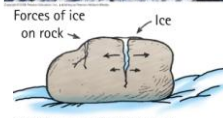


Sedimentary and Metamorphic Rocks

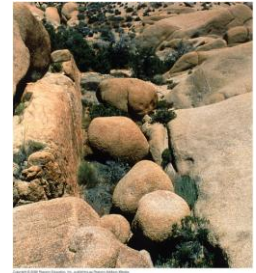
GS 106

Forming sedimentary rocks: weathering

**Physical (mechanical)
weathering**

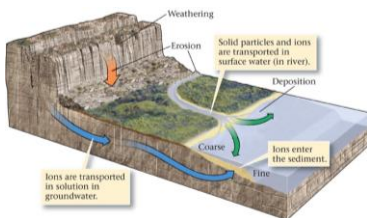


Chemical weathering

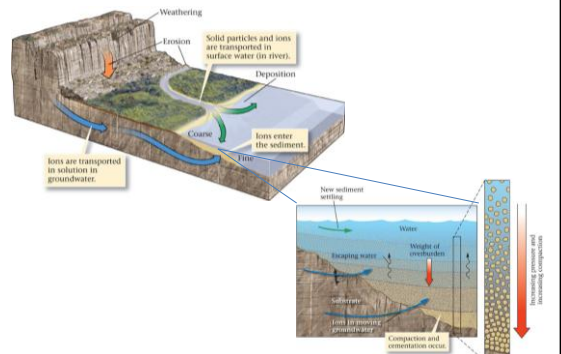


Forming sedimentary rocks: erosion

Erosion agents: wind, water, ice

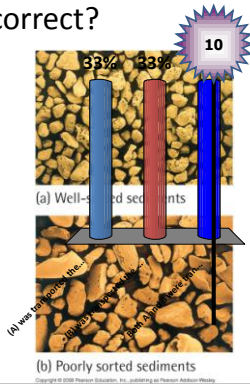


Forming sedimentary rocks: deposition

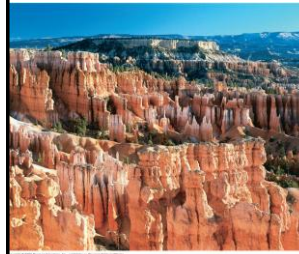


Examine the images. Which of the following is correct?

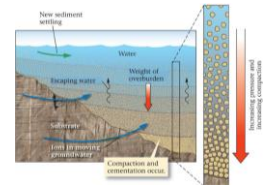
1. (A) was transported the greatest distance from its source
2. (B) was transported the greatest distance from its source
3. Both A and B were transported equal distance from their sources



Forming sedimentary rocks: lithification



Compaction and cementation



Classifying sedimentary rocks

- 1) Clastic: classified on grain size
- 2) Chemical: classified based on composition

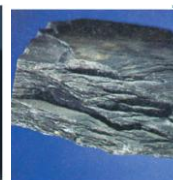
TABLE 20.3 CLASSIFICATION OF CLASTIC SEDIMENTARY ROCKS

Sediment	Particle Size	Rock
Gravel	Boulder	Conglomerate
	Cobble	
	Pebble	
	2 mm	Sandstone
Sand	0.062 mm	
Mud	Silt	Siltstone
	Clay	Mudstone Shale

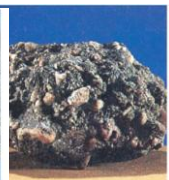
Important clastic sedimentary rocks



Sandstone



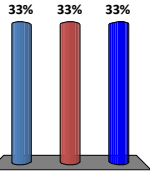
Shale



Conglomerate

What type of sedimentary rock will form in this environment?

1. Sandstone
2. Shale
3. Conglomerate

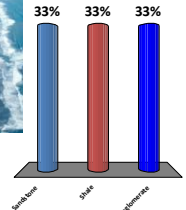


10 Seconds Remaining

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30										

What type of sedimentary rock will form in this environment?

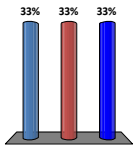
- ✓ 1. Sandstone
2. Shale
3. Conglomerate



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30										

What type of sedimentary rock will form in this environment?

1. Sandstone
- ✓ 2. Shale
3. Conglomerate



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30										

Chemical sedimentary rocks

Limestone (made of calcium carbonate)



Limestone precipitated from water

Limestone made of cemented shells



Metamorphism



Limestone
(protolith)



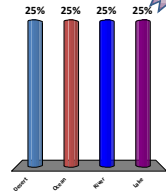
Metamorphism
(pressure,
temperature)



Marble
(metamorphic rock)

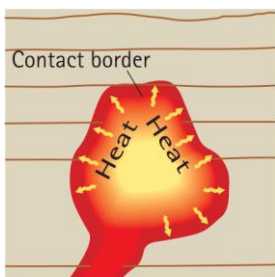
Examine the image of limestone. Limestone represents what type of environment?

