**Geologic Change Assignment**

1. The stream behind the school is gradually wearing away its bed.
   1. Does it wear away exactly the same amount every day? Explain.
   2. During which season of the year will the rate be the greatest? Explain.
   3. Describe a method which you could use to measure the rate of wear.
2. How long will it take to wear away 0.1 mm of rock if it is eroding at a rate of 0.0001 mm per year?
3. How fast are the Coast Mountains rising if their average altitude has increase 1.5 m in 10 000 years?
4. If the Atlantic Ocean is widening by 1.2 cm/year, how much wider has it become in your lifetime?
5. Unit conversions: Convert each unit as requested. Some of these calculations require more than one step.
   1. 15 km = \_\_\_\_\_\_\_\_\_\_\_ m
   2. 15 km = \_\_\_\_\_\_\_\_\_\_\_ cm
   3. 3.0 m = \_\_\_\_\_\_\_\_\_\_\_\_ cm
   4. 2.5 m = \_\_\_\_\_\_\_\_\_\_mm
   5. 1.2 m/year = \_\_\_\_\_\_\_\_\_\_ cm/year
   6. 2.5 m/100 years = \_\_\_\_\_\_\_\_\_\_\_\_ cm/year
   7. 28 cm/year = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ cm/day
   8. 65 cm/3 years = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ mm/day
6. The Grand Canyon in Arizona is 1.6 km deep. The rock at the bottom is 1500 million years old, while at the top it is 250 million years old.
   1. How many years did it take to form these layers of rock?
   2. What was the average rate of rock formation in mm/year?
   3. Does the principle of uniformitarianism tell us that exactly this amount of rock was formed each year? Explain your answer.