

Answer Questions 17-27 on the back of this sheet

Name:

Class:

Date

## Thinking Critically

17. **Comparing and Contrasting** List the three kinds of particles that make up atoms, and compare their masses and their locations in an atom.
18. **Applying Concepts** Below is a square taken from the periodic table. Identify the type of information given by each labeled item.

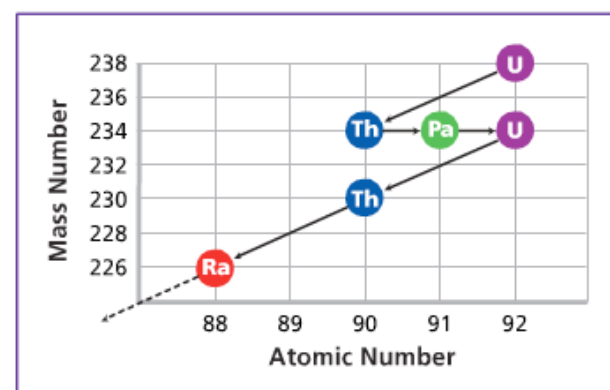
A	28
B	Ni
C	Nickel
D	58.71

19. **Relating Cause and Effect** The atomic mass of iron is 55.847 amu. Why isn't this value a whole number?
20. **Predicting** Using the periodic table, predict which element—potassium, iron, or aluminum—is most reactive. Explain.
21. **Inferring** What property of the materials used in computer chips makes them useful as switches that turn electricity on and off?

## Applying Skills

Use the diagram to answer Questions 22–27.

The diagram below shows the first few steps of the radioactive decay of uranium-238.



22. **Reading Graphs** What do the numbers on the x-axis and y-axis tell you about atomic particles in the nuclei of the isotopes?
23. **Interpreting Data** How many elements are in the diagram? How many different isotopes of each element are there?
24. **Classifying** What type of radioactive decay resulted in uranium-238 becoming thorium-234? How do you know?
25. **Interpreting Diagrams** Describe how thorium-234 is changed into uranium-234.
26. **Inferring** How do you know from the diagram that thorium-230 is radioactive?
27. **Posing Questions** What information would you need to have in order to extend the graph to show how radon-226 changes?