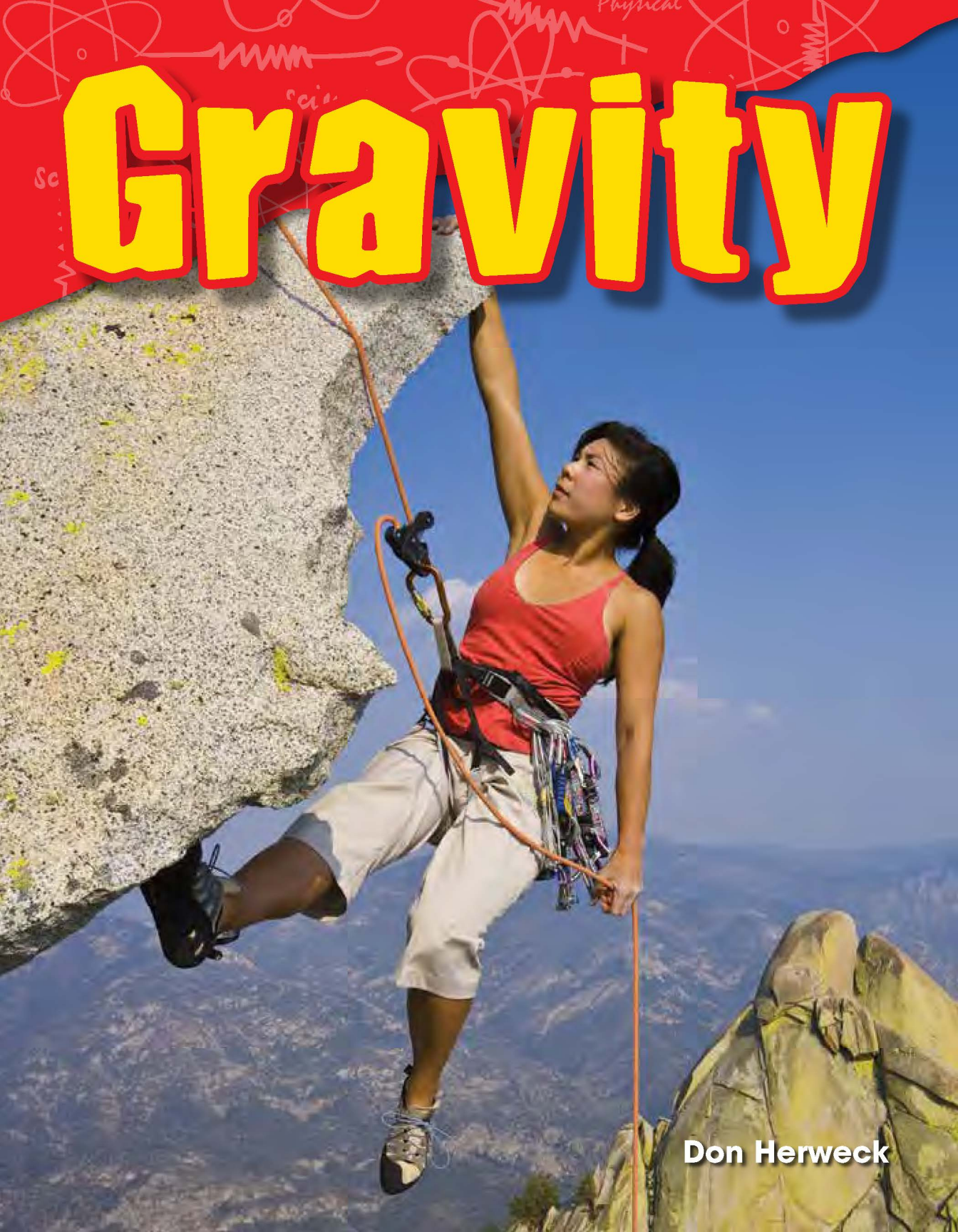
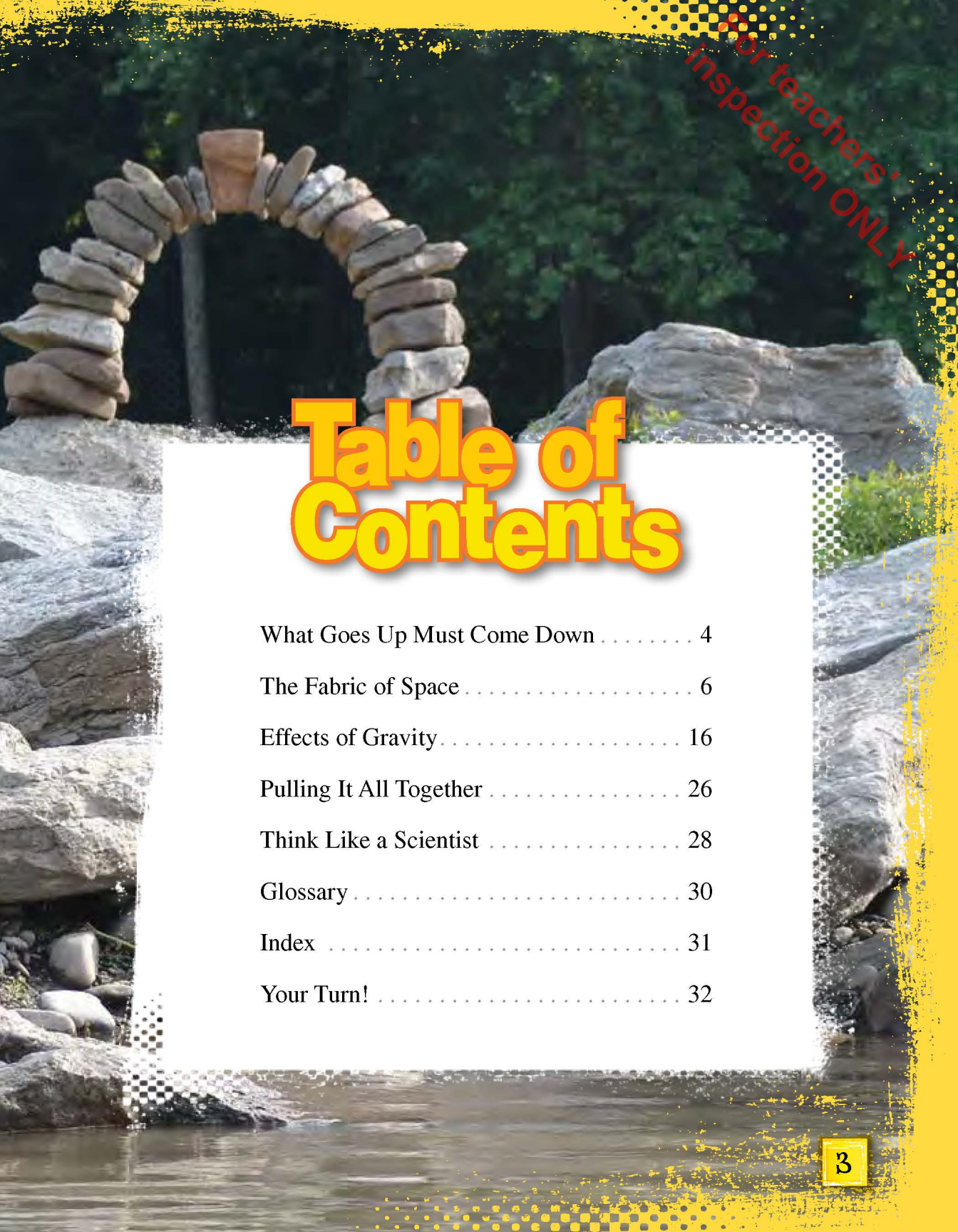
Gravity



