WALT – Understand strengths and weaknesses in energy systems.

WILF

- Identify and explain about 3 different energy systems
- Explain advantages and disadvantages of each and link to sporting examples
- Understand your strengths and areas for development and revise weaknesses.

WHY?

- To help you answer an extended exam question

Energy Systems Revision Lesson

Retrieval

What are the following?

1. What does ATP stand for?
2. What does ADP stand for?
3. What is a definition of ATP?
4. How many phosphates is in ATP and ADP?
5. Where does the energy come from in ATP?
6. Where is ATP stored?
7. Where is PC stored?

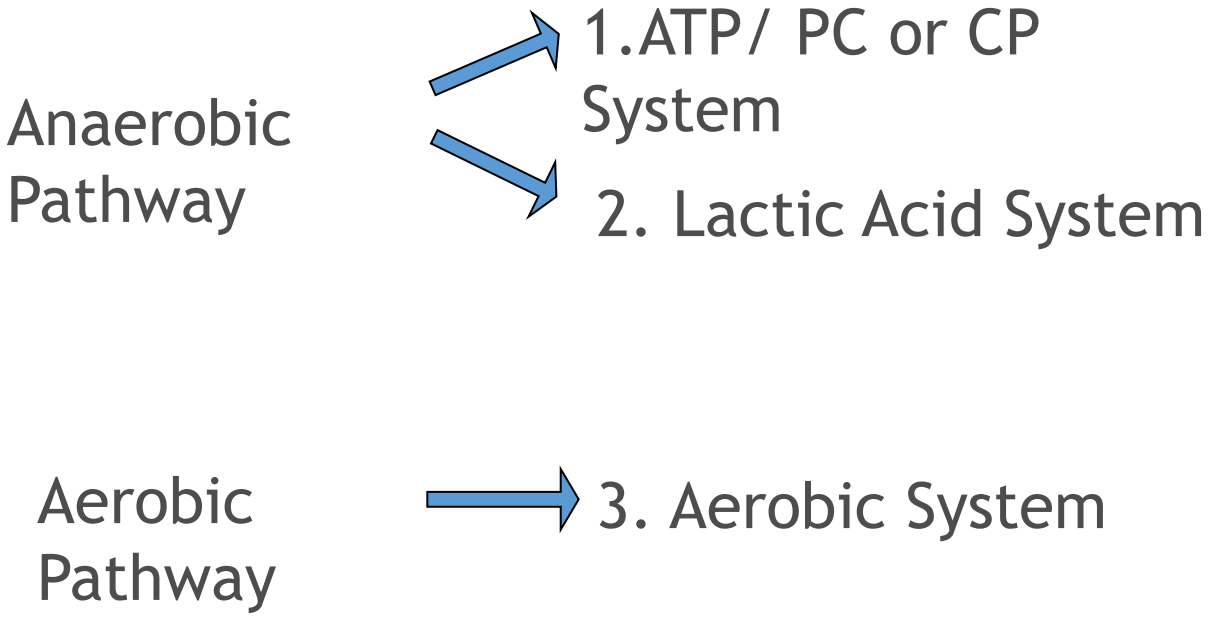
What are the names of the 3 energy systems?

The three energy systems

1. ATP-PC System
2. Lactic Acid System
3. Aerobic system

Which systems are aerobic and which systems are anaerobic?

There are 3 sources (energy systems that the body can use:



How much ATP is produced in each energy system and what is the fuel?

How much ATP is produced in each energy system and what is the fuel?

ATP-PC System 1:1 (phosphocreatine)

Lactic Acid System 1:2 (glycogen)

Aerobic system 1:38 (glycogen)

What is an exothermic and endothermic reaction?

Key Terms

Term	Definition
Exothermic	A reaction that gives off heat/energy
Endothermic	A reaction that requires heat/energy

Give sporting examples best suited to each energy system.

Energy System		Sporting Examples
ATP/ PC		Sprinting, athletic field events, weight-lifting.
Lactic Acid		400m 800m Racket sports.
Aerobic		Long distance running/ cycling.

Name 2 parts of the aerobic systems and the amount of energy created in each.

