Name_____ Class _____ Date _____

Skills Worksheet

Directed Reading

Section: Continental Drift

1. Who obtained new information about the continents and their coastlines 400 years ago?

_____

2. What did people notice when they studied new world maps 400 years ago?

_____

_____

WEGENER'S HYPOTHESIS

_____ 3. The German scientist Alfred Wegener proposed a hypothesis now called
   a. paleomagnetism.
   b. continental drift.
   c. floating continents.
   d. sea-floor spreading.

_____ 4. Wegener hypothesized that the continents formed part of a single land mass, or
   a. mid-ocean ridge.
   b. monocontinent.
   c. supercontinent.
   d. world land.

_____ 5. When did Wegener think that small continents began forming?
   a. more than 25 million years ago
   b. more than 2.5 billion years ago
   c. less than 250 million years ago
   d. less than 2.5 million years ago

_____ 6. Wegener speculated that over millions of years these small continents
   a. moved closer together.
   b. did not move.
   c. drifted to the southern hemisphere.
   d. drifted to their present locations.

_____ 7. What did Wegener hypothesize about mountain ranges such as the Andes?
   a. that the crumpling of the crust in places produced them
   b. that volcanic eruptions created them
   c. that they always existed
   d. that the pressure of the oceans produced them

8. Why was Wegener interested in finding fossils of the same plants and animals on two different continents?

9. Where were the fossils from the extinct land reptile called *Mesosaurus* found?

10. Why did Wegener believe that the fossils found in South America and western Africa proved that South America and Africa had once been joined?

11. How did the ages and types of rocks found in some coastal areas of Africa and South America support Wegener's hypothesis?

12. How did the locations of mountain chains support Wegener's hypothesis?

13. Give an example of a mountain chain that seems to continue from one continent to other continents across the ocean.

14. What do layers of debris from ancient glaciers in southern Africa and South America indicate to geologists?

_____

_____

15. What evidence shows that tropical or subtropical swamps used to cover areas that now have colder climates?

_____

16. How did Wegener account for differences in climate between the past and today?

_____

_____

17. According to Wegener, how did the continents move?

_____

18. Why did scientists disagree with Wegener's hypothesis of how the continents moved?

_____

19. Why was Wegener's hypothesis not proven in his lifetime?

_____

MID-OCEAN RIDGES

_____ 20. Undersea mountain ranges with steep, narrow valleys in the center are called
   a. black smokers.
   b. the Mid-Atlantic Ridge.
   c. mid-ocean ridges.
   d. sea floor ridges.

_____ 21. Compared to sediment found farther from a ridge, sea-floor sediment closer to a ridge is
   a. thicker.
   b. thinner.
   c. older.
   d. larger.

_____ 22. Compared to rocks farther from a ridge, rocks closer to a ridge are
a. larger.
b. smaller.
c. older.
d. younger.

_____ 23. The oldest ocean rocks are
a. 3.8 billion years old.
b. more than 200 million years old.
c. more than 175 million years old.
d. older than rocks on land.

SEA-FLOOR SPREADING

In the space provided, write the letter of the definition that best matches the term or phrase.

_____ 24. magma

_____ 25. paleomagnetism

_____ 26. rift

_____ 27. sea-floor spreading

a. the mechanism that causes the continents to move
b. molten rock
c. a crack in Earth's crust
d. the study of the magnetic properties of rocks

28. Describe the process of sea-floor spreading.

_____

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_____

PALEOMAGNETISM

29. In what way is Earth like a giant magnet?

_____

30. How does a compass determine direction?

_____

_____

_____

31. Explain how solidified magma comes to be magnetic.

_____

_____

_____

32. Why do scientists think that Earth's magnetic field has not always pointed north?

_____

_____

33. Rocks with magnetic fields that point north have _____.

34. Rocks with magnetic fields that point south have _____.

35. What pattern did scientists discover when they placed rocks into chronological periods of normal and reverse polarity?

_____

36. The pattern of normal and reverse polarity in rocks enabled scientists to create the _____.

37. Describe the puzzling magnetic patterns scientists found on the ocean floor.

_____

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_____

38. On a map of the ocean floor, what do the magnetic patterns show?

_____

_____

39. What did scientists think happened to cause the magnetic patterns they found?

_____

_____

_____

40. What did scientists do in order to assign ages to sea-floor rocks?

41. Where were the youngest rocks on the sea floor?

42. Where were the older rocks on the sea floor?

43. Where does new rock form on the sea floor?

44. What do sea-floor rock patterns indicate about how rock forms?

45. What supports Hess's theory of sea-floor spreading?

WEGENER REDEEMED

_____ 46. Scientists have found evidence of reversal patterns in
- a. rocks only on the ocean floor.
- b. rocks only on land.
- c. rocks on the ocean floor and on land.
- d. rocks from the moon.

_____ 47. Continents move over Earth's surface
- a. by plowing through the sea floor.
- b. on ice sheets on the sea floor.
- c. by rolling on Earth's molten core.
- d. by the widening sea floor, which acts as a conveyor belt.

_____ 48. The mechanism that verifies Wegener's hypothesis of continental drift is
- a. geomagnetic reversal.
- b. magnetic symmetry.
- c. sea-floor contracting.
- d. sea-floor spreading.