The Mysterious Marfa Lights
by Rachel Bernstein

1 Near the little town of Marfa in western Texas is one of the most incredible sights in the United States: the Marfa lights.

What Are the Marfa Lights?
2 The Marfa lights are spheres of light the size of soccer balls in bright colors of red, orange, green, blue, white, or yellow. They appear only 10 to 20 times each year, in all seasons and any kind of weather. Sightings occur between dusk and dawn, lasting from a few seconds to several hours. The Marfa lights seem to occur more frequently during the second half of the lunar cycle, between the full moon and the next new moon.
3 The balls of light may remain motionless as they pulse on and off with intensity varying from faint to almost blinding radiance. Then again, they can zigzag far up in the air and dart across the desert against prevailing winds. The ghostly lights can move singly, in pairs, or in groups; they can split apart and merge, or sometimes vanish and then reappear. Their movements are unpredictable, and nobody has quite determined what they are or where they come from.

Who Has Seen Them?
4 Robert Ellison reported seeing the Marfa lights in 1883 while driving cattle through Paisano Pass. In 1885, Texas settlers Joe and Sally Humphreys encountered the lights. More recently, Kyle Miller, a local business owner, reported his encounter with the lights:

   Late one night, I was driving home from a business meeting. Route 90 was deserted, except for a few armadillos crossing the road. I was listening to an awesome country song when a single green ball flashed...
in the distance. Unfortunately, it lasted only a few seconds, but I remember thinking I'd seen a glowing basketball frozen in midair. It was so shocking that I nearly jumped out of my seat, and the hair stood on the back of my neck. I've heard about the ghost lights my whole life, but I had never seen them before.

These are just a few eyewitness reports. There are probably many people who have seen the lights but said nothing for fear of having their sanity doubted.

**What Causes Them?**

5 There are many theories about what causes the Marfa lights. In the past, superstitious locals thought they were the spirit of an Apache warrior. In 1883, a railroad engineer suggested they were kerosene lanterns at a nearby ranch. More recent proposals abound. Some investigators believe swamp gases cause them, while others believe they result from moonlight reflecting off the nearby Chinati Mountains. Still another hypothesis is that quartz crystals discharge static electricity when they warm in the daytime and cool at night.

6 Several studies have attempted to find the source of the Marfa lights. During World War II, pilots at Midland Army Air Field searched for a source from the air. In 1975, local pilot Fritz Kahlled one hundred observers on the "Marfa Ghost Light Hunt." Neither investigation proved successful.

7 In May 2004, a group of university physics students conducted a new study using high-tech equipment. After four days, the students concluded that automobile headlights from a nearby highway caused the Marfa lights. They attributed the strange appearance and movement of these lights to what is called the Fata Morgana mirage.

8 The Fata Morgana mirage is a superior mirage, which is characterized by multiple distortions. With superior mirages, what you perceive to be higher in the sky is really lower to the ground. Light bends downwards when it hits a layer of cold air, making it appear as if what is below your sight line is actually straight ahead or above because you are seeing the inverted image of what is on the horizon projected above it. A Fata Morgana mirage can make distant objects appear to hover in the air.

9 Does this mean that the mystery of the Marfa lights has been solved?
The answer is not quite that simple. In his 2010 book Hunting Marfa Lights, engineer James Bunnell describes sightings of the lights he and others have witnessed that couldn't possibly have been caused by a superior mirage.

**How Can You See Them?**

With so many conflicting theories about the lights, people complain that there will never be a definitive answer about their origin. However, there are few complaints about the mysterious lights from the local population. The highway department has constructed an official viewing site near Marfa. And every Labor Day weekend, there is a Marfa Lights Festival held in celebration of the lights that includes a parade and other events. Marfa's economy booms as hotels fill up quickly and tourists spend their money on food, entertainment, and souvenirs.

If you want to attempt to see the Marfa lights, spend time between Marfa and Paisano Pass, south of Route 90. The most advantageous viewing spot is near U.S. Highway 67 on Mitchell Flat.

"Marfa Lights"
Answer questions 1, 3, and 5 on a separate sheet. Clearly label in the margin your answers to 2 and 4.

1. Write a four-sentence summary of this passage.
2. Underline the sentence that best explains why the Marfa lights remain a mystery.
3. (paragraph 4) Why are there few eyewitness reports about the Marfa lights?
4. In the article, underline the detail that illustrates that not all of the Marfa lights are caused by headlights from a nearby highway.
5. (paragraph 10) Explain why you think that "there are few complaints about the mysterious lights from the local population." Use one quotation from the article that supports your explanation.