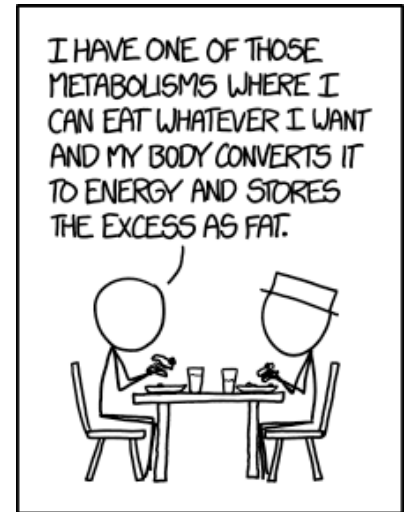


Respiration Introduction – Metabolism Please answer in a different color

PREVIOUS KNOWLEDGE/PREVIEW QUESTIONS:

- 1) Why do humans need to breathe in oxygen and consume food? What do we do with these substances?
- 2) What do you think it means to have a “fast metabolism” or a “slow metabolism?” What have you heard about these terms?



ARTICLE ONE (linked on Website): <https://www.health.harvard.edu/staying-healthy/the-truth-about-metabolism>

- 3) According to this site, what is the definition of metabolism?
- 4) According to the article, what does it mean to have a slow metabolism? A fast metabolism?
- 5) Can you speed up a slow metabolism? What are some suggestions this article gives?

ARTICLE TWO (linked on Website): <https://www.healthline.com/health/what-is-basal-metabolic-rate#estimating-bmr>

6) In your own words, what is the Basal Metabolic Rate (BMR)? What are some of the basic bodily functions that the BMR covers?

7) What is the difference between your BMR and your Resting Metabolic Rate (RMR)?

8) Calculate your approximate BMR using the Harris-Benedict Formula. **SHOW YOUR WORK!** (1 pound = 0.45 kilograms, 1 inch = 2.54 cm)

Women:

$$\text{BMR} = 655 + (9.6 \times \text{weight in kg}) + (1.8 \times \text{height in cm}) - (4.7 \times \text{age in years})$$

Men:

$$\text{BMR} = 66 + (13.7 \times \text{weight in kg}) + (5 \times \text{height in cm}) - (6.8 \times \text{age in years})$$

Amount of Exercise	Description	Multiplication Factor
Sedentary	Little or no exercise/desk job	TDEE = 1.2 x BMR
Lightly Active	Light exercise, sports 1-3 days/week	TDEE = 1.375 x BMR
Moderately Active	Moderate exercise, sports 3-5 days/week	TDEE = 1.55 x BMR
Very Active	Heavy exercise, sports 3-5 days/week	TDEE = 1.725 x BMR
Extremely Active	Very heavy exercise/physical job/training twice a day	TDEE = 1.9 x BMR

9) Calculate your Total Daily Energy Expenditure (TDEE) by multiplying your BMR by your approximate activity level.

10) Garrett Bolles plays tackle for the Denver Broncos (when he's not injured). He is 6 feet 5 inches, and weighs 300 pounds and is 31 years old. Calculate Garrett Bolles' BMR and TDEE.