Year 10 Science: How genes and environment shape traits and variation

Name: _____ Date: _____

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

Practice

1. Explain how a gene leads to hair being strong, using the word keratin.

2. Every cell in your body has the insulin gene. Why do only some cells make insulin?

3. A tuatara egg is incubated at a high temperature. Which sex is it most likely to hatch as, and is that caused by genes or environment?

4. Two cloned sheep have identical genes but different body mass. Suggest a reason.

5. Why did many scientists before 1944 think proteins, not DNA, carried inherited information?

Fix the mistake

6. Correct this statement: "Each trait, like height or eye colour, is controlled by one gene."

7. Correct this statement: "Skin cells make keratin because they have the keratin gene and other cells do not."

8. Correct this statement: "Two cloned sheep have the same genes, so they must look exactly the same."

9. Correct this statement: "A sheep that grew big on good pasture will pass its size on to its lambs."