**NAME \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Activity 1.1: Historical comparisons of elevated blood lead levels (eBLLs)**

The purpose of this activity is to understand differences in exposure risk over time in certain locations. This table shows the approximate mean blood lead levels (BLL) of 2-year-old children in several different places at different times in history.

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Location** | **Mean BLL** | **Source** |
| 3500 BCE | All 2 year old children | .016 µg/dL | Adapted from  Riva, M.A., A. Lafranconi, M.I. D’orso, and G. Cesana. 2011. Lead Poisoning: Historical Aspects of a Paradigmatic “Occupational and Environmental Disease.” Safety and Health at Work; 3(1): 11-16. http://dx.doi.org/10.5491/SHAW.2012.3.1.11 |
| 1970 | Mean for 2 year old children in USA | 15 µg/dL | <http://www.cdc.gov/>  Blood Lead Levels – United States, 1988-1991. August 05, 1994 / 43(30); 545-548. http://www.cdc.gov/mmwr/preview/mmwrhtml/00032080.htm |
| 1970 | Boston, MA | 20 µg/dL | Extrapolated from national average CDC data |
| 2010 | Boston, MA | 3 µg/dL | Extrapolated from national average CDC data |
| 2010 | Mean for 2 year old children in USA | 1.5 µg/dL | <http://www.cdc.gov/>  Blood Lead Levels in Children Aged 1-5 Years – United States, 1999-2010. April 05, 2013 / 62(13); 245-248. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6213a3.htm |

Referring to this table, answer the following questions:

1. Characterize the difference in mean BLL between children living in the geographic area now referred to as the US in 6000BP, 1970 and 2010. What might explain observed differences?
2. Characterize the difference in mean BLL between children living in Boston, MA, in 1970 and 2010. What do you think might explain this difference?
3. Given the mean BLL in 2010 in Boston, MA, predict the mean BLL for Phoenix, AZ, and explain why you made this prediction.
4. If you are interested in identifying populations at high risk of lead poisoning, brainstorm what additional information you might want to gather about these observations and patterns.