

Name: _____ Period: _____

Welcome to Geology Park

Purpose: Today you are going to begin your geologist journey by being introduced to rocks and minerals. You will be using the computers to deepen your geologist understanding of rocks and minerals.

Phenomenon: As you are hiking in Snow Canyon State Park, you notice these two types of rock, see image below. What do you think happened here? What do you observe?



Part I: Computer Activity - Go to <https://nearpod.com/> and answer the following questions. Your class code is written on the board.

1. What are the two things the Earth's crust is made of?
.
.
2. What makes rocks and minerals different?
3. What is a mineral?
4. What is a rock?
5. What are the building blocks for rocks? (Main Concept)
6. What are the four main properties of a mineral?
.
.
.
.
7. What are the two main ways minerals (mineral crystals) can form?
8. What is extrusive cooling of lava? What are the crystal sizes?
9. What is intrusive cooling of magma? What are the crystal sizes?
10. Why do we get different crystal sizes?
11. How do we get minerals from evaporation? Give an example.
12. What are the six ways to identify minerals? Describe what each one means.

13. What are rocks made of? (Main Concept 2)

14. What is the example of continental crust?

15. What is the example of oceanic crust?

16. How do geologists classify rocks?

17. What are the three major groups of rocks?

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. .
. .

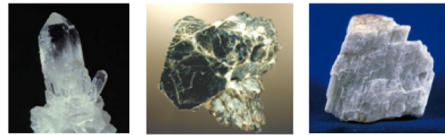
18. How do we get Igneous rocks?

19. Fill in the blanks on the igneous rock recipe on the image below:

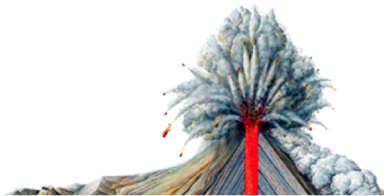
Igneous Rock Recipe

1. Take some _____,
water vapor & CO₂ – Mix well

Place in oven (2,000 C) Add
_____ Energy & Melt



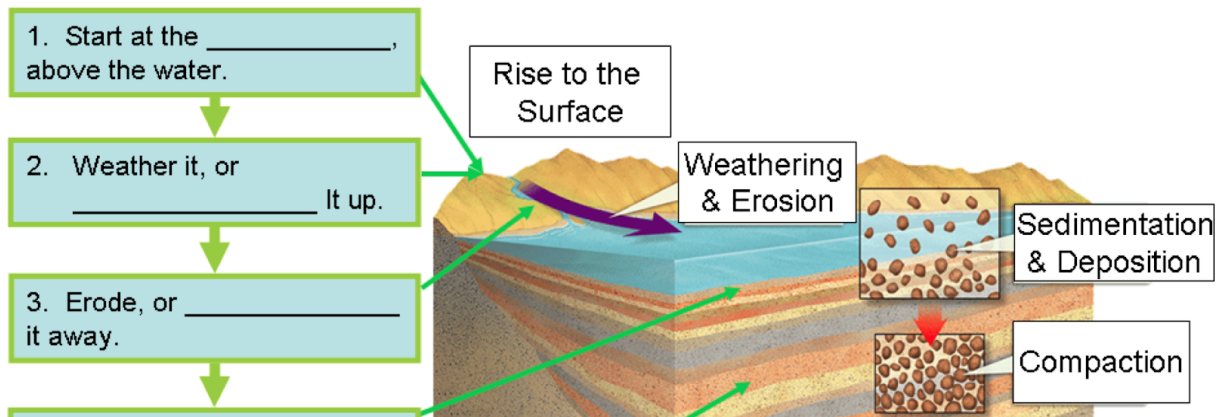
Quartz + Biotite + Feldspar



20. What are intrusive Igneous rocks, and what size crystal would you expect to see?

21. What are extrusive Igneous rocks, and what size crystal would you expect to see?
22. If Granite and Rhyolite are made of the same materials, why are they different?
23. What are sedimentary rocks made out of?
24. Fill in the blanks on the sedimentary rock recipe below:

