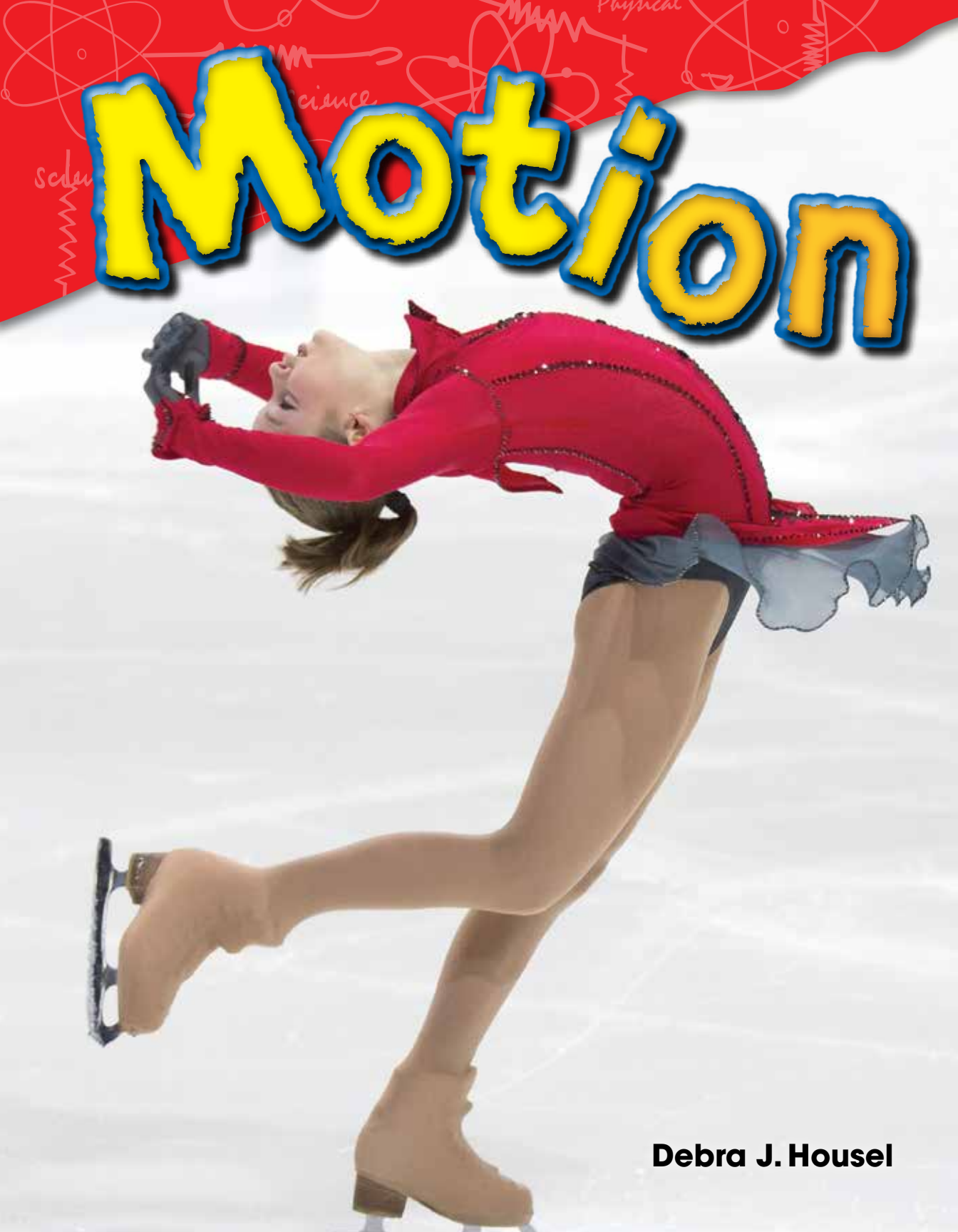
Motion



Debra J. Housel

For teachers' inspection ONLY

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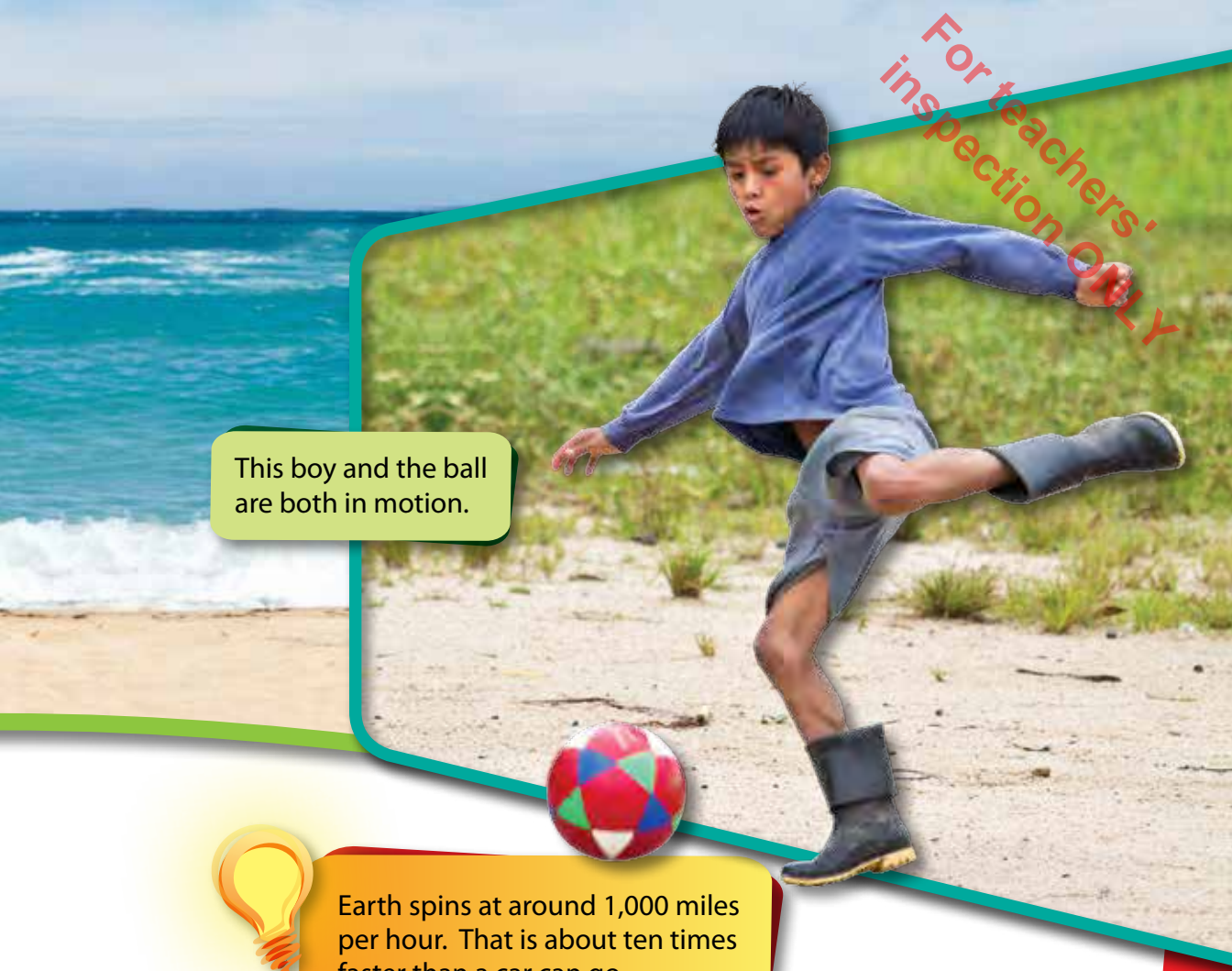
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Ready, Set, Move!

Everything is in motion. You see motion when you kick a ball. You feel motion when the wind blows your hair. You hear motion when a plane roars overhead.

Even Earth is in motion. It spins while it circles the sun.

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This boy and the ball are both in motion.

