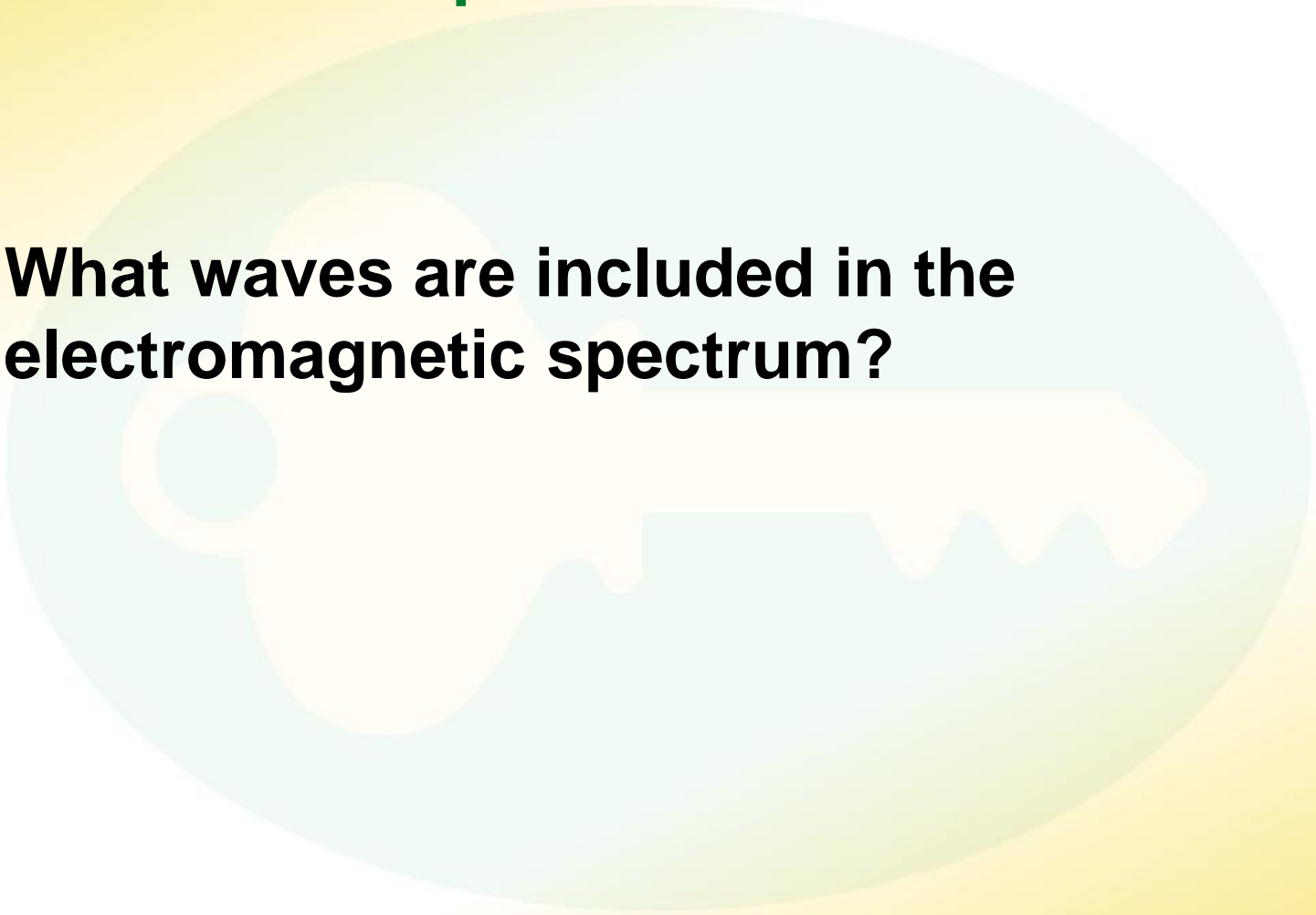


The Waves of the Spectrum



What waves are included in the electromagnetic spectrum?



