

Seventh Grade Essential Questions: Using Pre-Publication of State Standards
Mrs. Summers essential questions.

Cell Biology

1. What is the function of the cell membrane in an animal cell? In a plant cell?
2. What is the function of the nucleus of a cell in an animal cell? In a plant cell?
3. What is the function of the mitochondria of a cell in an animal cell? In a plant cell?
4. What makes a plant cell different from an animal cell?
5. What is the function of a chloroplast?
6. What is photosynthesis?
7. When an egg develops are all the subsequent cells identical to the first one?
8. How might subsequent cells be different?

Genetics

1. What is inside a cell that instructs the cell and its body to look a certain way or perform a certain function?
2. What is a trait?
3. What is a gene?
4. Do all cells have a complete code of genes?
5. Which cells do not have complete code of genes?
6. Is a trait coded by only one gene?
Can it be coded by a sequence of genes?
7. How many copies of each gene does a typical organism created by sexual reproduction have?
9. What is an allele?
10. What is a dominant allele? Give an example.
11. What is a recessive allele? Give an example.
12. What does DNA stand for?
13. What is the function of DNA?
14. Where is DNA located?
15. Rank the following cell parts in order of what part is the smallest to the largest:
Amino acid, gene, DNA, chromosome, nucleus
16. What is a phenotype? Give an example.

Biological Diversity

1. Name two causes of diversity of organisms.
2. What was Darwin famous for?
3. What is natural selection?
4. How did Darwin explain the connection between natural selection and the process of animals evolving over time on earth, species going extinct and new ones developing?
5. What evidence do geologists use to show the age of a fossil in the ground?
6. How do fossils show a line of relationship to living animals? Give an example.
7. Draw a branching diagram that shows how an animal living today relates to a fossil of an extinct animal.
8. Name some adaptive characteristics of animals.