



**Directions:**  
print, complete, staple together, & submit pages: 1,4,5,6,7,9,10,11

## Cliff Dwellers

W.M. Akers

### Preview

Activate Schema. Scan to see what you know about the west, native cultures that lived on the sides of mountains.

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Establish a Purpose for Reading. What do you need to learn?

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*Vocabulary: complete page 6 before reading the selection.*

### Read & Integrate Knowledge

*Predict    Picture    Relate    Monitor    Fix*

In the Mesa Verde National Park in Colorado, one of the most amazing sights in the United States is dug into the side of a mountain. Sandy-colored towers, walls and rooms sit there, overlooking the park. They have no roofs, but the structures are protected by the overhanging cliff. Eight centuries after their construction, they are in excellent condition—and remain one of the most intriguing archaeological sites in the country.

Who built these fabulous dwellings? Why did they choose to dig them into the face of the rock itself? When did they live, and how did their civilization fade?

Although not all of those questions have definite answers, archeologists have discovered much about these long-ago Native Americans. The largest of their dwellings, Cliff Palace, was discovered on December 18, 1888, by a pair of Colorado cowboys who were riding the mesa in search of missing cattle. They spied the crumbling structures through the driving snow and rode their horses toward one of the most intriguing finds in archeological history.

Cliff Palace and the other cliff dwellings were constructed by the Ancestral Pueblo people, a group comprised of several Native American tribes whose descendants include the Hopi, Zuni and Acoma people.

The Ancestral Pueblo people lived in and around the American Southwest and their history goes back to as early as 100 A. D., during a period known as "Late Basket maker II, " due to the fine women baskets produced during this period.

Over the next thousand years, the people of the Southwest settled down gradually. They stopped living in caves and shallow pits, and began building homes. They moved from a strictly hunter-gatherer culture to one increasingly dependent on agriculture, growing beans and domesticating animals like turkeys. The more they farmed, the more water they needed, and they built dams, walls and other basic irrigation systems.

Their civilization continued advancing, and by the period known as "Pueblo I," the Ancestral Pueblo people began building large stone communities. These sprawling dwellings, some of which had as many as 100 rooms, were the forerunner to the later cliff dwellings. As agricultural life began to be more centered on recently-introduced cotton, and the communities' artisans became more advanced in pottery, the cultural life of the community focused around the kivas.

What is a kiva? It is an underground circular chamber used for ceremonial purposes, and the largest Ancestral Pueblo dwellings had many of them. In the photo of Cliff Palace on the first page, you can see the kivas in the front of the picture: the low, round pits around which most of the towers were built. It is easy to imagine the people of Cliff Palace gathering in these kivas to carry out social ceremonies around the campfire.

By 1200 A.D., the Ancestral Pueblo people began building their homes into the cliffs. No one knows precisely why they moved into the hills, but it's possible that the shift was to make their homes easier to defend in times of war. Many of the cliff dwellings in Mesa Verde National Park are accessible only by rope-ladder, which would have made them very easy to defend against a potential attacker.

Most of the dwellings in Mesa Verde are built in shallow parts of the rock, and are able to hold only two or three rooms. But Cliff Palace, which was built up over the course of the 1200s, is much larger. It contains over 150 individual rooms and more than 20 kivas. At its peak, it could have provided shelter for more than 100 people.

One of the most intriguing features of the dwellings is the size of the doorways, which are much smaller than the ones we have today. This would not have bothered the people of Cliff Palace, because they were much shorter than the people of the 21st Century. The men were around 5 feet 5 inches tall, and the women around 5 feet tall. Their apartments, which were accessed by climbing tall wooden ladders, averaged about 6 feet 8 inches tall—a much lower ceiling than you are probably used to!

Just as no one is quite sure why the Ancestral Pueblo people began building dwellings like Cliff Palace, no one knows exactly why they eventually abandoned them. A theory is connected with what happened in 1276, when just as Cliff Palace was reaching its height, the region was struck by the "Great Drought." For 23 years, rainfall was sparse, a catastrophe that would continue to plague the region off-and-on until around 1450. As agriculture became more and more difficult, the Ancestral Pueblo people were perhaps forced to move to better farmland—and Cliff Palace had to be left behind.

