

Unit One : 1.3 Major discoveries that revolutionized Biology....

Work sheet Two

Part II: Answer the following questions as true or false

1. Aristotle classified organisms based on their ability to move and characteristics such as herbs, shrubs, and trees.
2. Galen's medical concepts were entirely free of scientific mistakes.
3. Antonie van Leeuwenhoek used simple lenses to discover bacteria and the vacuole of the cell.
4. Carl Linnaeus separated items into three major categories: animals, plants, and minerals.
5. True or False: Charles Darwin's theory of evolution by natural selection was published in 1859.
6. Gregor Mendel's laws of inheritance were widely recognized and celebrated immediately during his lifetime.
7. Louis Pasteur is credited with introducing pasteurization and developing vaccines for anthrax and rabies.
8. Robert Koch provided experimental support for the concept of infectious disease.
9. Jane Goodall discovered that chimpanzees are strictly herbivores that never use tools.
10. Barbara McClintock was awarded a Ph.D. from Cambridge without holding a bachelor's degree.
11. James Watson and Francis Crick discovered the double helix model of DNA.
12. Ian Wilmut and Keith Campbell cloned Dolly the sheep using nuclear transfer.
13. Aristotle's classification system remained known as the 'Ladder of Life' until the nineteenth century.

Part II: Choose the correct match for the following questions from the given options listed

Question 1

Match each scientist or historical figure with their primary contribution or milestone in biology:

1. Aristotle
2. Galen
3. Antonie van Leeuwenhoek
4. Carl Linnaeus

Choose the option that correctly pairs figure 1 with its description.

- A. Aristotle: Cloned Dolly the sheep
- B. Aristotle: Discovered the structure of DNA
- C. Aristotle: Developed the 'Ladder of Life' classification system
- D. Aristotle: Pioneered modern bacteriology

Question 2

Match Galen to his correct contribution from the list of historical milestones.

- A. Transformed medical science and distinguished veins from arteries
- B. Formulated the theory of natural selection
- C. Discovered mobile genetic elements in maize
- D. Introduced binomial nomenclature for species

Question 3

Match Antonie van Leeuwenhoek to his correct biological contribution.

- A. Discovered chimpanzees are tool users
- B. Pioneered microscopy with strong lenses and discovered bacteria
- C. Formulated laws of genetic inheritance using peas
- D. Developed rabies and anthrax vaccines

Question 4

Match Carl Linnaeus to his correct biological contribution.

- A. Identified the causal agents of tuberculosis and anthrax
- B. Cloned the first mammal from an adult cell
- C. Devised the binomial system for naming and classifying species
- D. Discovered the double-helix model of DNA

Question 5

Match Charles Darwin to his correct biological contribution.

- A. Studied chimpanzees in the wild for decades
- B. Identified jumping genes in maize
- C. Discovered bacterial fermentation and pasteurization
- D. Published On the Origin of Species detailing natural selection

Question 6

Match Gregor Mendel to his correct biological contribution.

- A. Distinguished veins from arteries in anatomical studies
- B. Pioneered medical microbiology and molecular asymmetry
- C. Discovered laws of genetic inheritance using pea plants
- D. Established the ancient Ladder of Life classification

Question 7

Match Louis Pasteur to his correct biological contribution.

- A. Mapped the human genome sequence
- B. Pioneered molecular asymmetry and developed rabies/anthrax vaccines
- C. Proposed the taxonomic categories of animals, plants, and minerals
- D. Created the first cloned mammal via nuclear transfer

Question 8

Match Jane Goodall to her correct biological contribution.

- A. Formulated the laws of inheritance using pea plants
- B. Authored On the Origin of Species
- C. Conducted career-long studies showing chimpanzees are omnivores and tool users
- D. Invented early high-magnification microscope lenses

Question 9

Match Barbara McClintock to her correct biological contribution.

- A. Cloned Dolly the sheep using nuclear transfer
- B. Discovered transposition and gene control in maize chromosomes
- C. Developed the binomial nomenclature classification system
- D. Distinguished veins and arteries in ancient medical texts

Question 10

Match James Watson and Francis Crick to their correct biological contribution.

- A. Established the Ladder of Life classification system
- B. Identified causal agents of tuberculosis and cholera
- C. Pioneered the germ theory of disease and rabies vaccination
- D. Discovered the DNA double helix model explaining replication and heredity

Question 11

Match Ian Wilmut and Keith Campbell to their correct biological contribution.

- A. Studied wild chimpanzee behavior and tool use
- B. Combined natural selection with Mendelian genetics
- C. Successfully cloned a mammal (Dolly the sheep) using nuclear transfer
- D. Discovered bacterial cells and cellular vacuoles

Question 12

Match the modern evolutionary synthesis to its correct conceptual components.

- A. Combination of Watson-Crick DNA structure and Wilmut-Campbell cloning
- B. Combination of Darwin's natural selection and Mendelian genetics
- C. Combination of Pasteur's germ theory and Koch's postulates
- D. Combination of Aristotelian classification and Linnaean binomial naming

Question 13

Match the discovery of transposition to its primary investigator and organism.

- A. Antonie van Leeuwenhoek grinding lenses to view bacteria
- B. Barbara McClintock examining maize chromosomes
- C. Gregor Mendel crossing pea plants in a friary garden
- D. James Watson and Francis Crick building DNA models

Question 14

Match the discovery of anthrax and rabies vaccines to the scientist responsible.

- A. Galen
- B. Aristotle
- C. Louis Pasteur
- D. Robert Koch