

Radiation and Radioactivity

Radiation, Radioactivity and Radioactive Materials

- Lightbulb = Has the ability to emit light

Lumen (lm) or Watt (W)

▶ Unit of light bulb brightness



Light



Lux (lx)

▶ Unit of brightness

- **Radioactive materials** = Have the ability to emit radiation (**radioactivity**)



Radiation



Becquerel (Bq)

▶ Unit of radioactivity

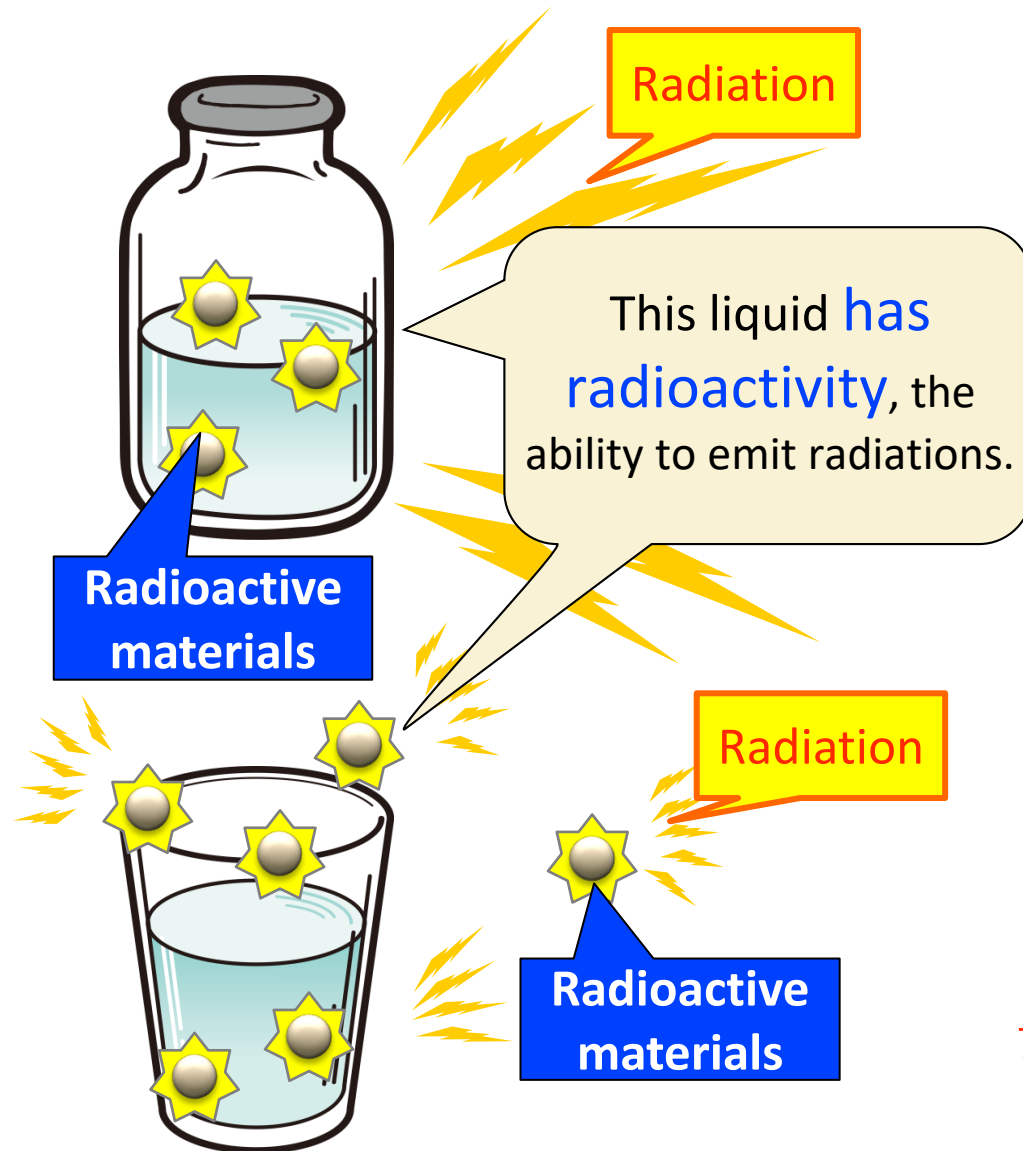
Conversion factor

Sievert (Sv)

▶ Unit of radiation exposure dose that a person receives

*Sievert is associated with radiation effects.