The Waves of the Spectrum

The full range of frequencies of electromagnetic radiation is-

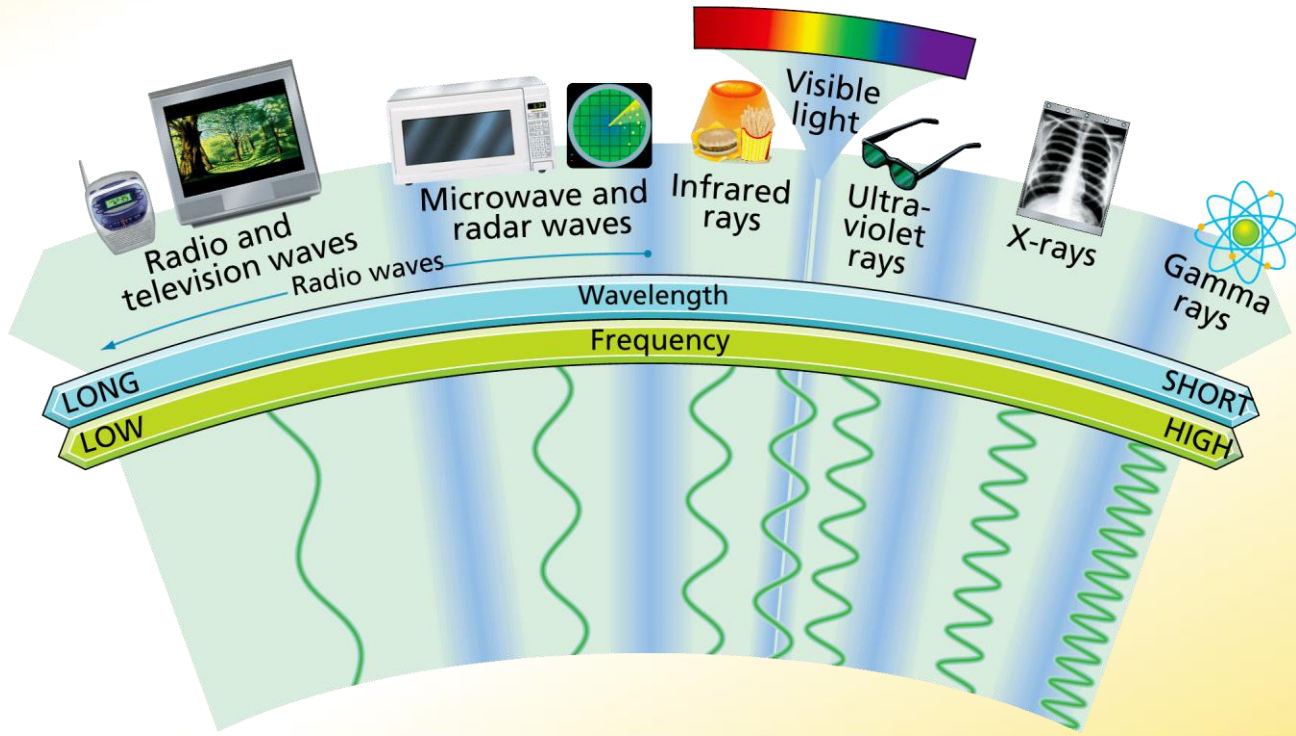
- Each kind of wave is –

- **DOK Question**

Compare each with your prior knowledge.

The Waves of the Spectrum

The electromagnetic spectrum consists of-



Radio Waves



How are radio waves used?



Radio Waves

There are two ways that signals are encoded for radio.

- In **amplitude modulation-**
- In **frequency modulation-**

DOK Question

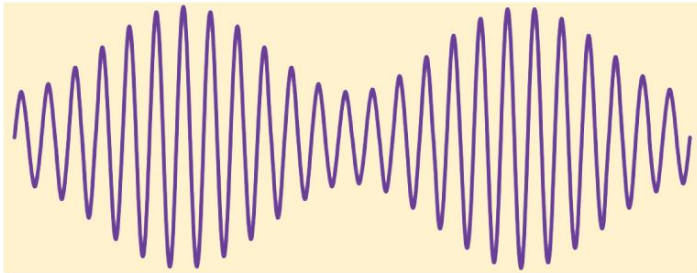
Compare the two for importance.

