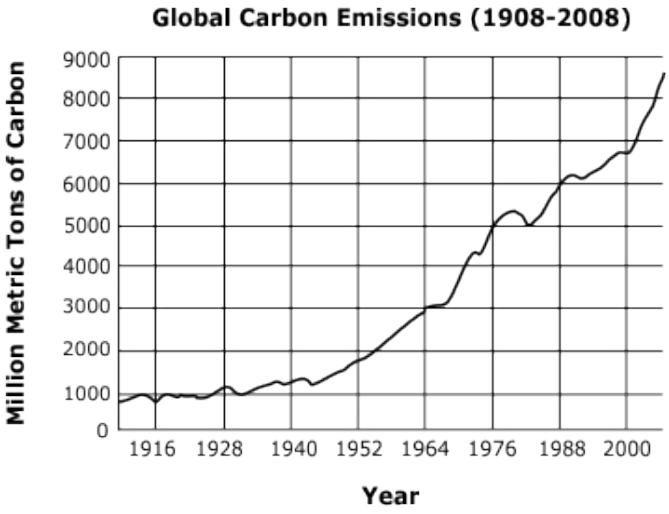
TEST NAME: **Unit 1**
TEST ID: **3263143**
GRADE: **09 - Ninth Grade - 12 - Twelfth Grade**
SUBJECT: **Industrial/Technology Education**
TEST CATEGORY: **School Assessment**

Student: _____

Class: _____

Date: _____

1. Using the information below, determine which year ranges showed the largest increase in carbon emissions.



A. 1916–1928

B. 1928–1940

C. 1940–1952

D. 1952–1964

2. A company surveyed college students to determine their needs and wants for a new portable computer accessory. Once the data was gathered, the company began designing the accessory to specifications determined by the data. This is an example of:

A. research and development.

B. consumer marketing.

C. strategic design.

D. design and development.

3. When a new technology is introduced, it immediately begins to undergo scrutiny and changes. This leads to:

   A. a poor economy.

   B. innovation.

   C. invention.

   D. fewer patents.

4. The invention by the U.S. Army of a water filter that is now available for public use is an example of:

   A. a trade-off.

   B. technology transfer.

   C. design optimization.

   D. streamlining.

5. A positive effect of transportation technology has been the ability to distribute goods to areas where they are ***not*** manufactured. A negative effect has been linked to the illegal dumping of used tires. This is an example of a/an:

   A. anticipated effect.

   B. trade-off.

   C. intended effect.

   D. unintended effect.

6. The changes in cell phones from one generation to the next generation is an example of:

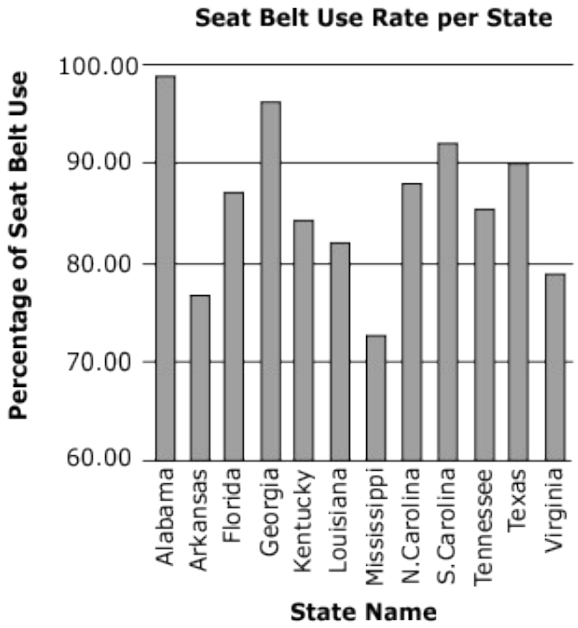
   A. updating services.

   B. technological evolution.

   C. technological invention.

   D. manufacturing processes.

7. Using the information below, determine how many states fall below North Carolina in percentage of seat belt use?



A. 0

B. 4

C. 7

D. 8

8. The advent of wireless technology has significantly impacted the ability to:

A. communicate more effectively.

B. build more effectively.

C. transport more effectively.

D. manufacture more effectively.

9. Which is not a trade-off when selecting a resource for a design?

A. Exchange one resource for another

B. Giving up on a benefit for a more desirable one

C. Compromising between the benefits of resources to achieve results

D. Substituting different approaches

10. A software design team is working on a new computer operating system. They analyze the market, and work to develop new software using what type of problem-solving approach?

A. Technological

B. Industrial design

C. Research and development

D. Total quality management

11. Innovations are the result of a series of refinements that have improved an invention overtime. This is the concept of:

A. Scientific discovery

B. Technological evolution

C. Scientific method

D. Technological mobility

12. Government helps inventors and innovators of technology protect and control the use of their ideas for a limited time by giving them a:

A. patent.

B. tax rebate.

C. grant.

D. trademark.

13. To stay competitive, companies create new technologies resulting in new processes. The following are results of new technologies ***except:***

A. computer companies creating faster computers.

B. cell phone companies creating smaller cell phones.

C. a farmer creating a milking machine.

D. a car company changing management protocols.

14. The transfer of technological knowledge and skills from one generation or society to another is usually accompanied with modifications to the products. This process is called:

A. technical creativity.

B. technological evolution.

C. manufacturing.

D. technological design.

15. An understanding of the interrelationships among technologies and other fields of study better enables one to use:

A. technologies to find answers to scientific problems.

B. processes to design, produce, and assess technology.

C. mathematical models and simulations.

D. the scientific method to solve scientific problems.

16. The activities that might result in new or improved products and processes describe what activity used in industry?

A. Production

B. Research and Development

C. Time Management

D. Testing

17. The introduction of fast-food restaurants into the American way of life has had both positive and negative impacts. One negative impact is the belief that such restaurants have played a role in increasing the number of overweight people. This is an example of a/an:

