Year 12 Science: Surviving extreme environments: hot springs, ice and alpine cold

Name: _____ Date: _____

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

Practice

1. Venenivibrio grows from 45 to 75 °C. Could it grow in water at 37 °C?

2. Antarctic seawater is –1.9 °C, and fish body fluids freeze at about –1 °C. By how many degrees is the sea colder than that freezing point?

3. Why would a human enzyme stop working in 75 °C water?

4. Which organism avoids freezing and which tolerates it: the toothfish or the alpine wētā?

5. Why does growing best at 4 to 8% oxygen help Venenivibrio in a hot spring?

6. Write one condition, problem, adaptation chain for the toothfish, as an Excellence answer would.

Fix the mistake

7. Correct this statement: "The environment is extreme because it is really hot."

8. Correct this statement: "The toothfish's antifreeze works by adding salt to its blood."

9. Correct this statement: "The bacterium adapted to the heat because it wanted to survive."

10. Correct this statement: "I listed five adaptations with a sentence on each."