Radio Waves

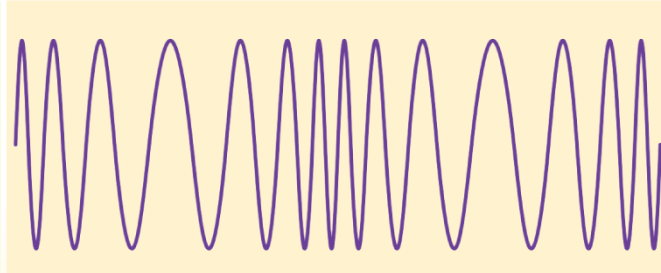
- A. AM waves-
- B. FM waves-



A Amplitude modulation



B Frequency modulation



Radio Waves

Television

Radio waves -

Radio Waves

Microwaves

The shortest-wavelength radio waves are –

- Microwaves -

Radio Waves

Radar

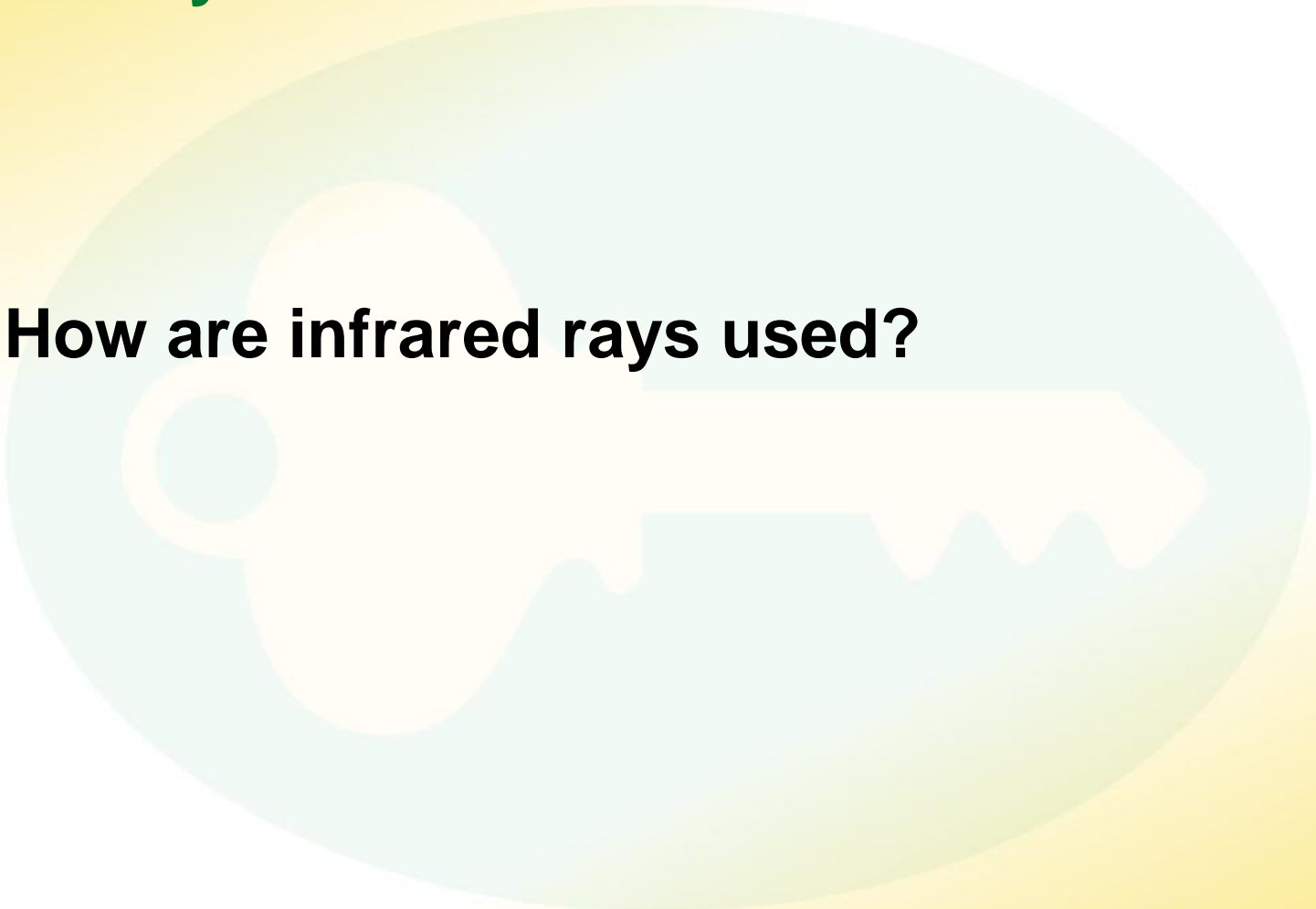
The word *radar* is-

- The waves reflect-
- The returning waves are-

Infrared Rays



How are infrared rays used?