1. Desert
- ★ 2. Ocean
3. River
4. Lake

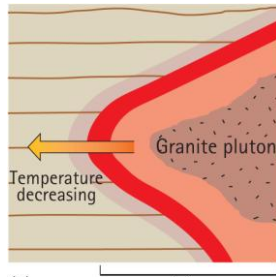


1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30										

Metamorphism: 1) contact

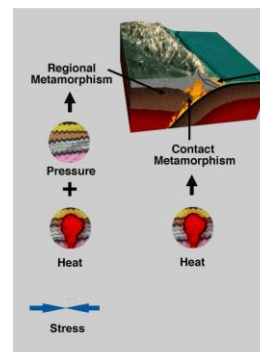


(a)



(b)

Metamorphism: regional

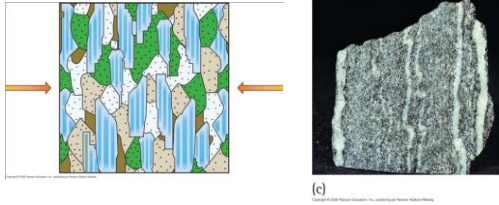


Mountain building event

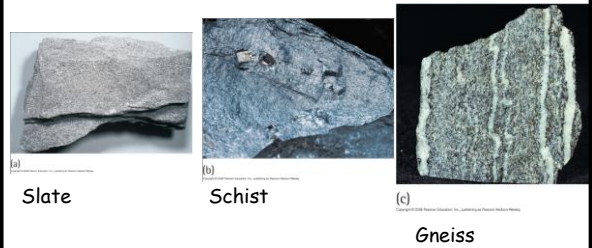


Classifying metamorphic rocks

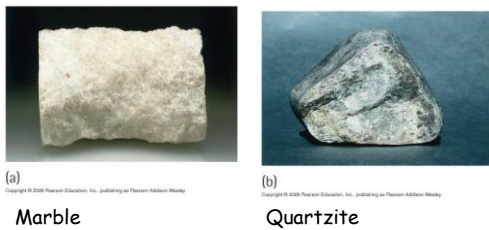
Foliated and nonfoliated



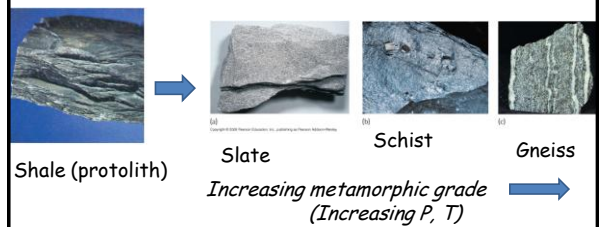
Important foliated metamorphic rocks

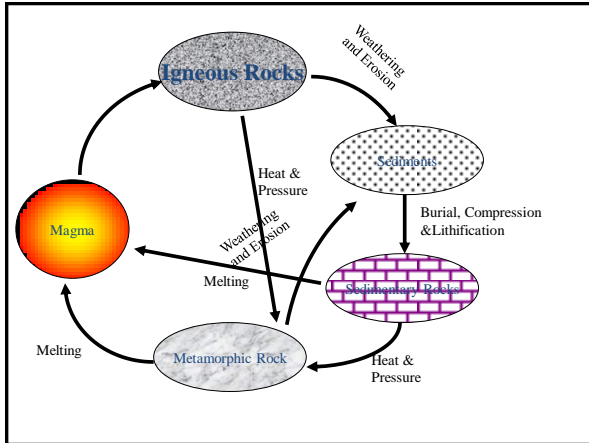


Important nonfoliated metamorphic rocks



Metamorphic grade

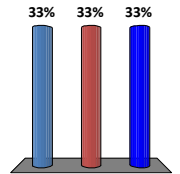




Glass is made by melting silica rich sand.

The molten glass is then cooled and shaped into forms. Glass making is an analogy for making which of the following rock types?

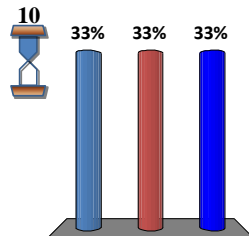
- ✓ 1. Igneous rocks
2. Sedimentary rocks
3. Metamorphic rocks



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30										

Baking a cake could be seen as an analogy for which of the following?

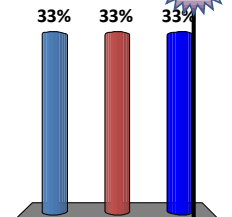
1. Igneous rocks
2. Sedimentary rocks
- 😊 3. Metamorphic rocks



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30										

Water containing dissolved sugar evaporates to leave a deposit of sugar in the bottom of a glass. This could be seen as an analog for the formation of a type of

1. Igneous rock
- ✓ 2. Sedimentary rock
3. Metamorphic rock



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30										