




Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_


1 For a substance to be called a **mineral** it must meet **four** criteria. Which of the following is **not** part of the definition of a mineral?

**A** it is a solid  
**B** it has a crystal structure  
**C** it is made from organic materials  
**D** it is formed in nature




2 Sandy brings a **chunk of ice** in from the **school yard**. It is a mineral. Remember that water does form crystals when it freezes. Water crystals are better known as snow. Mrs. Jones brings in an **ice cube** from the **freezer** in the teachers' lounge. **Is Mrs. Jones' ice cube a mineral?**

**A** Yes, because it is a crystalline solid.  
**B** No, because it is organic in nature.  
**C** Yes, because it is composed of nonliving material.  
**D** No, because it was not formed in nature.



3 Minerals are most commonly classified by their chemical composition. Some of the classes or categories are **oxides, halides, carbonates, and sulfides**. The mineral corundum has a chemical composition of **Al<sub>2</sub>O<sub>3</sub>**. **To which chemical class does corundum belong?**

**A** halides  
**B** carbonates



4 Mineralogists categorize minerals into two distinct groups based on their chemical compositions: **silicates** and **nonsilicates**. **Which of the following minerals is a nonsilicate mineral?**

**A** quartz (SiO<sub>2</sub>)  
**B** orthoclase feldspar (KAlSi<sub>3</sub>O<sub>8</sub>)



5



**PREVIEW**

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6 **B** streak test  
**C** hardness test  
**D** acid test



apatite and quartz, and what number hardness is it?

**A** calcite, hardness 4  
**B** calcite, hardness 3  
**C** orthoclase feldspar, hardness 7  
**D** orthoclase feldspar, hardness 6

Mohs' Hardness Scale	
1 Talc	6 Feldspar
2 Gypsum	7 Quartz
3 Calcite	8 Topaz
4 Fluorite	9 Corundum
5 Apatite	10 Diamond


9 **How many** minerals are in the hardness scale, and what is the **hardest** mineral?

**A** 5 minerals, diamond is the hardest  
**B** 10 minerals, diamond is the hardest  
**C** 5 minerals, quartz is the hardest  
**D** 10 minerals, quartz is the hardest

Mohs' Hardness Scale	
1 Talc	6 Feldspar
2 Gypsum	7 Quartz
3 Calcite	8 Topaz
4 Fluorite	9 Corundum
5 Apatite	10 Diamond

10 When a drop of weak acid is applied to a piece of the mineral \_\_\_\_\_ this mineral will effervesce (that is "fizz"). **This test can always properly identify this mineral.**

**A** calcite  
**B** fluorite  
**C** gypsum  
**D** topaz





## ANSWER KEY

For a substance to be called a **mineral** it must meet **four** criteria. Which of the following is **not** part of the definition of a mineral?

- A it is a solid
- B it has a crystal structure
- C it is made from organic materials
- D it is formed in nature



(C)

Sandy brings a **chunk of ice** in from the **school yard**. It is a mineral. Remember that water does form crystals when it freezes. Water crystals are better known as snow. Mrs. Jones brings in an **ice cube** from the **freezer** in the teachers' lounge.

Is Mrs. Jones' ice cube a mineral?

- A Yes, because it is a crystalline solid.
- B No, because it is organic in nature.
- C Yes, because it is composed of nonliving material.
- D No, because it was not formed in nature.



(d)

Minerals are most commonly classified by their chemical composition. Some of the classes or categories are **oxides**, **halides**, **carbonates**, and **sulfides**. The mineral corundum has a chemical composition of  $Al_2O_3$ .

To which chemical class does corundum belong?

- A halides
- B carbonates
- C oxides



(C)

Mineralogists categorize minerals into two distinct groups based on their chemical compositions: **silicates** and **nonsilicates**.

Which of the following minerals is a nonsilicate mineral?

- A quartz ( $SiO_2$ )
- B orthoclase feldspar ( $KAlSi_3O_8$ )
- C muscovite mica ( $KAl_3Si_3O_{10}(OH)_2$ )



(d)



## PREVIEW

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D acid test



- A calcite, hardness 4
- B calcite, hardness 3
- C orthoclase feldspar, hardness 7
- D orthoclase feldspar, hardness 6

Mohs' Hardness Scale	
1 Talc	6 Feldspar
2 Gypsum	7 Quartz
3 Calcite	8 Topaz
4 Fluorite	9 Corundum
5 Apatite	10 Diamond

How many minerals are in the hardness scale, and what is the **hardest** mineral?

- A 5 minerals, diamond is the hardest
- B 10 minerals, diamond is the hardest
- C 5 minerals, quartz is the hardest
- D 10 minerals, quartz is the hardest

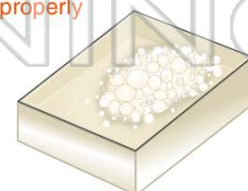
Mohs' Hardness Scale	
1 Talc	6 Feldspar
2 Gypsum	7 Quartz
3 Calcite	8 Topaz
4 Fluorite	9 Corundum
5 Apatite	10 Diamond

(b)

When a drop of weak acid is applied to a piece of the mineral \_\_\_\_\_ this mineral will effervesce (that is "fizz").

This test can always properly identify this mineral.

- A calcite
- B fluorite
- C gypsum
- D topaz



(a)