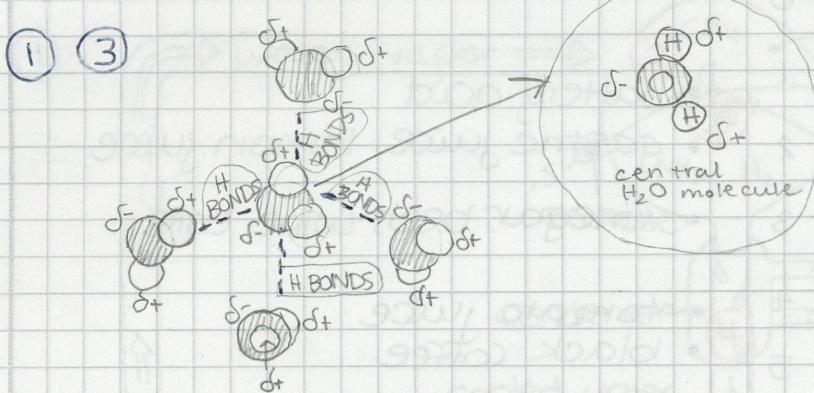


CHAPTER 3 AP BIOLOGY Julia Keller 12d



② a) molecular formula: $C_{12}H_{22}O_{11}$

b) mass of each element

$$C: (12.01 \text{ g/mol}) (12 \text{ mol}) = 144.12 \text{ g C}$$

$$O: (16.00 \text{ g/mol}) (11 \text{ mol}) = 176.00 \text{ g O}$$

$$H: (1.001 \text{ g/mol}) (22 \text{ mol}) = 22.02 \text{ g H}$$

c) add the masses together

$$144.12 + 176 + 22.02 = 342.14 \text{ g} \approx 342 \text{ g}$$

To obtain 1L of a 1M sucrose solution, add 342g sucrose to water to bring it to a volume of 1L.

② a) molecular formula: $C_6H_{12}O_6$

b) mass of each element

$$C: (12.01 \text{ g/mol}) (6 \text{ mol}) = 72.06 \text{ g C}$$

$$O: (16.00 \text{ g/mol}) (6 \text{ mol}) = 96.00 \text{ g O}$$

$$H: (1.001 \text{ g/mol}) (12 \text{ mol}) = 12.01 \text{ g H}$$

c) add the masses together

$$72.06 + 96 + 12.01 = 180.07 \text{ g} \approx 180 \text{ g}$$

To obtain 1L of a 1M glucose solution, add 180g of glucose to water to bring it to a volume of 1L.

$$\frac{180 \text{ g}}{1 \text{ L}} = \frac{1 \text{ mol}}{1 \text{ L}} \quad 0.5(180) = x = 90 \text{ g/L} = 0.5 \text{ mol/L}$$

To obtain 1L of a 0.5M glucose solution, add 90g of glucose to water to bring it to a volume of 1L.

pH scale

(28)

$$[\text{H}^+] > [\text{OH}^-]$$

ACIDIC

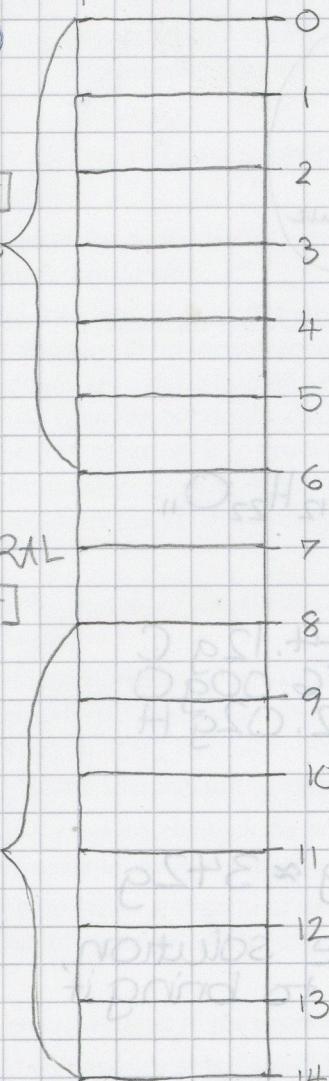


NEUTRAL

$$[\text{H}^+] = [\text{OH}^-]$$

BASIC

$$[\text{H}^+] < [\text{OH}^-]$$



- battery acid
- gastric juice, lemon juice
- vinegar beer, wine, cola
- tomato juice
- black coffee
- rainwater
- wine
- saliva water
- human blood, tears
- seawater
- milk of magnesia
- household ammonia
- household bleach
- oven cleaner