

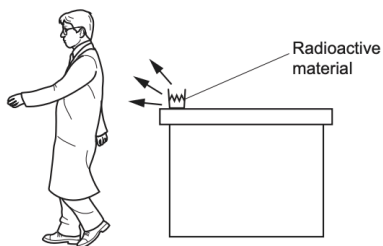
Uses and Hazards

Q1.a(2023)

A scientist is working with a radioactive material.
The radioactive material emits **beta** radiation.

(a) Fig. 16.1 shows the scientist walking very close to the radioactive material.

Fig. 16.1



Describe the effect of the radioactive material on the scientist as they walk past.

Tick (✓) **one** box.

They have been irradiated only.

☐

They have been contaminated only.

☐

They have been irradiated and contaminated.

☐

They have **not** been irradiated or contaminated.

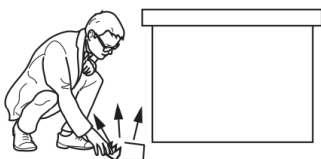
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[1]

Q1.b(2023)

In Fig. 16.2, the scientist knocks the radioactive material onto the floor.
They pick up the radioactive material with their bare hands.

Fig. 16.2



Describe the effect of the radioactive material on the scientist as they pick it up.

Tick (✓) **one** box.

They have been irradiated only.

☐

They have been contaminated only.

☐

They have been irradiated and contaminated.

☐

They have **not** been irradiated or contaminated.

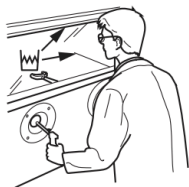
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Q1.c(2023)

Fig. 16.3 shows the scientist standing behind a lead screen and a lead-glass window. They use a robotic arm to handle the radioactive material.

Fig. 16.3



Describe the effect of the radioactive material on the scientist when they are behind the lead screen.

Tick (✓) **one** box.

They have been irradiated only.

☐

They have been contaminated only.

☐

They have been irradiated and contaminated.

☐

They have **not** been irradiated or contaminated.

☐

[1]