Radioactivity Physical Science

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1. What is radioactivity?
2. What do radioactive atoms change into after decaying is complete?
3. Why does radioactive decay occur? What does the nucleus want?
4. What two types of end product can occur after radioactive decay?
5. What is half-life?
6. What is released during radioactive decay?
7. What two types of radiation are in the form of particles?
8. What type of radiation is in the form of waves?
9. What is alpha ray decay?
   1. What is Beta ray decay?
   2. What is gamma ray decay?
10. What are alpha particles?
    1. How are alpha particles harmful to humans?
    2. What are released during spontaneous alpha decay?
11. What are beta particles?
    1. How are beta particles harmful to humans?
    2. What are released during beta decay?
12. What are gamma rays?
    1. How are gammas rays harmful to humans?
    2. What is unique about gamma rays?
13. What does radiation do to living cells?
    1. What happens at high doses?
    2. What happens at medium doses?
    3. What happens at low doses?
14. How are radioactive tracers used in medicine?
15. What is radiation therapy?
16. How is radiation used in industry to check the thickness of metal?
    1. How are radioactive isotopes used in industrial applications for water?
    2. How are radioactive isotopes used in people’s homes?
17. What is used to generate nuclear power?
18. How are radioactive isotopes used with rocks?
19. What is fission?
20. What is fusion?
21. Nuclear power can come from the fission of what?
22. What are 5 major issues of generating electricity from nuclear power plants?
23. How does a fusion reaction occur?
24. What is a better definition of half-life?
25. What does thallium-208 decay into? Over what period of time?
26. How many isotopes of carbon occur naturally?
    1. What do the isotopes have in common?
    2. How are they different?
    3. Which one is radioactive?
27. What is carbon dating?
28. What must happen to be able to use carbon dating?
29. What is the half-life of carbon 14? How much would be left of 100g of carbon 14 after 11,460 years?
30. How many years would it take to reach a 5th half-life of strontium?
31. What is another method of dating rocks and fossils?
    1. What is the half-life of U-235?
    2. What is the half-life of U-238?
32. What is a geiger counter? How does a Geiger counter work?