Infrared Rays

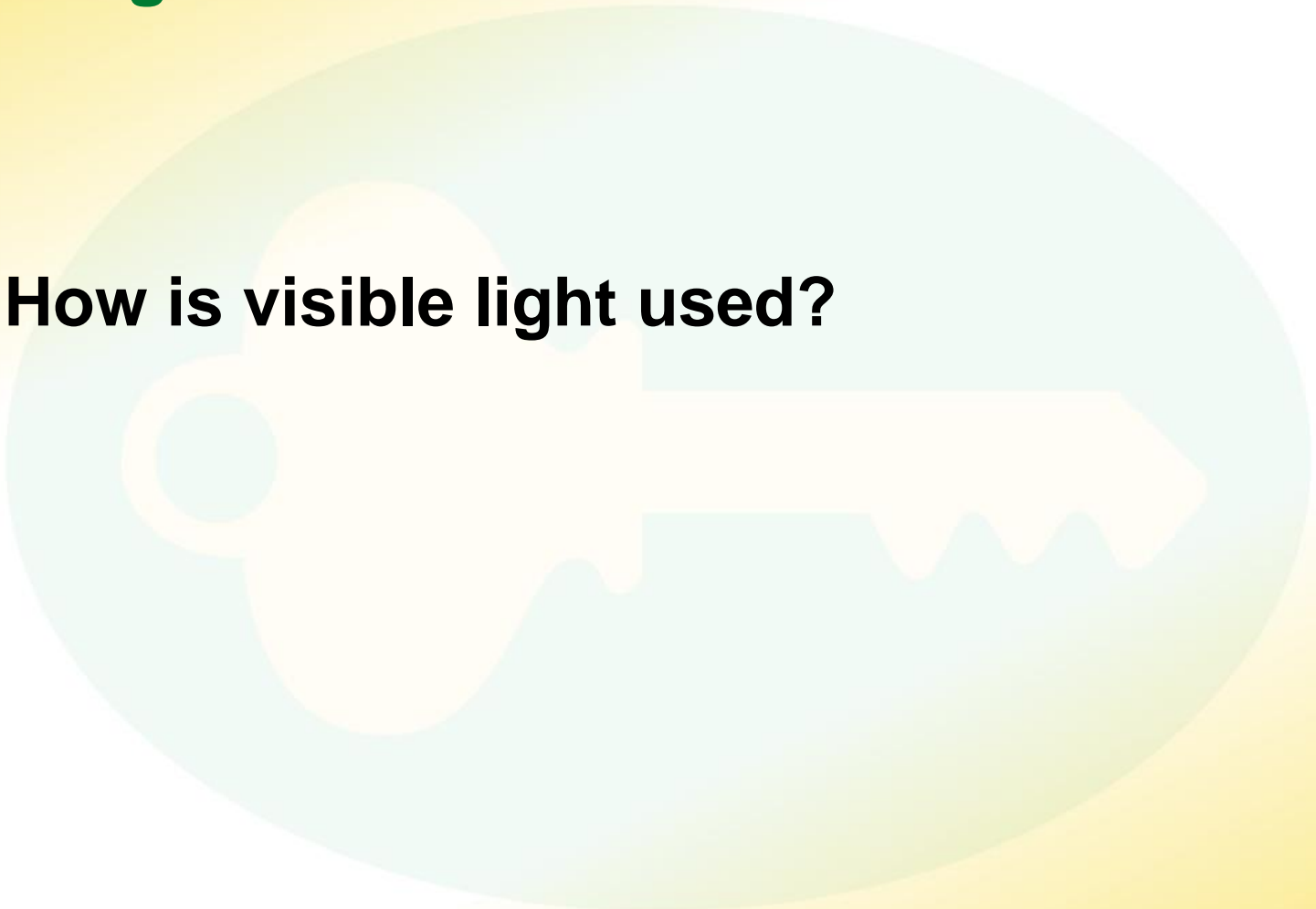
Warmer objects-

A device called-

Visible Light



How is visible light used?



