

Physical Science Study Guide – Radioactivity

Can you:

- Define radioactivity?
- Explain who and how radioactivity was discovered?
- Outline the dangers of radiation?
- Outline the uses of radiation?
- Define radioactive decay?
- Describe three types of radioactive decay?
- Explain how radioactive decay changes one element to another?
- Explain what makes an isotope unstable?
- Explain how the atomic number and/or atomic mass change in each type of radioactive decay?
- Explain what type of material can shield against alpha, beta, and gamma radiation?
- Define half-life?
- Explain how the length of a half-life relates to the stability of an isotope?
- Define radioactive dating?
- Explain how carbon-14 dating can be used to date the remains of living things?
- Outline what happens during nuclear fission?
- Describe a nuclear chain reaction?
- Explain how nuclear fission can be used to produce energy?
- Describe how and where nuclear fusion occurs?
- Outline the pros and cons of using nuclear fusion to produce energy?