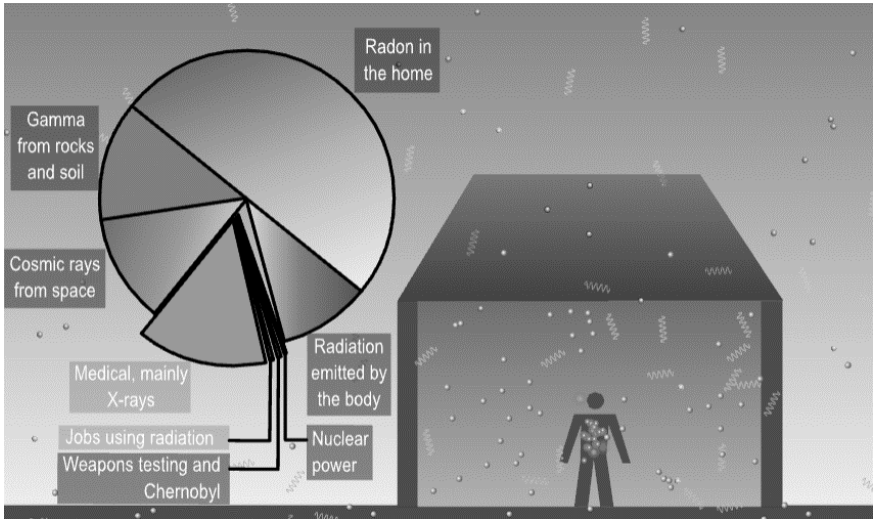
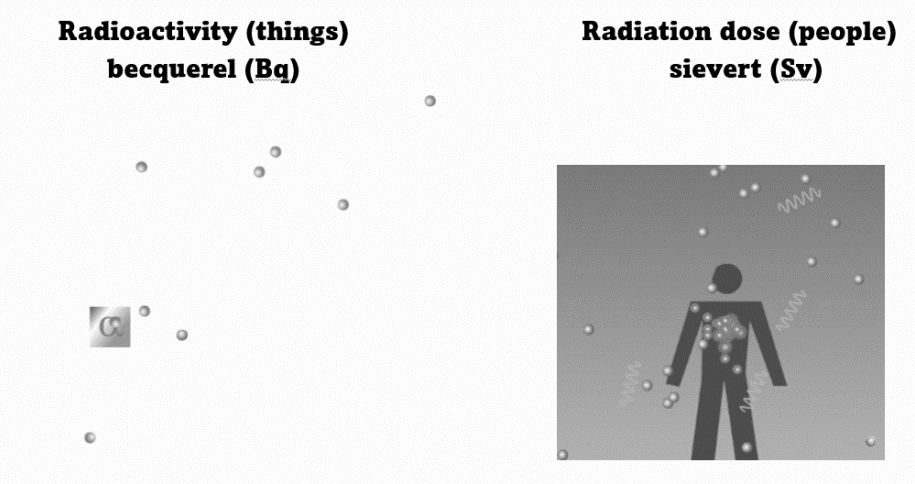
4.1 Sources of background radiation

- We receive a small continuous dose of background ionising radiation due to
    - Alpha radiation from breathing in naturally occurring radon gas
    - Gamma radiation from natural radioactive isotopes in rocks and soil
    - Beta and gamma (mostly) from radioactive isotopes that naturally make up our bodies
    - Cosmic rays
- Medical procedures like X-rays and cancer treatment are averaged across the population
- Nuclear power, nuclear weapons testing, and nuclear waste contribute a tiny amount to background dose



4.2 The becquerel and the sievert

- Radioactivity is a measure of how much radiation a radioactive substance gives off
- Radioactivity is measured in becquerels (Bq). 1 Bq is one count per second
- Radiation dose is a measure of the potential harm being exposed to radiation may cause
- Radiation dose is measured in sieverts (Sv). It depends on the quantity and type of radiation



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4.3 Compensating for background count in readings

- Background count changes with location and time
- You should subtract the background count from an experimental count rate if it will make a difference

Count rate (Bq)	Adjusted rate (Bq)
3.5	3.0
3.2	2.7
2.8	2.3

Count rate reduced by a background count of 0.5 Bq

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