Visible Light

The visible part-

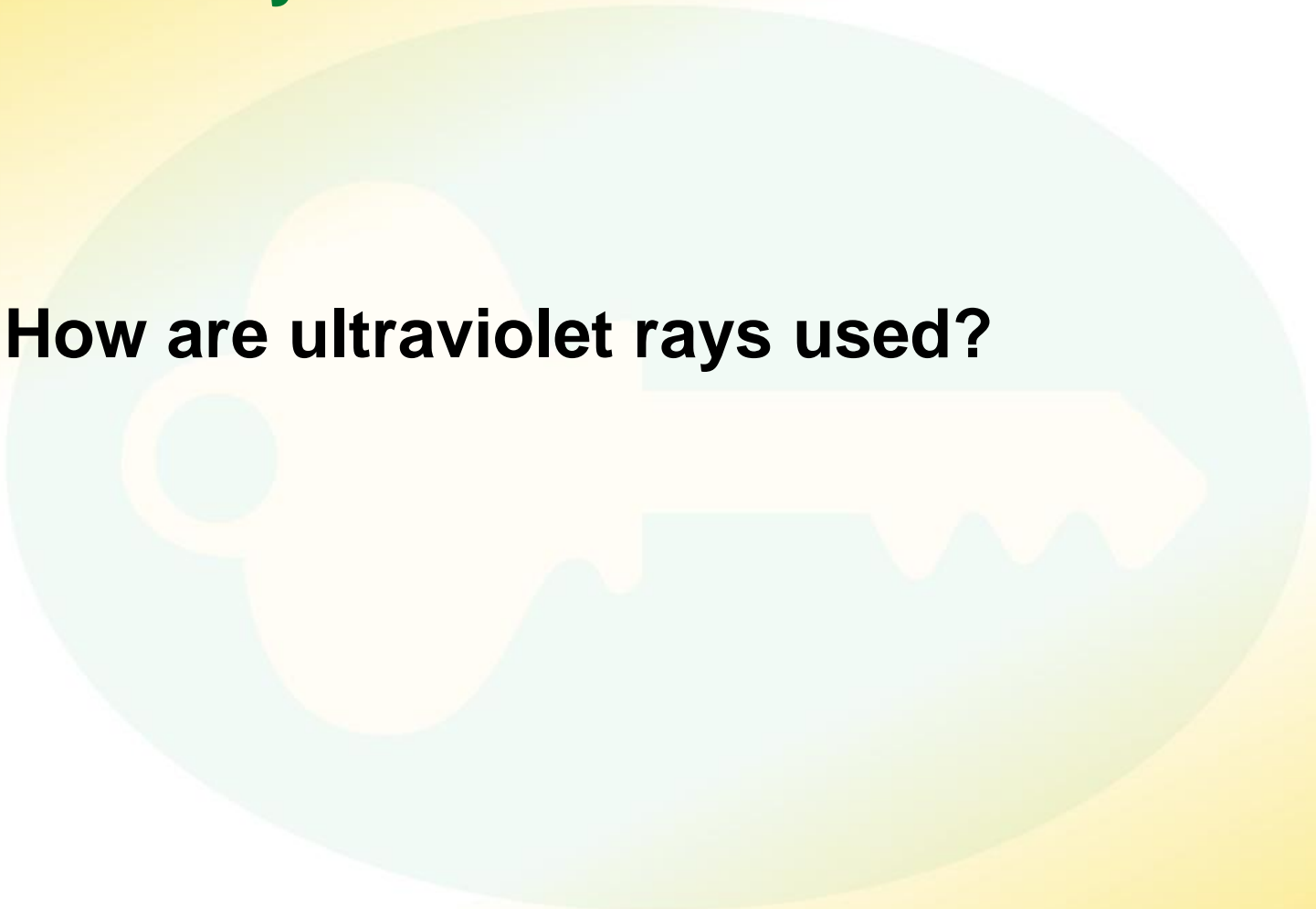
DOK Question

Hypothesize everyday use.

Ultraviolet Rays



How are ultraviolet rays used?