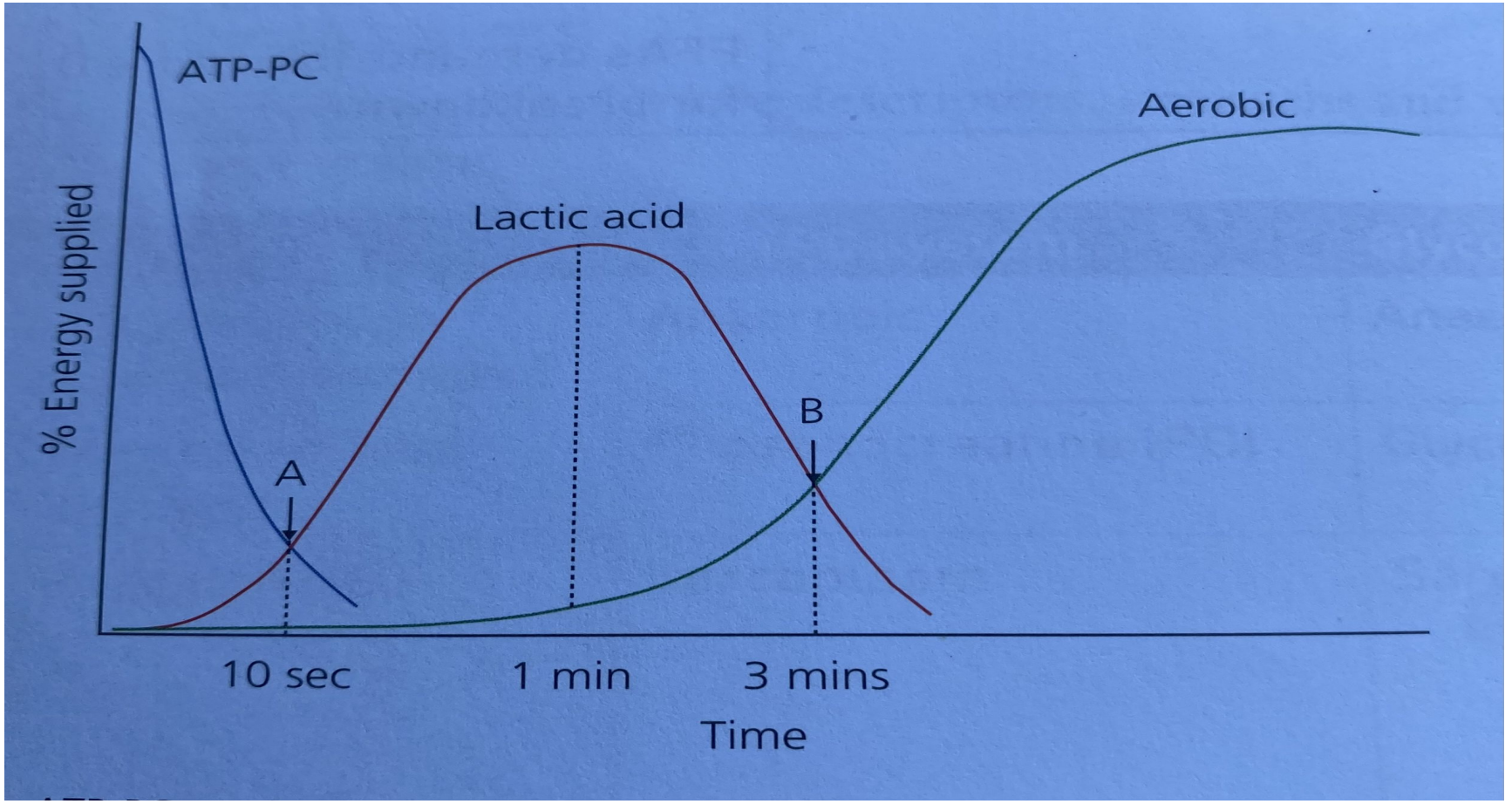
Aerobic system parts

- Aerobic Glycolosis (2 ATP)
- Krebs Cycle/Citric Cycle (2 ATP)
- Electron Transfer Chain (34 ATP)

What is this describing?

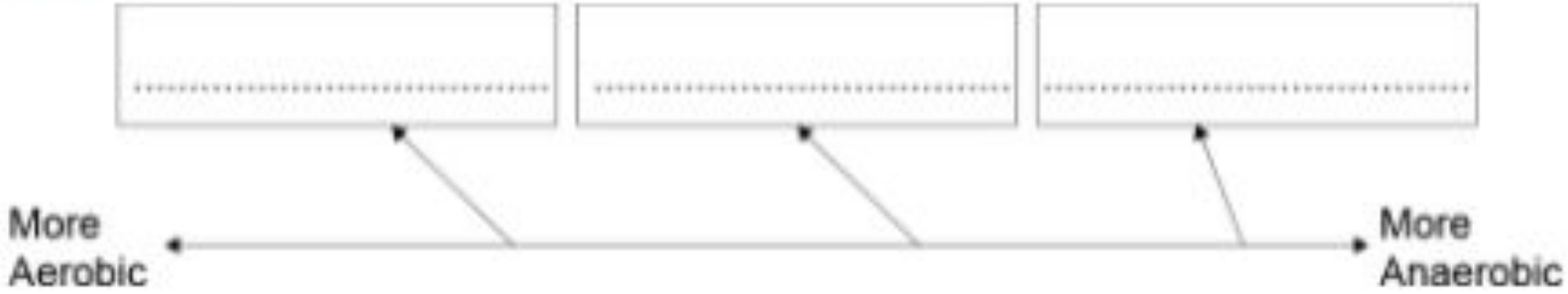
?: the relative contribution of each energy system to overall energy production depending on intensity and duration of the activity.

Answer = Energy Continuum



Task

Show your knowledge of energy systems by placing the following athletics events in the correct order on the continuum below.



A Javelin
B 1500 m race
C Triple Jump

1. Identify the predominant energy system used in an elite level performance for the following activities:

100 m freestyle swim completed in 50 seconds

Gymnastics vault

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[2]

2. Elite swimmers can complete the 100 metre freestyle race in under 1 minute.

i. Describe the predominant energy system used by elite swimmers during the 100 metre freestyle race.

You will have 5 minutes to
do this in pairs!

Quick question…

1. Explain why ATP plays a major role in the performance of a smash in badminton.

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.....[2]

ILT – Complete exam question sheets

- Next lesson = exam on all work covered to date.

- Revise, revise, revise!!!