**Recall****Comprehension Questions**

(circle the best answer)

**1.** What is Mesa Verde National Park famous for?

- A** beautiful waterfalls
- B** Native American cliff dwellings
- C** an endangered species of bird
- D** a collection of Native American baskets

**2.** What does the author describe in the passage?

- A** why the Ancestral Pueblo people transitioned to an agricultural lifestyle
- B** the development of pottery in Ancestral Pueblo culture
- C** Cliff Palace, the largest of the cliff dwellings built by the Ancestral Pueblo people
- D** basket weaving techniques from the "Late Basketmaker II" period

**3.** Archeologists believe that the Ancestral Pueblo people began building their homes in cliffs to defend themselves in times of war. What evidence from the text supports this conclusion?

- A** Many of the cliff dwellings are accessible only by rope ladder.
- B** Most of the towers were built around kivas.
- C** Cliff Palace could have provided shelter for over 100 people.
- D** Ancestral Pueblo people built dams, walls and other basic irrigation systems.

**4.** The Ancestral Pueblo people moved from a strictly hunter-gatherer culture to one increasingly dependent on agriculture, growing beans and domesticating animals like turkeys. What effect did this have on their lifestyle?

- A** They started living in caves and shallow pits.
- B** They stopped building stone communities.
- C** Their cultural life began to focus less on ceremonial gatherings.
- D** Their cultural life began to focus on ceremonial gatherings.

**5.** What is this passage mostly about?

- A** cliff dwellings at Mesa Verde National Park and the people who built them
- B** tribal warfare between Ancestral Pueblo peoples
- C** the "Late Basketmaker II" period
- D** the importance of the kiva in Ancestral Pueblo culture

**6.** Read the following sentences: "Who built these fabulous dwellings? Why did they choose to dig them into the face of the rock itself? When did they live, and how did their civilization fade?"

Why does the author pose these questions?

- A** to let students know what they will be quizzed on
- B** to ask rhetorical questions that won't be answered
- C** to ask the reader a direct question
- D** to set up points that the passage will address

**7.** Choose the answer that best completes the sentence below.

Ancestral Pueblo people were much shorter than 21 Century humans; \_\_\_\_\_, the doorways in Cliff Palace are much smaller than modern doorways.

- A** ultimately
- B** thus
- C** notable
- D** such as

**8.** What makes Cliff Palace different from the other cliff dwellings at Mesa Verde National Park?

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**9.** What is a kiva and what was it used for?

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**10.** Describe two things the Ancestral Pueblo people valued based on the way they built their cliff dwellings. Use evidence from the passage to support your answer.

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## The Meteor

### Preview

Activate Schema. Scan to see what you know about outer space, meteors, energy, and eyewitness accounts.

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Establish a Purpose for Reading. What do you need to learn?

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*Vocabulary: complete page 11 before reading the selection.*

### Read & Integrate Knowledge

*Predict    Picture    Relate    Monitor    Fix*

Sergei Bobunets, lead singer of a Russian rock band, had just stepped outside when the sky fell apart.“

I looked up, and suddenly the sky lit up with a bright light, and something that looked like the sun fell,” Bobunets said, trying to make sense of one of the most powerful events on Earth: a meteor strike. Bobunets was standing 125 miles north of Chelyabinsk, a city in Russia which on

February 15, 2013, witnessed perhaps the best-documented meteor fall in human history. Eyewitnesses recorded the fireball with their phones and digital cameras. A European weather satellite took a photo of the meteor as it streaked through the atmosphere, and a Chinese satellite captured the meteor’s vapor plume. Thousands of people saw the flash of light and felt the shock wave after the meteor crashed into Earth”

I looked out the window and saw a huge line of smoke, like you get from a plane, but many times bigger,” Sergei Serskov, an office worker in Chelyabinsk, told the BBC. “A few minutes later the window suddenly came open, and there was a huge explosion, followed by lots of little explosions. It felt like a war zone.”

The meteor was not very big. It was about 57 feet long, a little longer than a normal city bus. But it was super dense, weighing about 11,000 tons—more than the Eiffel Tower. And it was moving extremely fast. Scientists estimated its speed at 41,000 miles per hour, or about 50 times the speed of sound. Its tremendous speed was the main factor in its enormous destructive power.

When the meteor exploded 14 miles above the Earth it released a bright flash of light, a powerful heat wave, and a shock wave with roughly 20 to 30 times more energy than the atomic bomb detonated at Hiroshima. The explosion damaged 7,200 buildings in six cities and about 1,500 people were injured, mostly from flying glass. "My eyes are still hurting," an eyewitness wrote on an Internet forum soon after the impact. "Oh, my God, I thought the war had begun."

