Radiation Quiz PDF

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What is the primary difference between ionizing and non-ionizing radiation?

- ◯ Ionizing radiation can remove tightly bound electrons from atoms, non-ionizing cannot.
- ◯ Ionizing radiation is visible, non-ionizing is not.
- ◯ Non-ionizing radiation is harmful, ionizing is not.
- ◯ Non-ionizing radiation is used in nuclear power, ionizing is not.

What are the principles of radiation protection? (Select all that apply)

- ☐ Time
- ☐ Frequency
- ☐ Distance
- ☐ Shieldin

Which of the following are types of ionizing radiation? (Select all that apply)

- ☐ Alpha particles
- ☐ Beta particles
- ☐ Gamma rays
- ☐ Microwaves

Which regulatory body is responsible for nuclear safety in the United States?

- ◯ World Health Organization (WHO)
- ◯ Environmental Protection Agency (EPA)
- ◯ Nuclear Regulatory Commission (NRC)
- ◯ International Atomic Energy Agency (IAEA)

What are the effects of long-term exposure to radiation? (Select all that apply)

- ☐ Increased risk of cancer
- ☐ Genetic mutations

- [ ] Enhanced immune system
- [ ] Tissue damage

Which principle is NOT part of radiation protection?

- ◯ Time
- ◯ Distance
- ◯ Frequency
- ◯ Shieldin

What device is commonly used to measure radiation exposure?

- ◯ Thermometer
- ◯ Barometer
- ◯ Geiger-Müller counter
- ◯ Spectrometer

Which of the following is NOT a unit of radiation measurement?

- ◯ Gray (Gy)
- ◯ Sievert (Sv)
- ◯ Joule (J)
- ◯ Roentgen (R)

What type of radiation is used in cancer treatment?

- ◯ Alpha particles
- ◯ Gamma rays
- ◯ Radio waves
- ◯ Infrared

Which of the following is a natural source of radiation?

- ◯ X-rays
- ◯ Radon gas
- ◯ Nuclear power plants
- ◯ Microwaves

Which unit is used to measure the biological effect of radiation?

- ◯ Gray (Gy)
- ◯ Roentgen (R)
- ◯ Sievert (Sv)
- ◯ Curie (Ci)

Which of the following are considered non-ionizing radiation? (Select all that apply)

- ☐ Radio waves
- ☐ X-rays
- ☐ Ultraviolet light
- ☐ Infrared

Explain the difference between acute and chronic effects of radiation exposure.

Describe how the principles of time, distance, and shielding help in radiation protection.

What are some safety measures implemented in nuclear power plants to protect against radiation exposure?

Discuss the role of the International Atomic Energy Agency (IAEA) in regulating radiation safety globally.

How does ionizing radiation cause damage at the cellular level?

What are the potential benefits and risks of using radiation in medical applications?

Which applications commonly use radiation? (Select all that apply)

- [ ] Diagnostic imaging

- [ ] Sterilization
- [ ] Food preservation
- [ ] Textile manufacturing

Which devices are used to measure radiation? (Select all that apply)

- [ ] Geiger-Müller counter
- [ ] Dosimeter
- [ ] Thermometer
- [ ] Scintillation detector