



# acadience® reading 7–8

## Oral Reading

Student Materials

Level 7 | Progress Monitoring 4

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## Different Strokes

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► After almost an hour on the river, Michelle had started to relax. She figured out how to match paddle strokes with others, so their raft glided smoothly through the gently flowing water. Although Michelle's mother hadn't paddled a boat in 15 years, she said it was like riding a bicycle: you never forgot how to pedal or paddle. Michelle had never ridden on a boat during her 12 years of life. She wasn't afraid of water; the opportunity had just never come up before. But, now that the local recreation center was offering rafting lessons, her mother decided it was time for Michelle to learn basic rafting. That's why she was sitting in one of two rubber rafts on the river, feeling like a sausage because of the life jacket belted and buckled around her body.

Riffling over stones, the river began to flow faster, and the raft picked up speed. Michelle quickly lost the rhythm of the paddling. The raft shot off a half-submerged boulder and flew through the air, landing downstream with a rugged bounce. Michelle dropped her paddle and grabbed the raft. Then the river slowed again; they drifted into an eddy and swirled around in lazy circles.

As they floated around and around, Michelle became aware of a continuous roar of water; she spotted the foaming water that signaled a strong rapid downstream. The guides were studying it, too, and taking stock of their passengers. Finally, one guide explained that the rapid was flowing faster than usual because of heavy spring rains. It could still be run safely, but there was always the chance that they might flip over. They could risk flipping, or they had the option of walking along the shore while they pulled the raft on ropes through the water.

As Michelle's mother surveyed the rapids, excitement flashed across her face. About half the passengers seemed to share her feelings, while the others mirrored Michelle's own doubts. Michelle asked whether a compromise was possible: those who wanted to attempt the rapids could; the others could portage one raft around the rapids. The guides agreed.

Watching from the banks of the river, Michelle felt a surge of pride and relief when the raft emerged safely and she saw her mother's arms raised in triumph. Different strokes for different folks, Michelle thought.

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# Black Holes

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► Some of the most mysterious objects in space are called black holes, regions where gravity is so great that almost nothing can escape no matter how fast it is moving. Black holes are created as the life of a massive star comes to an exploding, fiery end and the core of the star collapses into itself. This enormous explosion is called a supernova.

During the normal life of a star, gravity and pressure balance each other within the center of the star. Gravity pulls the material of the star inward, while energy created by nuclear processes in the star's core pushes that material outward. After millions of years, when the nuclear fuel in the core is depleted, the star's life is over. In the case of a massive, gigantic star, a supernova explosion can occur. This explosion sends the outer layers of the star bursting forth, creating a light so bright it can outshine the light of an entire galaxy. Because the star is out of nuclear fuel, the energy in a star's core is diminished, and no pressure remains to exert force pushing out. At that point, there is no force strong enough inside the star to battle gravity. Gravity then compresses the star, causing the core to collapse inward under its own weight, creating a black hole.

A black hole has zero volume but infinite density, or a density that is without limit or end. This condition of zero volume and infinite density is known as a singularity. Around this singularity, there is a region called an event horizon. If something is inside this event horizon, it cannot escape; even light itself is not fast enough to escape the black hole's strong gravitational pull. The lack of light coming from the black hole makes it invisible.

There is no need to worry about our sun experiencing a supernova and becoming a black hole. Only exceptionally large stars can become black holes. Our sun would need to be ten to fifteen times larger than it is. Billions of years from now, at the end of our sun's life, the core will run out of energy. The sun will become very hot and then begin to cool down, dying quietly. Relatively few stars end up as mysterious black holes.

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# The Shape of Reality

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► In the early 1900s in Paris, a new style of art appeared. This new style, called Cubism, marked a huge change from the traditional idea that art should show nature in lifelike ways. Instead, the Cubists broke down subjects into basic forms. By fragmenting, or breaking apart, their subjects, the Cubists hoped to show a new reality. They hoped their art would invite people to look at the world in new ways.

This avant-garde, or new and very modern, style marked the start of what we call modern art. The Cubists broke away from the views and styles of traditional, Western art. They drew ideas from the art of ~~so-called~~ primitive cultures, especially those of Africa. Cubism is abstract, which means the artists do not show subjects in realistic ways. Cubist painters Pablo Picasso and Georges Braque were inspired by the words of another great artist, Paul Cézanne. Cézanne said, “Everything in nature takes its form from the sphere, the cone, and the cylinder.” Picasso and Braque used that idea in their work. They painted their subjects, things like human figures, bottles, and musical instruments, as groups of geometric shapes, especially cubes.

The first period of Cubism, from about 1908 to 1912, is called Analytical Cubism because the artists analyzed, or broke down, their subjects. Paintings showed different views of an object, as if several photos taken from different angles had been cut into pieces and rearranged. Often the shapes were painted in shades of the same color, especially browns, greens, and grays. Instead of taking up space the way real objects do, the objects in these paintings either seemed flat or appeared to come forward off the canvas. After 1912, Cubism moved to another phase called Synthetic Cubism in which artists synthesized, or put together, forms in their pictures. Brighter colors were used, and different materials were often layered together. Smooth and rough surfaces were combined in an attempt to make people question what was real.

At first, the public found this kind of art too radical, or extreme. Even the name “Cubism” came from a critic who did not like the style and described one painting as nothing more than a bunch of cubes. The name stuck, though, and the influence on art lasted. The movement reached its height in about 1914, but its styles and ideas changed art forever.

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