X-Rays



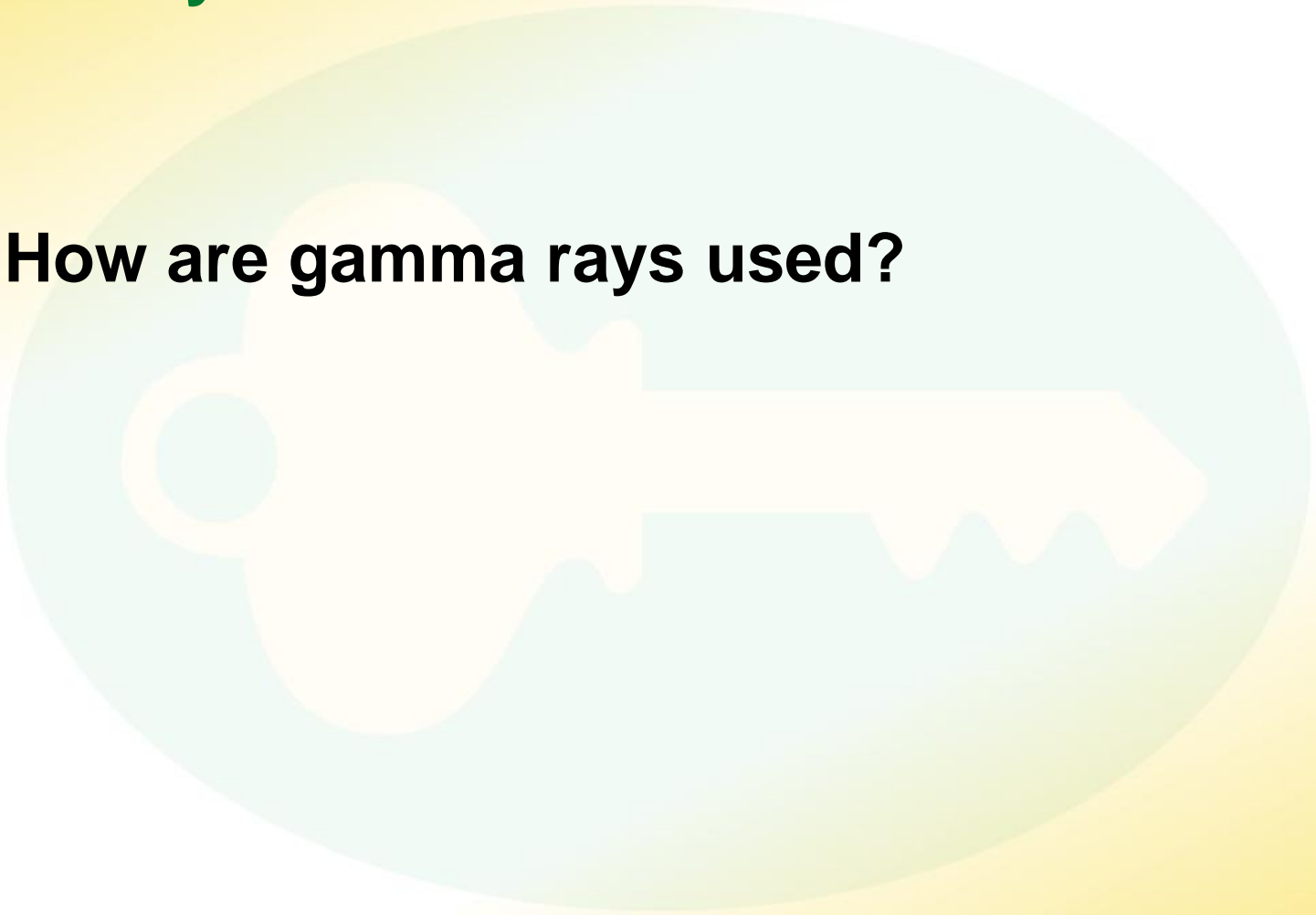
How are X-rays used?



Gamma Rays



How are gamma rays used?



Assessment Questions

1. Which waves have the longest wavelength?
 - a. radio waves
 - b. infrared rays
 - c. visible light
 - d. ultraviolet rays

Assessment Questions

2. What type of electromagnetic radiation is used to keep prepared foods warm in a serving area?
- a. ultraviolet rays
 - b. infrared rays
 - c. X-rays
 - d. gamma rays