Year 12 Science: Biology investigation: catalase and temperature, start to finish

Name: _____ Date: _____

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

Practice

1. A student investigates how sugar concentration (0, 2, 4, 6 and 8%) affects how fast yeast respires, by counting carbon dioxide bubbles per minute. Name the independent and dependent variables.

2. Three catalase discs rise in 20 s, 22 s and 21 s. Find the mean time and the rate.

3. Write a hypothesis for the yeast investigation in question 1, with a biological reason.

4. At one temperature the discs take 20 s, 22 s and 45 s, and the student noted the third disc stuck to the tube. What should the mean be, and why?

5. A group's three repeats at every temperature were within 2 s of each other. Is that evidence of reliability or of validity?

6. In a field study comparing leaf size in sun and shade, why should leaves be picked at random?

Fix the mistake

7. Correct this statement: "My hypothesis is that temperature will affect catalase."

8. Correct this statement: "I graphed the time taken, so the graph shows the rate."

9. Correct this statement: "The high temperatures killed the enzyme."

10. Correct this statement: "My repeats were close, so my method was valid."