

**Content Practice B**

**LESSON 1**

**Weathering**

**Directions:** Complete the chart by choosing terms from the word bank and writing them in the correct spaces. Then finish each sentence.

- abrasion
- acid rain
- animals
- intense temperatures
- ice wedging
- normal rain
- oxidation
- plants

Mechanical Weathering	Chemical Weathering
1. _____ cause(s) weathering because _____.	6. _____ is the process that combines _____.
2. _____ cause(s) weathering because _____.	7. _____ has a pH of about 5.6 and can cause _____.
3. _____ cause(s) weathering because _____.	8. _____ has a pH of 4.5 or less and causes _____.
4. _____ cause(s) weathering because _____.	
5. _____ cause(s) weathering because _____.	

**Directions:** Respond to each statement on the lines provided. Use complete sentences.

9. **Define** weathering.

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10. **Explain** the effects of mechanical weathering.

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11. **Explain** the effects of chemical weathering.

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**Math Skills** **LESSON 1****Use Geometry**

The area ( $A$ ) of a rectangle equals length ( $l$ ) times width ( $w$ ). This is shown by the formula  $A = l \times w$ . For a rectangular solid, the total surface area ( $SA$ ) equals the sum of the areas of all six surfaces. Area is measured in square units, such as square centimeters ( $\text{cm}^2$ ).

A rectangular block of stone has a length of **8 cm**, a width of **2 cm**, and a height of **10 cm**. What is its surface area?

Step 1 Find the areas of the six surfaces.

$$\text{top and bottom} = 8 \text{ cm} \times 2 \text{ cm} = 16 \text{ cm}^2$$

$$\text{front and back} = 10 \text{ cm} \times 8 \text{ cm} = 80 \text{ cm}^2$$

$$\text{right and left sides} = 2 \text{ cm} \times 10 \text{ cm} = 20 \text{ cm}^2$$

Step 2 Add the areas of the six surfaces.

$$\begin{array}{rcccccccc} \text{top} & + & \text{bottom} & + & \text{front} & + & \text{back} & + & \text{right side} & + & \text{left side} & = & \\ \mathbf{16} & + & \mathbf{16} & + & \mathbf{80} & + & \mathbf{80} & + & \mathbf{20} & + & \mathbf{20} & = & \mathbf{232} \end{array}$$

The stone has a surface area of **232  $\text{cm}^2$** .

**Practice**

- A rectangular block of stone has a length of 7 cm, a width of 3 cm, and a height of 10 cm. What is the surface area of the stone?
- A rectangular block of stone has a length of 9 cm, a width of 4 cm, and a height of 12 cm. What is the surface area of the stone?
- A rectangular block of stone has a length of 9 cm, a width of 3 cm, and a height of 5.5 cm. What is the surface area of the stone?
- A rectangular block of stone has a length of 10 cm, a width of 3 cm, and a height of 15 cm. What is the volume of the stone?

**Key Concept Builder** 

**LESSON 1**

**Weathering**

**Key Concept** How do mechanical processes break rocks into smaller pieces?

**Directions:** Respond to each statement in the space provided.

Mechanical Weathering	
Cause	Effect
<p><b>1. Draw</b> a picture showing ice wedging.</p>	<p><b>2. Explain</b> how ice wedging causes weathering.</p> <hr/> <hr/> <hr/> <hr/>
<p><b>3. Draw</b> a picture showing abrasion.</p>	<p><b>4. Explain</b> how abrasion causes weathering.</p> <hr/> <hr/> <hr/> <hr/>
<p><b>5. Draw</b> a picture showing how plants cause mechanical weathering.</p>	<p><b>6. Explain</b> how plants cause weathering.</p> <hr/> <hr/> <hr/> <hr/>
<p><b>7. Draw</b> a picture showing how animals cause mechanical weathering.</p>	<p><b>8. Explain</b> how animals cause weathering.</p> <hr/> <hr/> <hr/> <hr/>

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