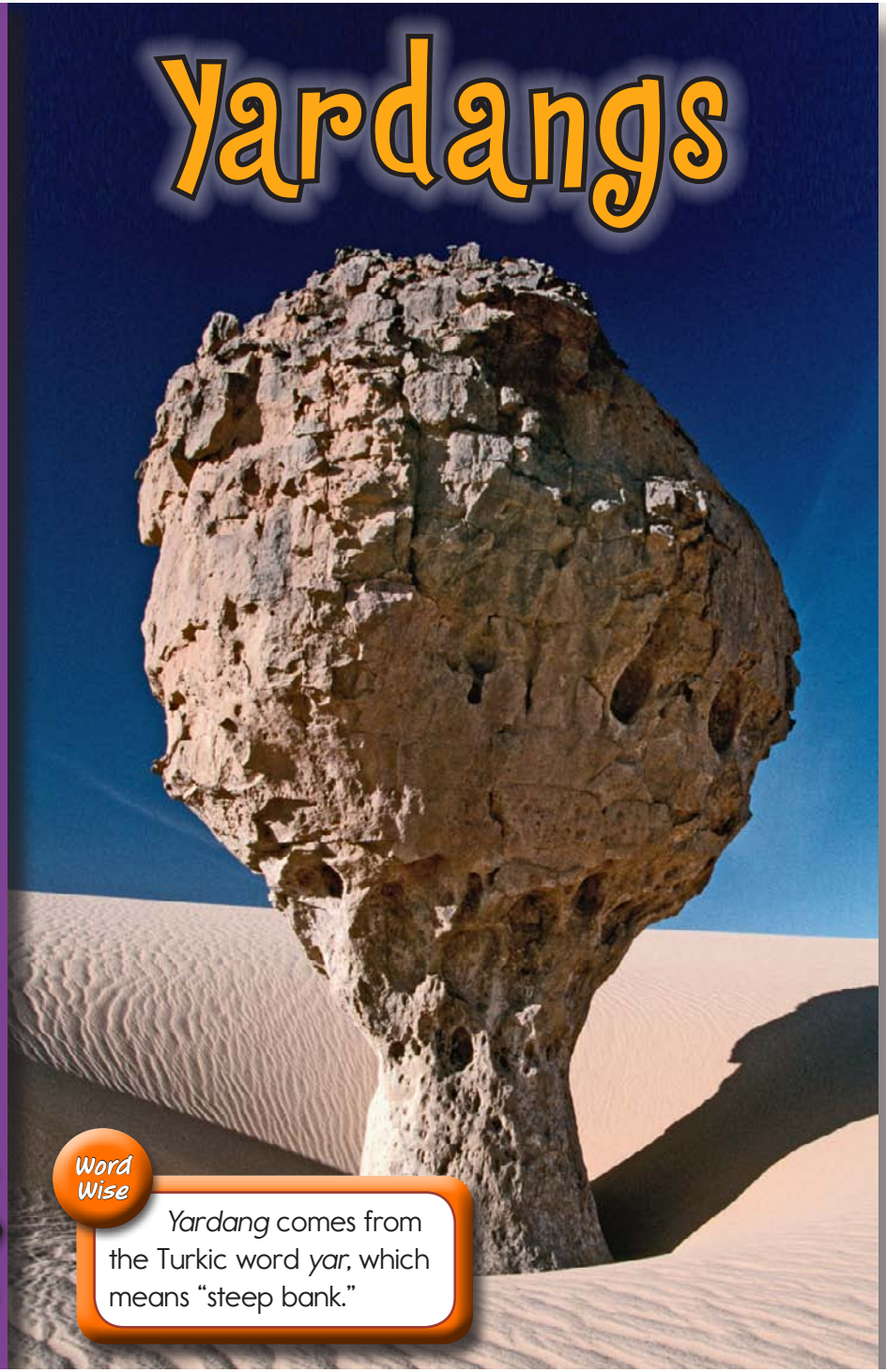
Science a-z

CHANGING LANDFORMS
Erosion

Investigation File

Yardangs



Word Wise

Yardang comes from the Turkic word *yar*, which means "steep bank."

SANDBLASTED!

Desert travelers know them by different names. In Egypt, they are called *mud lions*. In Tunisia, they are called *koukour*. In Iran, they are *kalut*. But if you find yourself face to face with a *yardang*, you'll be wondering what it is—not what it's called!

Yardangs are ridges of rock and loose sand found in arid (dry) places. Many yardangs look like mushrooms or upside-down boats. They can occur alone or in groups, called *fields*. Yardangs usually line up in the direction of the wind because they are shaped by the wind itself.

Wind is a powerful, natural force that causes erosion. As wind blows over land, it picks up and removes sand and small rock particles in a process called *deflation*. When wind blasts the land's surface, the sediment it transports acts like sandpaper, wearing away and changing the shape of the land in a process called *abrasion*. Gradually over time, only the yardangs are left.

So if you ever find yourself facing a yardang, you might not be sure what to call it, but at least you'll know what it is and how it formed.

A field of yardangs

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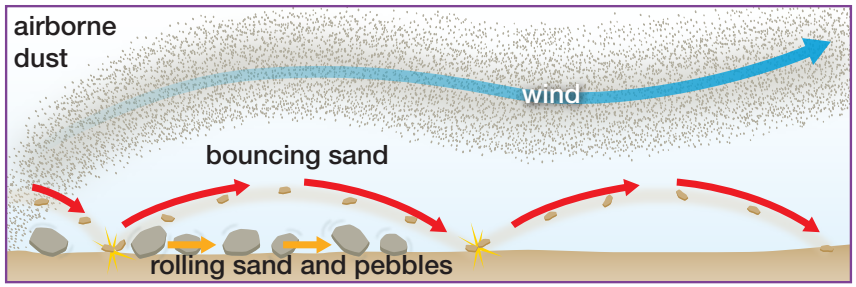
High-Flying Sediment

Wind can be a force of *weathering*, the breaking of rocks into smaller pieces. As those rocks bang into each other, they form smaller and smaller pieces, including pebbles, sand, and even dust. Then wind can pick up the dust and sand, blast it against the land, and form yardangs.

But how exactly does wind transport this sediment? It depends on the size of the particles. Wind easily picks up and moves *dust* particles because the particles are very lightweight. Wind tosses the dust thousands of meters up and thousands of kilometers away. But it moves *sand* grains differently. Sand gets picked up briefly, but it's too heavy to remain airborne for long. Gravity causes the sand grains to fall. The grains get bounced and rolled along the ground, knocking other grains into the air. Sand grains aren't transported as far as dust. Strong wind can slide and roll larger sand grains and even pebbles along the ground, too.

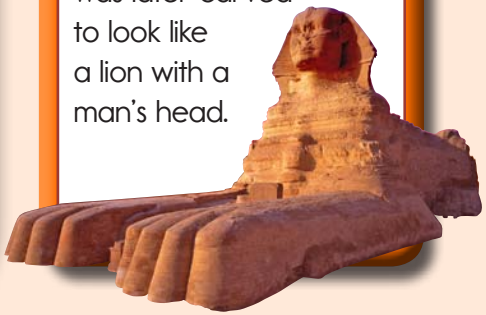
HOW WIND MOVES SEDIMENT



White Sands National Monument in New Mexico has some of the few examples of yardangs in the United States.

Do You Know?

Some scientists think that the Great Sphinx in Egypt started out as a yardang and was later carved to look like a lion with a man's head.



Think About It

Mars has yardangs. What does this tell you about the conditions on Mars?

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