Earth spins at around 1,000 miles per hour. That is about ten times faster than a car can go.

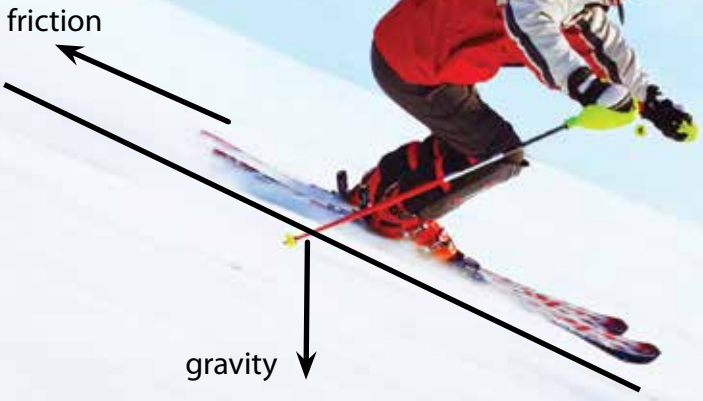
Motion makes the world go around. But sometimes, we need to stop the motion. We need the bus to stop so we can get on. Skydivers need parachutes to slow their falls. **Friction** and **drag** help things slow and stop.

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Friction

Friction is a **force** that slows or stops motion. Without it, we could not walk. The ground would be too slippery.