A. anticipated effect.

B. trade-off.

C. intended effect.

D. unintended effect.

18. Since people are able to transfer the knowledge and skills related to the creation and production of technology to next generations, which statement is a reasonable conclusion:

A. The development and use of technologies exhibits an evolutionary characteristic.

B. A thorough understanding of science is necessary for the development of technology.

C. Only those with technical abilities are prepared to use new technologies.

D. Future technological development has little relationship with how it was used in earlier times.

19. What technological process converts knowledge into a physical form?

A. Development

B. Research

C. Time management

D. Testing

20. Rafael's department is trying to make a working model of a miniature propane-fueled generator that can be refueled in seconds to power cell phones. They are involved in:

A. development.

B. manufacturing.

C. basic research.

D. market testing.

21. Common characteristics of technologists, scientists, and mathematicians could include such things as:

A. a reluctance to try new ideas and new solutions.

B. creativity, curiosity, and a desire for new knowledge.

C. satisfaction with the present state of knowledge.

D. not using math to solve problems.

22. As knowledge and skills increase, modification to products advance from one generation to the next. This is an example of?

A. technological design.

B. manufacturing.

C. technical creativity.

D. technological evolution.

23. An example of a product of technological evolution is:

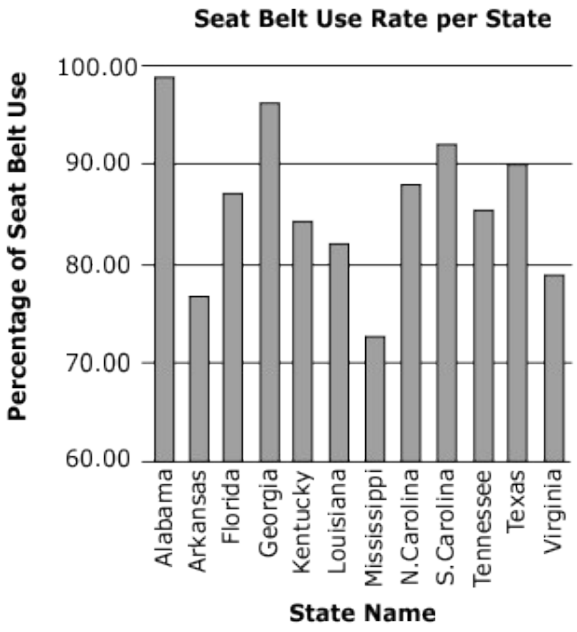
A. the mechanical pencil.

B. the ink-dipping quill pen.

C. the wooden pencil.

D. the cave painting.

24. Using the information below, determine which state has a seat belt use rate near 80%.



A. Alabama

B. Mississippi

C. Virginia

D. Louisiana

25. To minimize unwanted impacts of a new technology, Charles should conduct a:

A. cost-benefit analysis.

B. scientific analysis.

C. risk analysis.

D. quality analysis.

26. An engineer is more likely to bring a project to completion with which characteristic?

A. Procrastination

B. Creativity

C. Ideals

D. Social ability

27. Technological literacy is defined as:

A. the ability to use computers to solve problems.

B. an understanding of the history of technology.

C. an understanding of the relationship between science, math, and technology.

D. the ability to successfully interact with technology, and to make informed decisions.

28. Research and development are used intensively by industry to prepare devices and systems. Which is an example of R&D for the marketplace?

A. Technology students working on a website competition

B. A company working on management protocols

C. NASA researchers working on space hydroponics systems

D. Cell phone companies working to increase the speed of downloads

29. If a solar cell can be made that breaks water into H_2 and O_2, then the H_2 can be stored and run through a fuel cell to generate electricity. To make this happen will require:

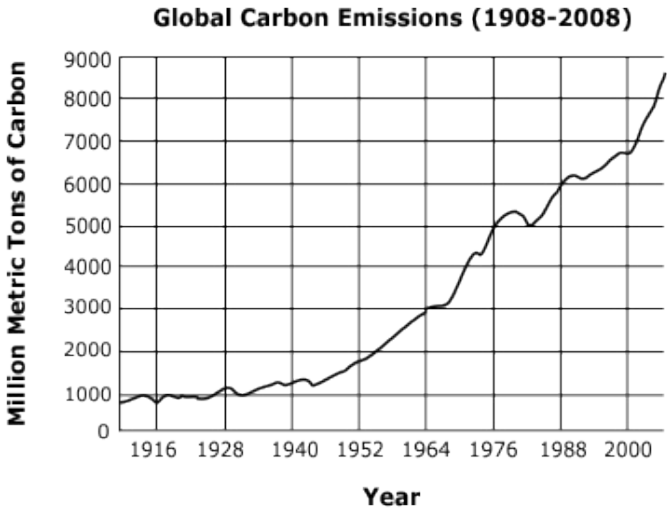
A. deductions.

B. reactions.

C. research.

D. competition.

30. Using the information below, determine the approximate amount of global carbon emissions as of the year 2000.



A. 750 million metric tons

B. 6,000 million metric tons

C. 6,750 million metric tons

D. 8,750 million metric tons

31. The study of technology should look at how the development of new technology affects humans at both the:

A. local level and global level.

B. marketplace and workplace.

C. schoolhouse and statehouse.

D. time of birth and time of death.

32. The change from the quill pen to the ballpoint pen used today is referred to as:

A. brainstorming.

B. innovation.

C. a discovery.

D. a patent.