



ANS NUCLEAR MERIT BADGE: Radiation Health and Safety Worksheet

Name: _____

1. The two main types of electromagnetic radiation are _____ and _____.
2. All of the following are types of radiation EXCEPT:
 - a. Electromagnetic
 - b. Kryptonite
 - c. X-rays
 - d. Non-ionizing (i.e. Radio Waves, Visible light, etc.)
3. _____ is caused when an electron is added to or removed from an atom.
4. X-rays were first discovered by _____.
5. Radioactivity is the tendency of an element to give off _____.
6. Two charged particles that are emitted by a radioactive element are _____ particles and _____ particles .
7. Cloud Chambers track the path of _____.
8. Which statement about radioactive decay is FALSE?
 - a. During decay, the atom will actually change from one element to another.
 - b. Radioactivity can be measured in either curies or becquerels.
 - c. Double-life determines how long it takes an element to decay .
 - d. In alpha decay an element 'loses' 2 protons and 2 neutrons.
9. Draw the international symbol for radiation:



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10. List two examples of the effects of Acute Radiation:
- a.
 - b.
11. Radiation can be used in which of the following? (more than one answer may be circled)
- a. Medicine
 - b. Agriculture
 - c. Industry
 - d. Security
 - e. Space
12. Which of the following is NOT a radiation detector?
- a. Film Packet
 - b. Ionization Chamber
 - c. Geiger-Müller (GM) Detector
 - d. Translucent Ray Gun
13. To reduce the amount of radiation you receive from a source you should _____ the distance between you and the source, use shielding, and _____ the time you are exposed to the source as much as you can.
14. List one common item that emits radiation: _____
15. _____ is an acronym for "As Low As Reasonably Achievable".