The widespread destruction caused by the Chelyabinsk meteor gives proof to the rule of physics that the faster an object is moving, the more energy it has. A bus on the street that loses control could slam into a building and kill a few people. A bus flying through space at 50 times the speed of sound could wipe out an entire city.

The Chelyabinsk meteor is also an example of how energy moves. First there was the meteor itself, which was moving energy simply by its movement through space. As it encountered Earth's atmosphere, the meteor ran into increased resistance from air and dust molecules, which released some of its energy in the forms of heat and light. And when it exploded, the meteor radiated its energy over the Russian sky in the forms of blinding light, piercing sound, a shock wave strong enough to collapse buildings and knock people off their feet, and continued physical motion in the form of thousands of rocks falling to the ground. The only known type of energy the meteor did not give off was electricity.

While the Chelyabinsk meteor was the best-documented in history, it was not especially large or powerful as meteors go. The most destructive event in recorded history is believed to have been a meteorite that crashed into Earth above Russia's Tunguska River in 1908. Scientists estimate the object was about 330 feet across. It flattened 80 million trees over 830 square miles of forest, and created a destructive force 1,000 times more powerful than the atomic bomb dropped over Hiroshima. The shock wave shook buildings and knocked people off their feet hundreds of miles away. For the next few nights, night skies across Europe and Asia glowed, possibly caused by sunlight bouncing off particles left by the meteor's tail and dust raised by its impact.

Widespread casualties were avoided because the area was so thinly populated, but there were eyewitnesses to the explosion. "The sky split in two, and fire appeared high and wide over the forest," a witness named S. Semenov told a researcher. "At that moment I became so hot that I couldn't bear it, as if my shirt was on fire...I wanted to tear off my shirt and throw it down, but then the sky shut closed, and a strong thump sounded, and I was thrown a few meters."

No other object visible to humans travels as fast or carries as much energy as meteors do. As the world fills with electronic cameras and sensors, we may be able to learn more about smaller meteors such as the one at Chelyabinsk before once more facing the destructive power of a mammoth meteor like the one at Tunguska.



## Recall

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### Comprehension Questions

(circle the best answer)

1. What did Sergei Bobunets witness?

- A a meteor strike
- B a plane crash
- C the bombing of Hiroshima
- D the sun falling

2. How does the author describe the meteor strike at Chelyabinsk?

- A The meteor strike had very few witnesses and was not well documented.
- B It was the most destructive meteor strike in documented history.
- C The meteor strike created a bright flash of light, a heat wave, and a shock wave.
- D The meteor strike was in a thinly populated area and did not hurt anyone.

3. The Chelyabinsk meteor was a little longer than a normal city bus and moved 50 times the speed of sound. A bus on the street that loses control could slam into a building and kill a few people. A bus flying through space at 50 times the speed of sound could wipe out an entire city.

Which conclusion does this information best support?

- A Objects release energy.
- B The faster an object is moving, the more energy it has.
- C Bus-sized objects can be dangerous.
- D The size of an object determines how fast it can move.

4. When did the Chelyabinsk meteor most likely contain the most energy?

- A after it exploded
- B when it exploded
- C as it encountered Earth's atmosphere
- D before it encountered Earth's atmosphere

5. What is this passage mostly about?

- A Sergei Bobunets
- B atomic bombs
- C meteor strikes
- D astrophysics

6. Read the following sentence: "As the world fills with electronic cameras and sensors, we may be able to learn more about smaller meteors such as the one at Chelyabinsk before once more facing the destructive power of a **mammoth** meteor like the one at Tunguska."

What does "**mammoth**" mean in this context?

- A very, very large
- B a hairy animal from the Ice Age
- C something frightening
- D lacking in force

7. Choose the answer that best completes the sentence below.

When a meteor explodes in the sky, it radiates its energy in various forms, \_\_\_\_\_ light, sound, and heat.

- A consequently
- B above all
- C currently
- D including

8. What object visible to humans travels the fastest and carries the most energy?

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9. What were the differences between the meteor strikes at Chelyabinsk and Tunguska?

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10. Explain why it is important to study meteors. Support your answer with details from the passage

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**Vocabulary**

**Word** = Useful vocabulary in this reading selection (Some are provided. You supply more).  
**Definition** = Define each word.  
**Synonym** = Provide a synonym for each word.  
**Etymology** = Circle any etymological words parts in each word and define them in this column.

Word	Definition	Synonym	Etymology
meteor			
documented			
atmosphere			
satellite			
capture			
vapor			
dense			
tremendous			
enormous			
roughly			
factor			
impact			

