

Cosmic Radiation: Living in Different Cities

Cosmic rays originate outside the Earth’s atmosphere and are composed of highly penetrating radiation of all sorts, both particles and rays. At sea level, the average annual exposure from cosmic rays is 26 millirem. The following table shows the effect of elevation on cosmic ray exposures.

**Effect of Elevation, in meters, on Cosmic Radiation Exposures (millirem/yr)
(exposures reflect 10% reduction for shielding from buildings/structures)**

0 (sea level)	26	1,200	39
150	27	1,800	52
300	28	2,400	74
600	31	3,000	107

Directions: Using the data in the table above, calculate the cosmic ray exposure where you live and the exposure from cosmic rays for the cities listed below. (Check an atlas for the elevation above sea level of your area.)

Place	Elevation (meters)	Exposures from cosmic rays millirem/yr by living in different cities
Your home town	<i>(will vary)</i>	<i>(will vary)</i> millirem
Atlanta, GA	320	<i>(28)</i> millirem
Minneapolis, MN	250	<i>(28)</i> millirem
Salt Lake City, UT	1,340	<i>(42)</i> millirem
Spokane, WA	580	<i>(31)</i> millirem