Year 13 Science: Trends in human biological evolution

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. Using the table, find the percentage increase in cranial capacity from Homo habilis to Homo erectus, to the nearest whole number.

2. Where is the foramen magnum in a fully bipedal hominin?

3. Explain how the angled femur helps bipedal walking.

4. Which grip is used to hold a pen?

5. Is a chimpanzee a hominid, a hominin, or both?

Exam-style question: three skulls

Skull A has a cranial capacity of about 430 cm³, a projecting face, large canines and a U-shaped tooth row. Skull B has about 1050 cm³, a large brow ridge, a lower, longer braincase and no chin. Skull C has about 1300 cm³, a flat face, a high rounded braincase, a small brow ridge and a chin.

6. Describe two trends shown by the teeth and jaws from A to C.

7. Calculate the percentage increase in cranial capacity from B to C, to the nearest whole number.

8. Explain why the brain could only enlarge after the diet changed.

9. Discuss one advantage and one disadvantage of a larger brain for hominins, linking each to a selection pressure.

Fix the mistake

10. Correct this statement: "Humans evolved from chimpanzees."

11. Correct this statement: "The foramen magnum moved to the back of the skull in bipeds."

12. Correct this statement: "Hominins became bipedal because their brains got bigger."

13. Correct this statement: "The opposable thumb means apes cannot grip at all."