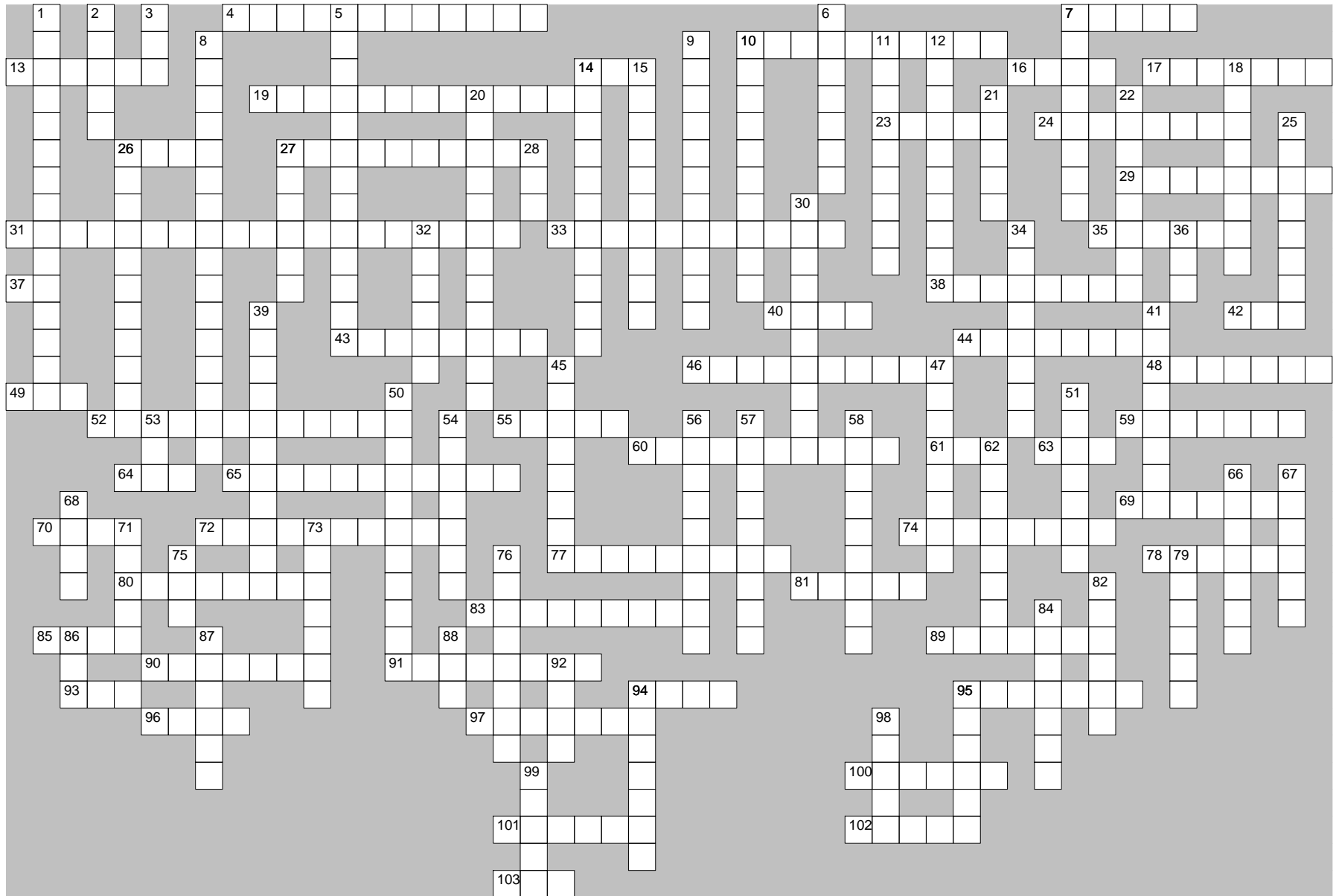


# Physiology Extra Credit Puzzle



## Across

4. the ability of sperm to fertilize is this process
7. this is one type of hemoglobin has a higher affinity for oxygen
10. these muscular bands control movement between regions of the GI tract
13. oxygenated blood is \_\_\_\_ red
14. protein that causes an increase in testicular testosterone levels (abv)
16. this type of transport is found in the apical membrane of intestinal cells and transports both Na and glucose (abv)
17. enzyme that once activated functions to activate more of itself as well as procarboxypeptidase and chymotrypsinogen
19. gland that produces alkaline secretion just before ejaculation
23. this volume is the amount of air exchanged during normal quiet breathing
24. most abundant gas in atmosphere
26. the ability of hemoglobin to alter its affinity for oxygen which occurs when there is a change in pH in plasma is the \_\_\_\_ effect
27. these islets of \_\_\_\_ contain cells that release insulin and glucagon
29. arteriole associated with the glomerulus that has smaller diameter
31. the structure formed when carbon dioxide binds to hemoglobin
33. capillary type of the glomerular capillaries
35. the little blue pill - don't take if you have a heart condition
37. hormone that causes ovulation (abv)
38. group of accessory muscles for inspiration
40. suffix that indicates an inactive enzyme
42. gene on the Y chromosome that initiates gender determination (abv)
43. exchange of gases from the alveoli to blood is \_\_\_\_ respiration
44. produce hydrochloric acid
46. these structures from the brush border
48. the smallest sacs in the respiratory tree where most exchange occurs
49. this hormone has been linked to activating the satiety center in the hypothalamus (abv)
52. system required for population homeostasis
55. the pulmonary \_\_\_\_ carry oxygenated blood
59. the functional unit of the kidney
60. the protein structure of hemoglobin
61. this hormone increase production of RBC, thereby increasing oxygen transport capacity (abv)
63. medullary nuclei group that contains the pacemaker cells (abv)
64. the region where the DCT meets up with the afferent arteriole and is involved in regulation of GFR (abv)
65. scientific term for urination
69. hormone that increases stomach motility and gastric juice secretion
70. functions of the nasal cavity are to filter incoming air, humidify and \_\_\_\_ it as well.
72. during the deglutition reflex this flap moves down and covers the trachea
74. responsible for digestion in the colon are these little critters
77. if plasma clearance is higher than GFR, the \_\_\_\_ must be occurring
78. alveolar type II cells are also known as \_\_\_\_ cells
80. this acid is formed by combining water and CO<sub>2</sub>
81. deoxygenated blood is \_\_\_\_ red
83. the cells that surround the capillaries of the glomerulus
85. a \_\_\_\_ movement occurs as a result of gastrin on the ileocecal sphincter and colon
89. process of sperm and egg merging both nuclear and cytoplasmic content
90. conduct urine from kidneys to bladder
91. this hormone increases exocrine production from the pancreas
93. produced by the placenta and is thought to increase breast development during pregnancy (abv)
94. hypothalamic releasing hormone that causes the ant. pituitary to release the gonadotropins LH and FSH (abv)
95. having the normal complement of chromosomes
96. common name for these phagocytic cells of the alveoli
97. this \_\_\_\_ layer of the GI tract (next to the lumen) is highly variable from mouth to anus
100. formed by union of sperm and egg
101. site of sperm production
