

## Mars for Earthlings

**LESSON 11: Age & Times of Mars vs. Earth*****In-Class Activity 1****A Timescale Comparison***Mars vs. Earth Time**

Compare the geologic timescales of Earth vs. Mars and answer the following questions.

1. What differences do you observe in the timescales?
  
2. What do you think is responsible for those differences?

**The Noachian**

View the following YouTube video about the Noachian period of Mars (an artist's rendition/animation of the period): <http://www.youtube.com/watch?v=JfYIvkTQ2pc>

1. What do you notice about the early period of Mars?
  
2. How similar/dissimilar is it from Earth?



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### ***Geologic Map of Earth***

View a geologic Map of the state of Utah.

[http://geology.utah.gov/maps/geomap/postcards/pdf/utgeo\\_postcd.pdf](http://geology.utah.gov/maps/geomap/postcards/pdf/utgeo_postcd.pdf)

Note: this map is simplified

1. What is the scale of the map?

How many degrees of latitude and longitude does the map cover?

2. Roughly how many colors are used on the map and what do they represent?

3. How old is the oldest terrain in Utah? (give “age name” and years)

In your opinion why is there so little of this terrain?

### **Geologic Map of Mars**

View a geologic Map of Mars:

[http://www.lpi.usra.edu/resources/mars\\_maps/1083/index.html](http://www.lpi.usra.edu/resources/mars_maps/1083/index.html)

1. What is the scale of the map (ratio)?

How many degrees of latitude and longitude does the map cover?

2. What does the color scale indicate on the map and how does this differ from the Utah map?

3. How old is the oldest terrain according to the map? (give “age name”)

If this is hard to discern, why is this?



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4. Now look at the latest map of Mars (click on map sheet) at:

<http://pubs.usgs.gov/sim/3292/>

Name 3 ways in which it is different from the earlier map of Mars that you looked at? (hint look at the abstract)

- a.
- b.
- c.

### Why the difference?

1. Consider the difference between Mars and Earth. Why was mainly only a geologic map of Utah (and then N. America) provided to you?

What is the potential difficulty in providing you a geologic map of the entire Earth?

2. Notice how the shapes and geometries of colored units on Mars vs. colored units on Earth. Cite 3 ways in which the mapped geologic features of Mars are distinctive or different from Earth (comment on the implication of the processes that are different):
  - a.
  - b.
  - c.

