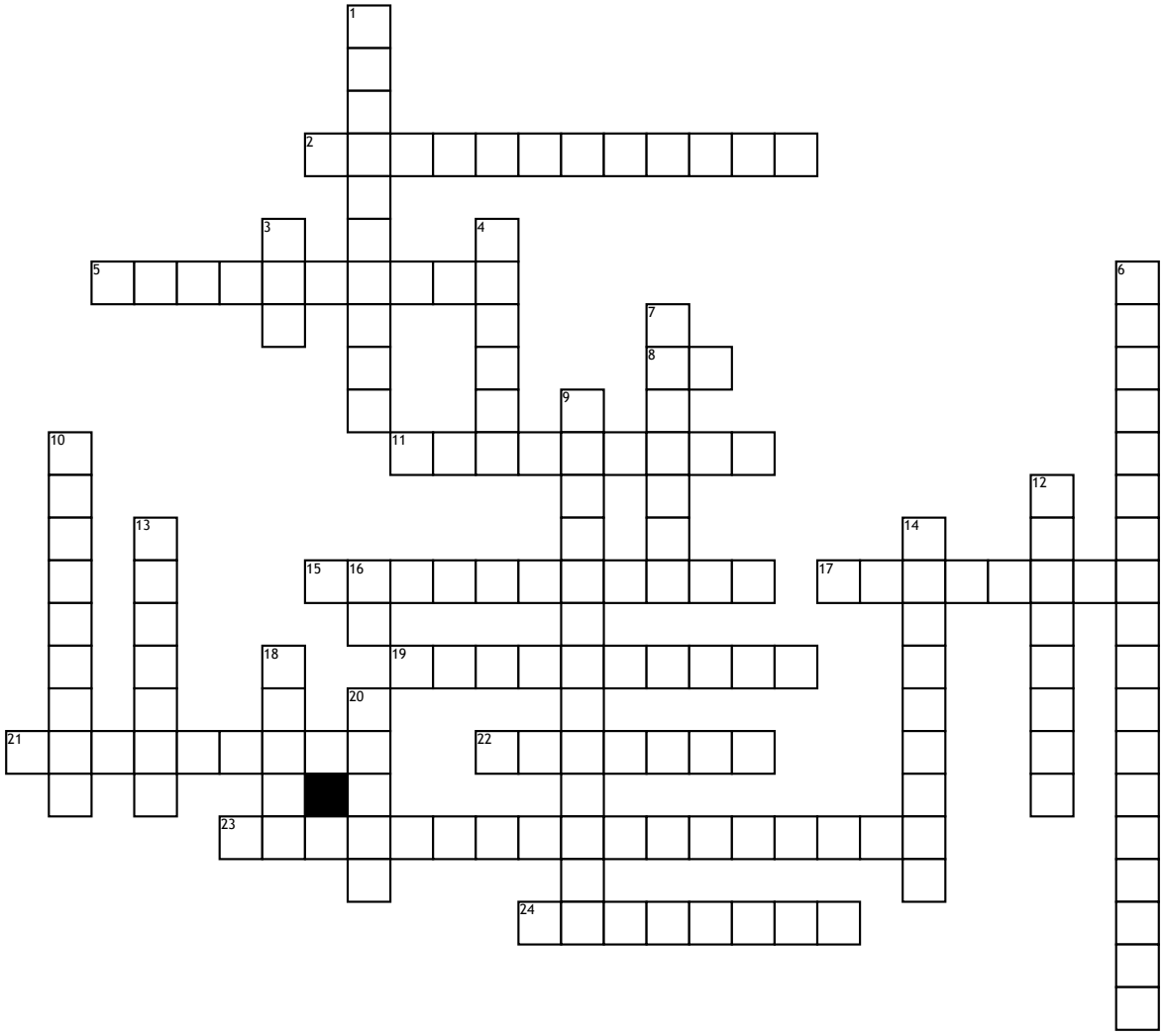
Name: _____ Date: _____

pH & enzymes



Across

2. Significant pH change my lead to _____ (12)

5. An enzyme is a _____ catalyst (10)

8. -log[H+] = _____ (2)

11. Basic solutions have a high _____ concentration (9)

15. If you increase the temperature, the equilibrium moves in the _____ (positive ΔH) direction to absorb heat (11)

17. _____ catalyses the conversion of hydrogen peroxide to water and molecular oxygen (8)

19. If a reaction at equilibrium is subjected to a change in concentration, pressure or temperature, the position of equilibrium will move to _____ the change (10)

21. Changing the pH can affect the charge of both the enzyme and the _____ (9)

22. An increase or decrease in the pH _____ the ion concentration in the solution (7)

23. pH is a _____ _____ of enzyme activity (11, 6)

24. If you _____ the concentration of a reactant, the equilibrium tries to get rid of the extra reactant (8)

Down

1. If the pH does not change much (within a narrow range) the change to the substrate and enzyme may be _____ (10)

3. -log[OH-] = _____ (3)

4. A dynamic equilibrium can only happen in a _____ system (6)

6. _____ is when the forward reaction and backward reaction occur at the same rate (7, 11)

7. Every enzyme works best at its _____ pH (7)

9. pH indicates the _____ of dissolved hydrogen ions (H+) in the particular solution (13)

10. Acidic solutions have a high _____ concnetration (9)

12. When the enzyme is denatured, the enzyme and substarte cannot identify each other and there is no _____ (8)

13. At the optimum pH the enzyme catalses the reaction at the _____ rate than any other pH level (7)

14. Incresed H+ ions alter the _____ of the enzymes and at times the substrate, either due to formation of additional bonds or breakage of already existing bonds (9)

16. A catalyst has ____ effect on the position of an equilibrium (2)

18. Changing the pH can change the _____ of an enzyme (5)

20. Increasing the pressure shifts the equilibria to the side with the _____ gas molecules (5)