

NAME _____

DATE _____

MODULE #1 STUDY GUIDE

A Brief History of Science

A. Introduction

1a. Define science -

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B. The First Inklings of Science - Ancient Times to 600 B.C.

1b. Define papyrus -

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3. Who was Imhotep?

4. Although the ancient Egyptians had incredibly advanced medical practices for their time, we do not consider them scientists. What not?

C. True Science Begins to Merge – 600 B.C. to 500 A.D

1c. Define spontaneous generation -

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5. Who were Thales, Anaximander, and Anaximenes?

6. Leucippus and his student, Democritus, are remembered for what idea?

D. Three Other Notable Greek Scientists

7. Who championed the idea of spontaneous generation and is responsible for it being believed for so long?

8. Who came up with the first classification scheme for living creatures?

9. What is the main difference between the geocentric system and the heliocentric system?

Which is correct?

E. The Progress of Science Stalls for a While – 500 A.D. – 1000 A.D.

10. What was the main goal of the alchemists?

11. What don't we consider the alchemists to be scientists?

F. Science Begins to Pick Up Steam – 1000 A.D. to 1500 A.D.

12. What was the main reason that science progressed near the end of the Dark Ages?

13. Who is considered to be the first modern scientist and why does he deserve that honor?

G. The Renaissance: The "Golden Age" of Science – 1500 to 1660 A.D.

14. Two great works were published in 1543. Who were the authors and what were the subjects?

a.

b.

15. Although Galileo collected an enormous amount of data in support of the heliocentric system, he was forced to publicly reject it. Why?

16. Galileo built an instrument based on descriptions he had heard of a military device. This allowed him to collect a lot more data about the heavens. What did he build?

H. The Era of Newton – 1660 A.D. to 1735 A.D.

17. Who was Sir Isaac Newton?

Name at least three of his accomplishments.

- a.
- b.
- c.

I. the “Enlightenment” and the Industrial Revolution – 1735 A.D. to 1820

18. A major change in scientific approach took place during the Enlightenment. What was good about the change and what was bad about it?

19. What was Lavoisier’s greatest contribution to science?

20. What is John Dalton remembered for?

J. The Rest of the Nineteenth Century – 1820 A.D. to 1900 A.D.

21. What is Charles Darwin remembered for?

22. What does “immutability of species” mean, and who showed that this notion is wrong?

23. What is Gregor Mendel remembered for?

24. James Clerk Maxwell is known as the founder of modern

25. What law did James Joule demonstrate to be true?

K. Modern Science – 1900 A.D. to the Present

26. What is the fundamental assumption behind quantum mechanics? Who first proposed it?

27. What is Niels Bohr remembered for?

28. Einstein was one of the founders of the quantum mechanical revolution. He also is famous for two other ideas. What are they?

a.

b.

2. There were three lessons from the history of science that was specifically mentioned in the text. What are they? (*look for text in bold print!*)

a. (page 9)

b. (page 14)

c. (page 15)