arriving in North America in 1607. France claimed land in the area that is now Canada. Settlers from the Netherlands claimed the area that is now New York. The Spanish began claiming Californian land. They built the first mission in 1769 on the site that became the city of San Diego.

Why was there so much interest in the Americas? Many Native Americans were already living in the Americas. The area was rich in desirable resources. European nations valued the many **raw materials** that seemed to be in never-ending supply in North America. The English discovered tobacco, a crop that would finance the success of the early colonies. The Dutch from the Netherlands made a lot of money in the fur trade. They sold beaver furs at trading posts that were established along commonly traveled river and land routes. Spain claimed gold and silver from Aztec resources in Mexico.

With so many valuable resources to be had, there were many **conflicts** over North American lands. Colonies founded by different countries were located near each other. There were disagreements and fears between the settlers. Wars were fought to control areas that were particularly rich in resources. Native Americans were caught between the warring colonists. They were often seen as obstacles to be conquered.

Name: _____

Answer the following questions based on the reading passage. Don't forget to go back to the passage whenever necessary to find or confirm your answers.

1) Why did European nations send out so many explorers during the Age of Exploration?

2) Why do you think French is spoken in some parts of Canada?

3) Who were the early settlers of New York?

4) Which European nation was the first to claim land in the Americas?

5) Why were the Americas so desirable to the Europeans?
