

Name:

Date:

Topic: Agriculture - Methods and Upgrades

Period:

Warm Up:

1) A period of important agricultural _____ began in the early 1700s for Great Britain and the Low Countries (Belgium, Luxembourg, and the Netherlands, which lie below sea level).

2) New agricultural _____ dramatically increased food _____ in Europe and European colonies, particularly the United States and Canada.

3) One of the most important of these developments was an improved horse-drawn _____ invented by Jethro Tull in _____.

- Until that time, farmers sowed seeds by _____. Tull's drill made rows of holes for the seeds. By the end of the _____ century, seed drilling was widely practiced in Europe.

4) Many _____ were developed in the United States.

- The cotton gin, invented by Eli _____ in 1794, reduced the time needed to separate cotton fiber from seed.

- In the 1830s, Cyrus McCormick's _____ reaper helped modernize the _____-cutting process.

- John Deere's steel plow, introduced in _____, made it possible to work the tough _____ soil with much less horsepower.

5) By _____ breeding animals (breeding those with desirable traits), farmers _____ the size and productivity of their livestock.

6) Cultures have been _____ animals for centuries—evidence suggests Mongolian _____ were selectively breeding horses in the _____ Age.

7) Europeans began to practice _____ breeding on a large scale beginning in the _____ century.

- An early example of this is the Leicester _____, an animal selectively bred in England for its quality meat and long, coarse _____.

8) Plants could also be selectively bred for certain _____.

- In 1866, Gregor Mendel's studies in _____ were published in Austria. In experiments with _____ plants, Mendel learned how traits were passed from one _____ to the next. His work paved the way for improving crops through genetics.

9) In the early 1900s, an average _____ in the U.S. produced enough food to feed a family of _____.

- Many of today's farmers can feed that family and a hundred other people. How did this great leap in productivity come about? It happened largely because of _____ advances and the development of new sources of power. (Ex- gasoline, electricity, _____, machines)

10) For thousands of years, farmers relied on _____ fertilizer—materials such as manure, wood ash, ground bones, fish or fish parts, and bird and bat waste called _____ — to replenish or increase nutrients in the soil.

11) In the early 1800s, scientists discovered which _____ were most essential to plant growth: _____, phosphorus, and potassium. Later, fertilizer containing these elements was _____ in the U.S. and in Europe. Now, many farmers use chemical fertilizers with nitrates and phosphates because they greatly increase crop yields.

12) However, pesticides and _____ have come with another set of problems.

-The heavy reliance on chemicals has disturbed the _____, often destroying helpful species of animals along with harmful ones.

- Chemical use may also pose a health _____ to people, especially through contaminated water supplies.

13) Agricultural scientists are looking for safer _____ to use as fertilizers and pesticides.

- Some farmers use natural _____ and rely less on chemicals.

-Agriculture does not have to _____ the environment. By protecting the land, water, and air, and by sharing _____ and resources, people may yet find solutions for the problem of world hunger.