Difference between Radiation and Radioactive Materials

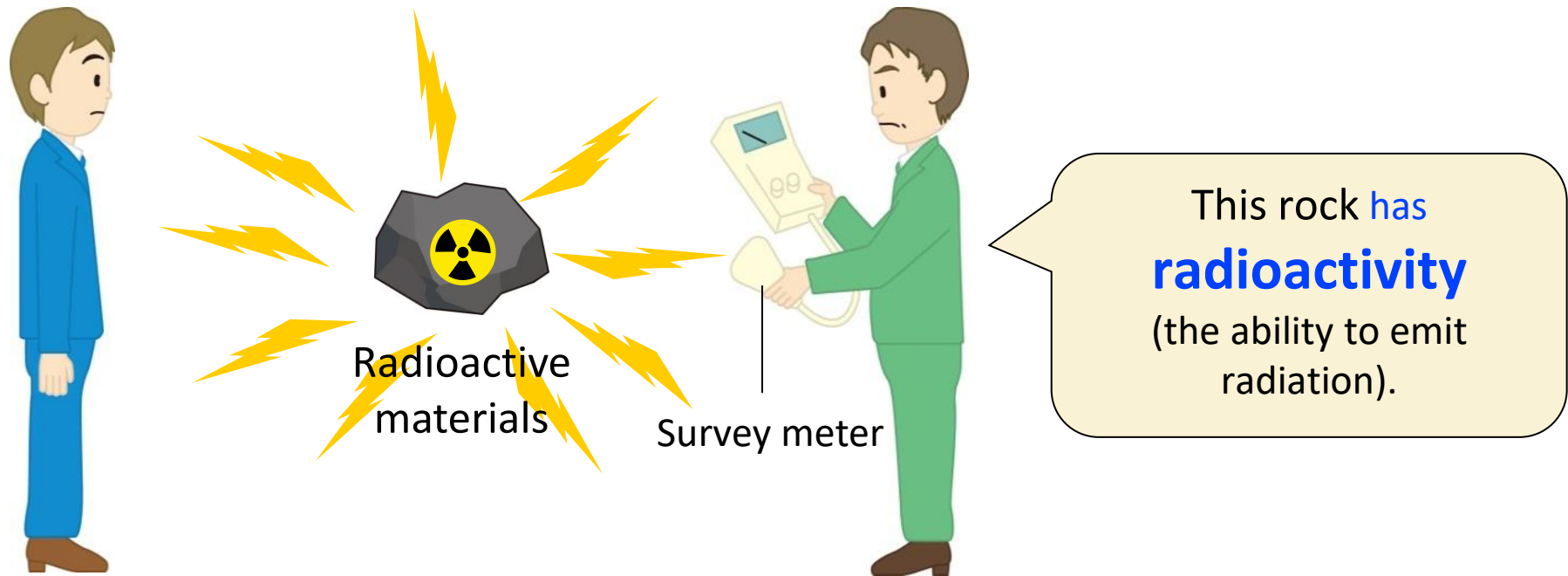


Radioactive materials themselves emit radiation.

If radionuclides are incorporated into the body, they will be partly removed outside the body (excreted) or be transferred to particular organs/tissues.

Radiation itself does not remain in the body.

Units of Radiation and Radioactivity



Becquerel (Bq)

Unit for intensity of radiation:
one nucleus decays (disintegrates) per
second = 1 becquerel

Sievert (Sv)

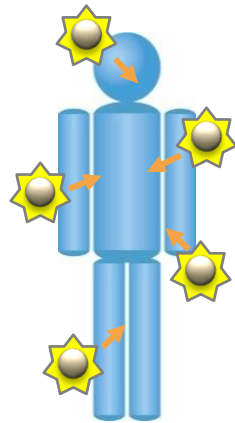
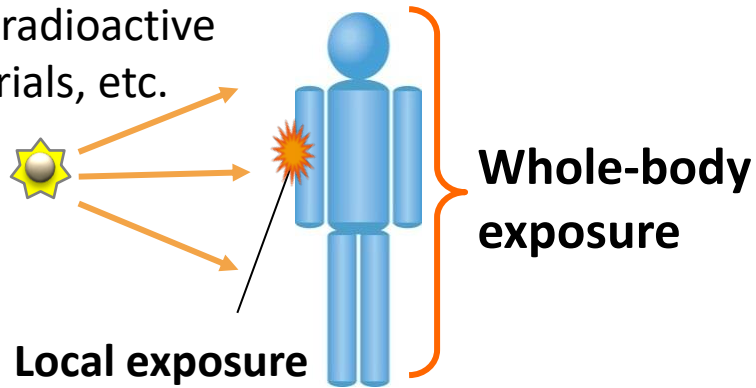
Unit of radiation exposure dose which a
person receives:
associated with radiation effects

Types of Exposure

External exposure

Exposure due to radiation outside the body

Radiation sources such as radioactive materials, etc.



Body surface contamination

Internal exposure

Exposure from inside the body

