Directed Reading pg. 211-214 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Section: Geologic Time

1. Where can we find evidence of changes in conditions on Earth’s surface?

2. What do scientists use to describe the sequence and length of changes in Earth’s crust?

3. What is the purpose of the geologic time scale?

THE GEOLOGIC COLUMN

4. What two things did 19th century scientists do to determine the relative ages of sedimentary rock all over the world?

5. Why did scientists combine their observations of rocks all over the world?

6. The ordered arrangement of rock layers is called\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. In a geologic column, the oldest rocks are located at the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the column. 8. What two things distinguish a rock layer in a geologic column?

9. How do the fossils in the upper layers of a geologic column differ from those in the lower, older layers?

10. When the first geologic columns were developed, what factors did scientists use to estimate the ages of rock layers?

11. What method has enabled scientists to determine the ages of rock layers more accurately?

12. Suppose a scientist wants to determine the age of a rock layer with a geologic column. With what does the scientist compare the rock layer?

13. Suppose a layer of rock matches a layer on the geologic column. What does this tell a scientist?

DIVISIONS OF GEOLOGIC TIME

14. What three indicators do geologists use to divide the geologic time scale into smaller units?

15. How are rocks grouped within each unit of geologic time similar?

16. What does the abbreviation Ma stand for?

17. When did Precambrian time begin?

18. What species were common during the Cambrian Period?

19. What happened to the atmosphere during the Ordovician Period?

20. When did the Silurian Period begin?

21. During which period did the age of fishes begin?

22. In what era was the Carboniferous Period?

23. In North America, into what two periods is the Carboniferous Period divided?

24. What was the dominant life-form of the Jurassic Period?

25. What marked the end of the Mesozoic Era?

27. In which epoch did the age of mammals begin?

28. When did the Eocene Epoch begin?

29. In what epoch did large carnivores appear?

30. In what period was the Pleistocene Epoch?

31. In what epoch did complex human societies develop?

32. The largest unit of geologic time is called a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

33. Name the four eons into which geologic time is divided.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

34. The Hadean eon, the Archean eon, and the Proterozoic eon make up an

interval called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

35. Why is it difficult to divide Precambrian time into smaller time units?

36. What kinds of fossils are found in rocks from the Paleozoic Era?

37. What kinds of fossils are found in rocks from the Mesozoic Era?

38. When did the present geologic era begin?

39. What kinds of fossils are common in Cenozoic rocks?

40. How do geologic periods get their names?

41. Why can scientists not always divide a period into epochs?