

Uses of Nuclear Radiation *(Physics only)*

Monitors *e.g. thickness gauges & smoke detectors*

Why do the sources used in monitors need a **long** half-life?

Draw / annotate an example

space for drawing

Explain

Key words to use ☐ long half-life ☐ constant count-rate ☐ count-rate decreases ☐ radiation absorbed

Tracers *e.g. medical tracers*

Why do the sources used as tracers need a **short** half-life?

Draw / annotate an example

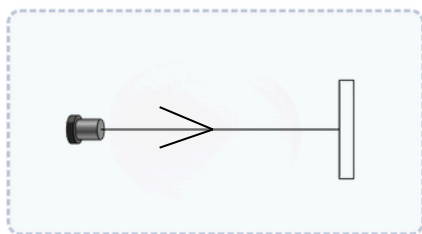
space for drawing

Explain

Key words to use ☐ short half-life ☐ count-rate reduces to zero ☐ limits harmful exposure to humans

Three real uses *stick your diagram in each box, then explain how it works*

Smoke alarm

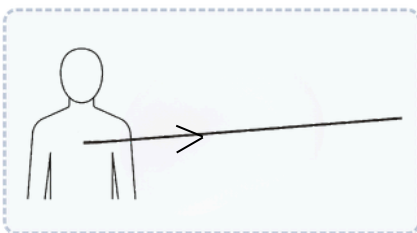


radiation _____

half-life _____

how does it work?

Technetium-99m in medicine

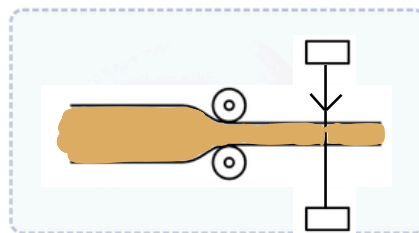


radiation _____

half-life _____

how does it work?

Paper thickness monitor



radiation _____

half-life _____

how does it work?