102. enzyme produced by the macula densa that converts angiotensinogen to angiotensin I
103. this is autoregulated and ensures adequate blood flow through the glomerular capillaries (abv)

## Down

1. division of the ANS responsible for erection
2. an increase in CO<sub>2</sub>, BPG, temp and acidity cause the hemoglobin-oxygen dissociation curve to shift in this direction
3. hormone derived from testosterone (abv)
5. this gas is primarily responsible for controlling ventilation rates
6. lipids in a hydrophilic environment form these round structures
7. structure affected by FSH
8. rapid breathing
9. the process of sperm becoming motile
10. substance produced by the septal cells
11. this material prevents collapse of the trachea
12. location of maturation and storage of sperm
14. a mineralocorticoid that causes obligatory water reabsorption in the kidney
15. these chemoreceptors are outside the CNS, located in the carotid bodies
18. accessory digestive organ that is a heterocrine gland
20. epithelium of the ureters, bladder and part of the urethra
21. erosion of the mucosal lining of the stomach causes this
22. the pulmonary \_\_\_\_ carry deoxygenated blood
25. condition of having only one sex chromosome
26. most carbon dioxide is transported as this ion in plasma
27. ovarian cycle phase dominated by the presence of the corpus luteum
28. this behavior actually has the added bonus of increasing genetic diversity!
30. the respiratory pigment used in red blood cells
32. the final electron receptor, and one main reason for the respiratory system
34. this ion moves opposite bicarbonate to ensure tonicity (osmotic balance) in red blood cells
36. hormone that inhibits gastric activity (abv)
39. childbirth term
41. produces estrogen and progesterone even after the ovary has stopped producing them
45. a person with plasma pH of 7.1 would have
47. exchange of gases from the blood to the peripheral cells is \_\_\_\_ respiration
50. general term for the muscular contractions of the GI tract
51. nerve that innervates the diaphragm
53. the area in the pons responsible regulating and limiting length of inspiration (abv).
54. cell reproduction type that produces gametes
56. glucose, \_\_\_\_ and fructose are the three absorbable sugars
57. this type of water is formed by dehydration synthesis reactions
58. cell shrinking due to hypertonic conditions
62. childbirth hormone that is in a positive feedback loop between cervix and post. pituitary
66. conducts urine from bladder to external environment
67. compound that was once used to determine plasma clearance rate
68. protective function of the GI tract may come from this (abv)
71. produced by the goblet cells lining the trachea
73. lack of this enzyme will render individuals that eat/drink dairy products very uncomfortable
75. medullary nuclei group responsible for inspiration (abv)
76. the first region of the small intestine
79. normal breathing pattern
82. cells that produce testosterone
84. having half the normal complement of chromosomes
86. hormone produced by the posterior pituitary to increase facultative water reabsorption (abv)
87. the first phase of the uterine cycle
88. hormone that pregnancy tests look for (abv)
92. at the center of each porphyrin ring is this metal that binds oxygen
94. this nutrient should be 100% reabsorbed in the PCT, if not there is a "sweet overflow" of urine
95. gentleman who determined each individual gas exerts a pressure independent of other gases present
98. this gentleman figured out the relationship between volume and pressure... now there is a law!
99. the \_\_\_\_ cells produce pepsinogen