

Evolution: The Evidence

Name _____ Per. _____

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1. Most fossils are found in sedimentary rock layers. Sedimentary rocks are made from accumulations of _____, _____, and _____ that are laid down at the bottom of seas and lakes.

2. The oldest rock layers are normally found nearer the (bottom / top) of a thick stack of rock layers, such as at the Grand Canyon. Why?

3. So if species evolved from simpler to more complex forms of life, the oldest fossils would be (more / less) complex. And the oldest fossils would be found near the (bottom / top) of the rock column.

4. If species did not evolve, what would you predict about how the different fossils would be located in a rock column?

5. Is the fossil arrangement in the rocks more like that described in #3 or #4 above in real life?

6. Suppose you are given the challenge of creating 4 toy robots. You can use anything you want to build them. The robots have to resemble the following animals and they have to function properly: DOG, HUMAN, BIRD, WHALE. Suppose you are now designing the forelimb. The forelimb of a dog is its _____, which is used for _____. The forelimb of a human is his or her _____, which is used for _____. The forelimb of a bird is its _____, which is used for _____.

And the forelimb of a whale is its _____, which is used for _____.

If you wanted all four forelimbs to function properly, would you design all four with the exact same materials, connected together in the same way, or with different kinds of materials connected in different ways?

7. The forelimbs of a dog, human, bird, and whale in real life are homologous structures. What does that mean?

8. Are the real forelimbs of a dog, human, bird, and whale made of the same kinds of bones connected in the same ways? _____ What does this tell you about those four animals?

9. If you were designing a working robot, would you purposely add a useless structure that used up battery power but did nothing? _____ Some snakes have hip bones but no hips or legs. Structures that have no function are called _____. What conclusion can you draw from the fact that snakes have hip bones?

10. List two vestigial structures in humans.