

Quiz - Model Organism

Part A: True/False Questions

1. Squid has large nervous system.
2. Arabidopsis thaliana is one of the seven model organisms.
3. Saccharomyces cerevisiae is a plant.
4. Studying squid's nervous system can help us understand human's nervous system.
5. Model organism should be expensive and hard to breed.
6. Model organism should be able to produce large amount of offspring for genetic study.
7. Rat equals to mouse.
8. Both mouse and rat belong to the subfamily called Murinae.
9. Arabidopsis is the only plant classified as top model organism.
10. Rat is primary model organism for studying human genetically inherited diseases.

Part B: Multiple Choice Questions

1. What are the characteristics of a model organism?
 - A. Cheap
 - B. Straight forward
 - C. Short life cycle
 - D. All of the above
2. Why model organism should have simple genome?
 - A. For sequencing
 - B. For identifying gene
 - C. Both A and B
 - D. None of the above
3. Which of the following is a model organism?
 - A. E. Coli
 - B. Zebra fish
 - C. Fruit fly
 - D. All of the above
4. Why is rat used to be a top model organism for medical research?
 - A. Its physiology can be monitored easily
 - B. Its DNA is similar to human's DNA
 - C. It is small in size
 - D. It is hard to breed
5. Which of the following is a limitation for using mouse and rat as model organism for research?
 - A. Expensive to keep
 - B. Life cycle is long
 - C. Small number of offspring per pregnancy

- D. All of the above
6. Tobacco has been widely used to study which of the following virus?
- A. Tobacco mosaic virus
 - B. Tobacco streak virus
 - C. Tobacco rattle virus
 - D. Tobacco ringspot virus
7. Why is *Arabidopsis thaliana* widely used as model organism?
- A. Rapid life cycle
 - B. Requires little space
 - C. Genome has been sequenced
 - D. All of the above
8. What characteristics of rice has been widely studied?
- A. Pest resistance
 - B. Yield
 - C. Both A and B
 - D. None of the above
9. How many species are on the world? (estimation)
- A. 0.5 million
 - B. 5 million
 - C. 95 million
 - D. 195 million
10. Which of the following biological processes of a particular specie can be studied through a model specie?
- A. Protein synthesis
 - B. Hydrolysis
 - C. Respiration
 - D. All of the above