



# acadience® reading 7–8

## Oral Reading

Student Materials

Grade 8 | Benchmark 2

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# Moving Away

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► Allison leaned on the handlebars of her bicycle and gazed at the fixtures of her neighborhood and the gas station convenience store down the street from her house. This had been her home of the last 5 years and her best friend's home was right across the street. Today she was filled with nostalgia, and as she heaved a sigh and pedaled onward, she swerved to avoid the pothole that had been there for months and months. "Goodbye, pothole," she said silently

At times, Allison was thrilled that her mom had gotten the job in Carlinville, especially at the thought of the high school's fabulous volleyball opportunities. But at other times, the thought of leaving Appleton behind was a bit overwhelming. Appleton had been her home for nearly 5 years, and though it lacked the amenities of Carlinville, like a mall and a public swimming pool, it was comfortable and familiar. More importantly, her best friends lived in Appleton.

Arriving home, she leaned her bike against the porch and trudged inside the house. Lacking the energy to do anything useful, she flopped onto the sofa and stared at the little zigzag crack in the corner of the ceiling, reminiscing about the stories she and her brother Simon had invented about an imaginary monster living in the crack.

When Simon entered the room, he stared for a moment before casually asking what was the matter. Allison tried to articulate her contradictory feelings about the exciting new opportunities in Carlinville verses the comforts of the known neighborhood, the pothole, and even the ceiling crack. Simon just rolled his eyes and complained, "What's happened to that sense of adventure you had just yesterday? I thought you were looking forward to competing with a top-ranked volleyball team; you have no hope of playing in college if you don't start getting noticed now."

Allison considered Simon's words thoughtfully. "I know this is the start of an exciting new chapter," she said, "but I'm a little anxious. At least I can video-chat with my friends. What would it be like if we couldn't stay connected that way?!" Simon chuckled in agreement. He noted that even in the same school, much of his communication with friends was through technology.

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# A Mystery of Solar Proportions

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► It is a cold and clear night at the campsite, but heat from the campfire keeps you and your family warm. As the heat from the fire radiates, or spreads out from its source, its energy weakens as it gets farther away. It makes sense that the temperature drops as you move farther away from a heat source. However, in the case of our sun, something quite different happens.

The sun has a core where heat energy is first produced. The temperature in the sun's core is 15 million degrees Celsius. The energy moves out through the sun's radiative zone, and as it moves away from its heat source, the temperature drops from 15 million to 1 million degrees. The next layer of the sun is the convection zone, where temperatures are as low as 6,000 degrees. The visible layer of the sun, called the photosphere, is an even cooler 5,500 degrees.

At this point, something odd happens. The chromosphere, just above the sun's visible layer, heats up to about 50,000 degrees. This is significantly hotter than the photosphere. The next layer is the corona, which is a thin outer layer of the sun, and it is a sizzling 1 million degrees! Why are these two layers of the sun that are furthest from the energy source hotter than those closer to the source?

This amazing mystery has puzzled solar physicists for years. Finally, scientists believe there is a plausible explanation for this mysterious phenomenon. They have discovered that jets of plasma explode up from just above the sun's surface. The plasma in these jets, which are called spicules, has been heated to millions of degrees, and the energy from these spicules heats the corona. This recent discovery helps to explain the remarkable contrast in temperatures that exists between the sun's photosphere and corona layers.

Scott McIntosh, a solar physicist at the High Altitude Observatory of the National Center for Atmospheric Research, explains why solving this mystery is important. "By identifying that these jets insert heated plasma into the sun's outer atmosphere, we can gain a much greater understanding of that region and possibly improve our knowledge of the sun's subtle influence on the earth's atmosphere." Radiating heat that has been infused with a new heat source can cause the radiating heat to get hotter, not cooler.

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## “Free at Last!”

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► Nelson Mandela, a descendant of Thembu kings, was born in South Africa in 1918. As an adult, he was first a freedom fighter for Black people’s rights, then a prisoner of the government, and in 1994 he was elected as the first Black president of South Africa.

As a young lawyer, Mandela became angry about the South African political system of apartheid that treated the Black majority of the population unfairly. Black people could not vote or live outside of Black neighborhoods and were not allowed to go to White schools. In public, Black people were kept separate from the White, ruling minority. To help right these wrongs, in the late 1940s, he joined the African National Congress (ANC), a group that worked for political and social change, and he quickly became an ANC leader.

During the 1950s, Mandela and the ANC held strikes and protests that were peaceful, but these events were met with violent police attacks and new laws that were stricter. As government attacks on Black people grew more violent, Mandela decided that action was needed. He organized a group whose purpose was to sabotage, or deliberately destroy or damage, government buildings. In 1962 Mandela was arrested, tried, and in 1964 he was sentenced to life in prison.

The government hoped this would cause Mandela’s followers to give up. In fact, the opposite occurred. As living conditions for Black people grew worse, the freedom movement grew stronger, and over time, Mandela became more famous as people around the world became aware of his cause. People and nations pressured the government to free Mandela and to pass fair and just laws for all South Africans. At last, in 1990, a new president who believed that apartheid should be changed was elected. Mandela was freed from prison and walked out weak in body but strong in spirit.

Mandela and the new president of South Africa worked together to change their country into a democracy. In 1994, Black people voted in their first election and elected Mandela to be the first Black president. In his speech the day he took office, Mandela declared, “We can loudly proclaim from the rooftops: Free at last! Free at last!”

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