Name: _____ Date: _____

# Why Beach Pebbles Feel So Smooth

Circle group

Pick up a pebble on a beach. It is smooth. It has no sharp corners. A stone from a mountain is rough. Why are beach pebbles smooth?

It is the waves. A wave rolls up the beach. Then it pulls back. It lifts the pebbles. It tumbles them. The pebbles bump each other. They rub on sand.

Each bump wears off a tiny bit. One bump does little. But waves come all day and night for years. The sharp corners go first. The stone gets round and smooth.

A smooth pebble has a long story.

## Questions

**1. How does a beach pebble feel?**

_____

_____

**2. What do waves do to the pebbles?**

_____

_____

**3. What wears down first on a stone?**

_____

_____

**4. Does a pebble get smooth in one day?**

_____

_____

**5. A pebble is very round. What does that tell you?**

_____

_____

## Words to know

pebble: a small, smooth stone
tumbles: rolls and falls over and over
rub: to press and slide against something

corners: the sharp points where edges meet

## Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

# Why Beach Pebbles Feel So Smooth

Triangle group

Walk along a rocky beach and pick up a pebble. It feels smooth in your hand, with no sharp corners. A stone from a mountain top is rougher. Why are beach pebbles so different?

The answer is waves. A wave rolls up the beach and pulls back again. It lifts the pebbles and tumbles them around. The pebbles bump into each other. They also rub against bits of sand.

Each bump wears away a tiny piece of the stone. One bump does almost nothing. But the waves come all day and all night, for years and years. Sharp corners wear down first. Slowly, the stone turns round and smooth.

So a smooth pebble has a long story. It has been rolled and rubbed by the sea for a very long time.

## Questions

**1. How does a beach pebble feel in your hand?**

_____

_____

**2. What does a wave do to the pebbles?**

_____

_____

**3. What part of a stone wears down first?**

_____

_____

**4. Does a pebble turn smooth in one day?**

_____

_____

**5. A pebble is very smooth and round. What does that tell you about it?**

_____

_____

## Words to know

pebble: a small, smooth stone
tumbles: rolls and falls over and over
rub: to press and slide against something
corners: the sharp points where edges meet

## Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

# Why Beach Pebbles Feel So Smooth

Square group

If you stroll along a rocky beach and pick up a pebble, you will notice that it feels smooth in your hand and has no sharp corners at all. A stone found at the top of a mountain is usually much rougher. What makes beach pebbles so different from other stones?

The answer is the waves. Each wave rolls up the beach and then drags back out again, lifting the pebbles and tumbling them around. The pebbles bump into one another, and they also rub against bits of sand.

Every bump wears away a tiny piece of the stone. A single bump accomplishes almost nothing, but the waves keep coming all day and all night, year after year. The sharp corners wear down first, and slowly the stone becomes round and smooth.

That is why a smooth pebble carries a long story. The sea has been rolling and rubbing it for a very long time.

## Questions

**1. How does a pebble from a rocky beach feel in your hand?**

_____

_____

**2. What do the waves do to the pebbles?**

_____

_____

**3. Which part of a stone wears down first?**

_____

_____

**4. Can a pebble turn smooth in a single day?**

_____

_____

**5. What does a very smooth, round pebble tell you about its past?**

_____

_____

## Words to know

pebble: a small, smooth stone
rub: to press and slide against something
corners: the sharp points where edges meet

## Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

# For the teacher: Why Beach Pebbles Feel So Smooth

Each student sheet carries a shape, not a level. The same topic and facts, written three ways.

### Circle: Why Beach Pebbles Feel So Smooth

Easier · 95 words · Flesch-Kincaid grade -0.1

1. Smooth, with no sharp corners.
2. They lift and tumble them.
3. The sharp corners.
4. No. It takes years.
5. Waves have rubbed it for a long time.

### Triangle: Why Beach Pebbles Feel So Smooth

This passage · 131 words · Flesch-Kincaid grade 1.9

1. Smooth, with no sharp corners.
2. It lifts them and tumbles them around.
3. The sharp corners.
4. No. It takes years and years.
5. The waves have rolled and rubbed it for a long time.

### Square: Why Beach Pebbles Feel So Smooth

Harder · 155 words · Flesch-Kincaid grade 5.3

1. Smooth, with no sharp corners.
2. They lift the pebbles and tumble them around.
3. The sharp corners.
4. No, it takes years and years of waves.
5. The sea has rolled and rubbed it for a long time.