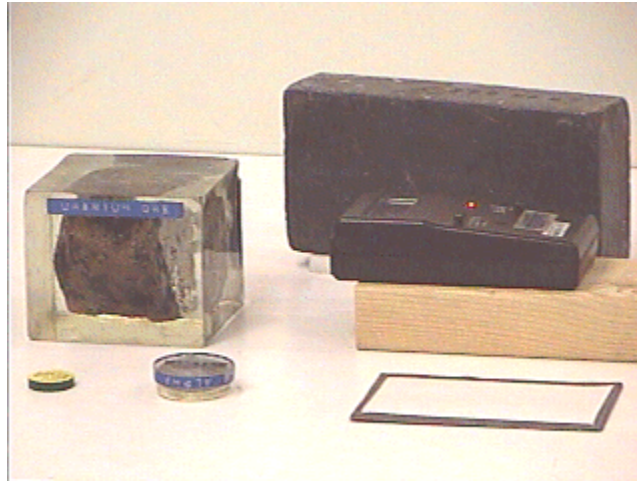


## Question #144

Alpha particles, beta particles, and gamma-rays originate in nuclei and can be detected using a simple hand-held counter like the one shown in the photograph at the left below. The sources shown in the photograph are a  $^{241}\text{Am}$  alpha particle source (second from left in front), a  $^{90}\text{Sr}$  beta particle source (left front with yellow label), and a natural uranium source (primarily  $^{238}\text{U}$ ) for gamma-rays. The uranium ore is encased in plastic.



If something is placed between the radioactive source and the detector, the particles might be stopped. The photograph also shows three possible "stoppers" of nuclear radiation: a lead brick, a thin sheet of lead, and a piece of paper (on the lead sheet).

The question this week is which "stopper" will work for each of the sources:

- (a) alpha.
- (b) beta.
- (c) gamma.

Click here for [Answer #144](#) after March 24, 2003.

---

[Question of the Week](#)

[Outreach Index Page](#)

[Lecture-Demonstration Home Page](#)



For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).