Factor	Dose Rate
Lives in Denver, Colorado	0.90 milliSv/yr
Air travel	5 microSv/hr
Live in a brick/stone house	0.70 milliSv/yr
Watch TV	10 microSv/yr
One CT scan	7 milliSv/scan
Radon gas in basement	1.50 milliSv/yr
Eating one banana	0.1 microSv
Your body	1.5 microSv/day
Smoke 1 pack a day	10 milliSv/day
Lives in Boston, Mass.	0.20 milliSv/yr
Astronaut on Space Station	1.2 milliSv/day

The amount of radiation you receive each year depends on where you live and your lifestyle. Do you live near the coast or in the mountains? Do you travel by jet a lot? Do you have frequent medical diagnostic tests? All of these factors will add together to change your annual radiation dose.

The chart to the left gives a few common contributors to your dose. These include both geographic and lifestyle factors. The units include both dose and dosage rates as appropriate to the factor.

Problem 1 - In 2011, Anders Olssen lived in Denver, Colorado for 6 months then moved to Boston, Massachusetts for the remainder of the year. He was a non-smoker, who lived in a quaint stone house on Beacon Hill. He telecommuted 8 hours a day from his basement office, and enjoyed a banana for lunch every day. What is the total radiation dose for this individual in an average year, in units of milliSeiverts?

Problem 2 - Create a more complicated history for Anders by including a stint on the International Space Station, or including possible medical diagnostic procedures!

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Problem 1 - In 2011, Anders Olssen lived in Denver, Colorado for 6 months then moved to Boston, Massachusetts for the remainder of the year. He was a non-smoker, who lived in a quaint stone house on Beacon Hill. He telecommuted 8 hours a day from is basement office, and enjoyed a banana for lunch every day. What is the total radiation dose for this individual in an average year, in units of Seiverts?

Answer: Denver for 6 months = 0.90 milliSv/yr x 0.5 yr = 0.45 milliSeiverts.
Boston for 6 months = 0.20 milliSV/yr x 0.5 years = 0.1 milliSeiverts
Stone house living = 0.70 milliSv/yr x 1 year = 0.70 milliSeiverts
8 hr/day exposure to Radon gas: 1.50 milliSV/yr x 1/3 = 0.50 milliSeiverts
1 banana a day = 0.1 microSv/banana x 365 banana = 36.5 microSeiverts

We also have to add the radiation from his own body!
= 1.5 microSV/day x 365 days = 0.55 milliSeiverts

The total is 0.45 + 0.1 + 0.7 + 0.5 + 0.036 + 0.55 = **2.3 milliSeiverts for a full year**.

Note: typical values on the surface of Earth are between 2.0 and 4.0 milliSeiverts/year, however some inhabited locations on Earth have total rates as high as 7.0 milliSeiverts/year because communities are built on uranium-rich sands, soils and granite deposits.

Problem 2 - Remember that when the astronaut is on the space station, you do not include his exposure to ground-level sources such as radon gas, or living in a different geographic location, during the in-space portion of his life!