Don Herweck



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What Goes Up Must Come Down

No one can deny the power of gravity. We can't see gravity. But we feel its effects every day. Imagine what life would be like without it. Trees, buildings, and cars wouldn't stay on the ground. Even the air we breathe would float away!

Gravity is the **force** that pulls us toward Earth. It attracts objects toward each other. In fact, all objects are attracted to the gravity of other objects. That includes Earth and the people who live on it. Earth pulls on us, and we pull on Earth. But what's behind this force?



Finding Forces

Sir Isaac Newton was a scientist in the 17th and 18th centuries. Newton discovered three laws, or rules, that explain the way objects move. One of these laws tells us how a force such as gravity, acts on an object.

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Without gravity, our lives would be very different!



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The Fabric of Space

Space is all around us. We move up, down, backward, forward, and sideways in it. We can't see it, but space is everywhere.

Space is like a piece of fabric that never ends and stretches in every direction. Objects in space curve the area around them. Think of a tennis ball resting on a piece of fabric. The fabric bends under the ball. And a larger object, such as a bowling ball, pulls on the fabric even more. A small marble on the fabric would fall toward a larger ball. Gravity works the same way. It occurs when objects curve the space around them. And just like the balls on the fabric, objects in space fall toward each other.



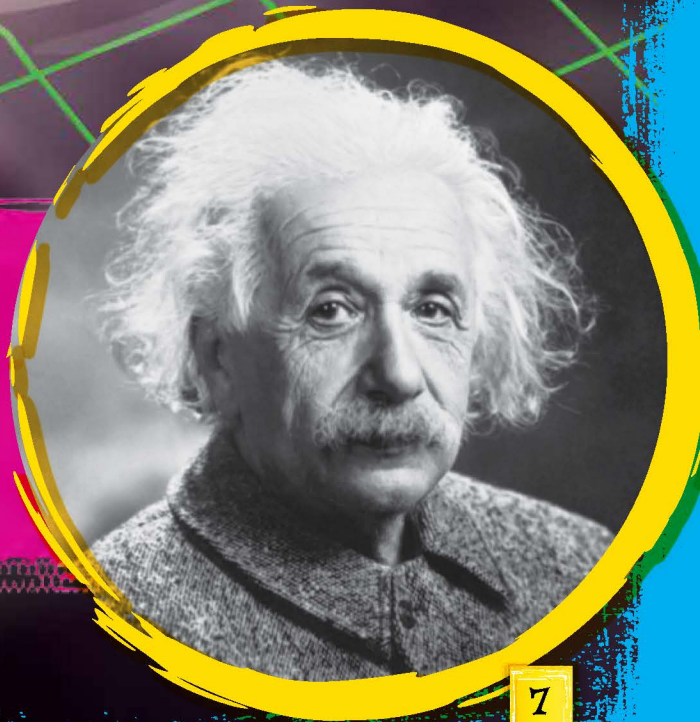
Going the Distance

The closer two objects are, the more they are attracted to each other. When objects are farther apart, the effects of gravity are weaker.

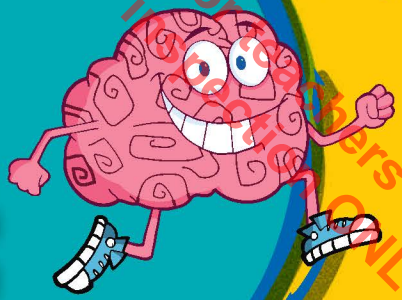
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Deep Thoughts

Albert Einstein lived in the 19th and 20th centuries. He thought deeply about what might cause gravity. He developed the idea that gravity occurs when objects curve the space around them.



Think Like a Scientist



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How is gravity's pull related to weight? Experiment and find out!

What to Get

- 1-pound hand weights
- masking tape
- paper and pencil
- ruler

