Chapter 21 Preview Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Directions: Write “correct” in the blank following the statement if the statement is true. If the statement is false, cross out the italicized word(s) and write the word(s) in the blank to make the statement true. Also, preceding the statement, write in the page number(s) where this information is found in the text.

**Page**

\_\_\_\_\_1. The protons and neutrons of a nucleus are called the *nucleons*. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_2. The lost mass that has been converted into energy in the formation of a nucleus is called the mass *defect*. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_3. The energy released during the formation of a nucleus is called the *band of stability*. \_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_4. An atom is radioactive if the electrostatic forces in the nucleus are *less* than the nuclear force. \_\_\_\_\_\_

\_\_\_\_\_5. A *transmutation* is a nuclear reaction, whereby one element changes into another. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_6. A nucleus may break down to form a more stable, lighter nucleus in radioactive *charging*. \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_7. The particles and rays given off when a nucleus breaks down is nuclear *radiation*. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_8. A beta particle is *a proton* emitted during radioactive decay. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_9. The time it takes for 1/2 of a radioactive sample to decay is called that samples *exposure-day*.\_\_\_\_\_\_

\_\_\_\_\_10. The heaviest nuclide of each decay series is called the *daughter* nuclide. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_11. The majority of *trans-helium* elements were produced artificially. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_12. *Ionizing* radiation is harmful to living tissue. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_13. Determining the age of a radioactive sample is called radioactive *dating*. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_14. Radioactive *tracers* can be injected into the body to help diagnose disease. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_15. A major concern with nuclear power is the storage and containment of the *fuel*. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_16. During nuclear *fusion*, nuclei are split, giving off tremendous amounts of energy. \_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_17. In nuclear fission, the products of a reaction can help to cause another reaction. This continuous process is called a *leap-frog* reaction. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_18. A critical mass is needed to produce enough *protons* to sustain a chain reaction.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_19. Control rods are used to slow reactions by absorbing *electrons*. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_20. On the sun, *fission* causes lighter nuclei to form heavier more stable nuclei. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_