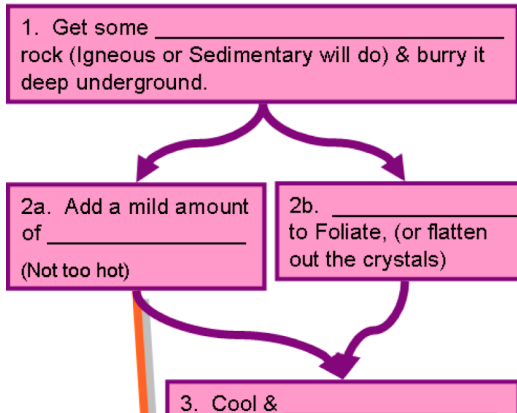
Sedimentary Rock Recipe



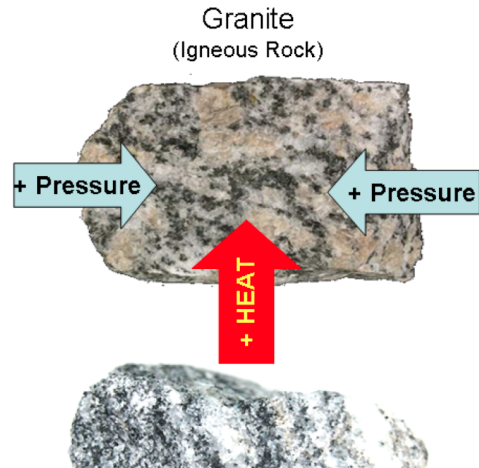
25. What are the four ways to identify a sedimentary rock?
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 .
 .
 .
26. Explain what metamorphic rocks are:

27. Fill in the blanks on the metamorphic rock recipe below:

Metamorphic Rock Recipe



In this example, Granit is morphed into Gneiss because of Heat & Pressure.



28. What is Foliation?

29. How do heat and pressure make foliation?

30. What are three examples of metamorphic rocks?

- .
- .
- .

Part II: Additional Website Visits - On Nearpod there additional links. Complete each link and answer the following questions.

Link 1: How Do Igneous Rocks Form

31. Describe the four types of igneous rocks shown in the images.

- .
- .
- .
- .

32. Define the following terms:
- Coarse-grained Igneous Rocks
 - Fine-grained Igneous Rocks
 - Porphyritic Texture:

33. Identify the texture of each of these igneous rocks as coarse-grained, fine-grained, or Porphyritic.

Sample 1	
Sample 2	
Sample 3	
Sample 4	
Sample 5	
Sample 6	

34. Relate the resulting texture to its cooling rate for the following:

Pyroclastic Flow	
Lava Flow	
Magma	

35. Identify the cooling rate (fast, slow, or two-staged) and cooling environment (magma chamber, eruption from volcano, or deep cooling followed by eruption) of the rock in each image

Sample 1	
Sample 2	
Sample 3	
Sample 4	
Sample 5	
Sample 6	

Link II: Metamorphic Rock Formation

36. Describe what you observe and what is happening in the animation of metamorphic rocks forming.

Link III: Clastic Sedimentary Rock Formation

37. Describe what you observe and what is happening in the animation of clastic sedimentary rocks forming.

Link IV: Interactives Rock Cycle - Answer the following questions by going through this interactive.

38. Fill out the table below with the key characteristics that can help you identify the rocks within the three main types (classes) sedimentary, metamorphic, and igneous.

39. What is your score on transform the rock? /18

40. What is your score on the rock cycle diagram? /5

41. What is your score on the final chapter assessment? /15

Phenomenon Revisited: Using the knowledge you have gained in this activity; Describe the two different types of rock you see in the image of Snow Canyon State Park on page 1. Describe how each of these rocks are formed. Describe what you think happened here.