

BIO 25 PAL Worksheet
Week 2 (only one): Metabolism

Remember

Metabolism is an overall term referring to the ways the body produces cellular fuel (ATP) from ingested or stored fuel (glucose, amino acids, fats).

1. What are the two major components of cellular metabolism?
2. DRAW THEM, then name as many differences between them as possible.

Understand

Sometimes, substrates (fuel sources) or other cellular “equipment/supplies” are lower than optimal. For **each** of the following, answer these four questions:

- How might this affect energy (ATP) production?
- Is there a “backup plan” that could help if something is too low?
- What are some of the consequences that could be observed in each situation?
- Is there a way the body can respond to the “consequences”?

Explain each of your answers.

3. low blood glucose levels
4. few mitochondria
5. low oxygen delivery
6. increased blood supply

Apply

7. This is a true fact: In a trained endurance athlete, the limiting factor in performance is the amount of oxygen delivered to the muscles. Explain, in as much detail as you can, why this makes sense.