Most moving objects slow gradually and then stop. Friction is a force that slows them. Think about roller skating. As you move your skates, the wheels press against the ground. The ground presses against the wheels. You must keep pushing to keep moving. If you stop, your skates will slow and then stop.



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Whoa!

Snow has little friction. That is why we can easily glide across it on skis or a sled.

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Drag

Things moving through air or water slow down, too. Drag is water or air **resistance** (ri-ZIS-tuhns) that works like friction. Drag is stronger in water than in air.

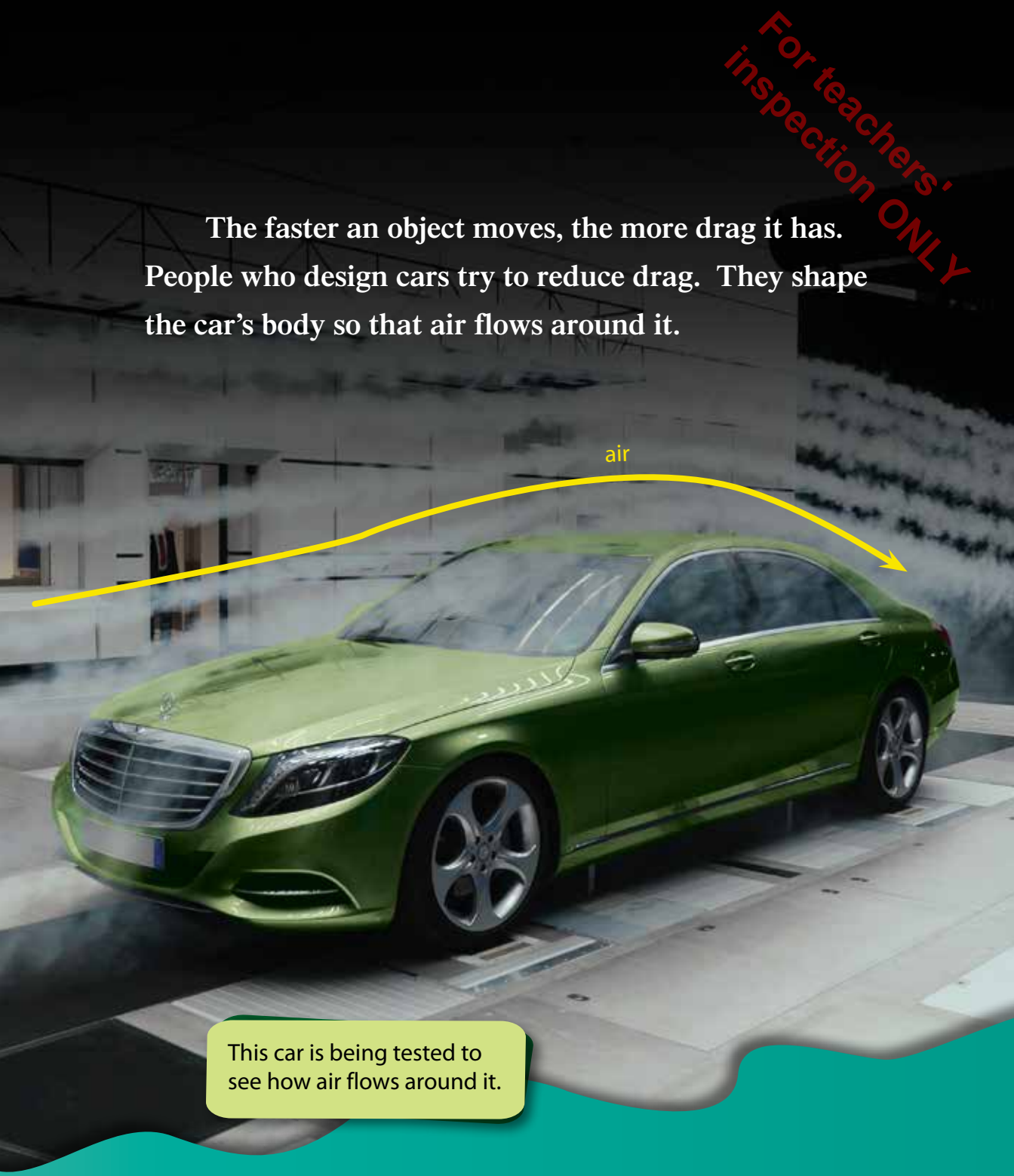


Shake It Up!

The moon has no air, so there is no air movement. Astronauts have to shake the flag to make it wave on the moon.

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The faster an object moves, the more drag it has. People who design cars try to reduce drag. They shape the car's body so that air flows around it.



This car is being tested to see how air flows around it.

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Let's Do Science!

What forces can you observe? See for yourself!

What to Get

- ❍ 1 hard-boiled egg
- ❍ timer or clock

