National 5 Biology

**S4 Revision Homework 4**  (Dart 2014, Qus 5 & 2014 Qu 7, 5 & Spec Qu4)

**Peer Marking Scheme**

Carefully peer mark using the marking scheme below. Remember wording is very important! If you are not sure ask your teacher for advice. Give constructive feedback at the end – What did they do well? How could they improve?

Underline = essential for mark

/ = alternative

() = non-essential for mark

**Qu 1.**

1. requires oxygen

Stage 1 starts in cytoplasm

Stage 2 Completed in mitochondria

Glucose is converted to pyruvate

ATP is produced

38 ATP produced (from one glucose molecule) ***All 6 = 3 marks; 4/5 = 2 marks; 2/3 = 1 mark***

1. ethanol/alcohol AND carbon dioxide/CO2
2. muscle (cell) contraction/cell division/mitosis/protein synthesis/active transport/nerve impulses

**Qu 2.**

1. Aerobic respiration
2. (i) Glucose

(ii) ADP + Phosphate OR Pi 🡪 ATP ***balancing not required but wrongly balanced negates***

1. (i) Sprinter

Highest lactic acid produced when oxygen is not used to release energy **OR**

Highest percentage light tissue **OR**

**Acceptable** – most, more than all the rest etc. as substitutes for ‘highest’

**Not acceptable** – Lowest dark tissue cells

Highest fermentation **OR**

Highest percentage of cells that do not use oxygen

(ii) Swimmer

**Qu3.**

1. **Stage 1** = 2nd, 3rd, last statements. **Stage 2** = 1st, 4th and 5th statements.

***1 mark for each correct column (additional ticks negate)***

1. Photosynthesis is controlled by enzymes / enzymes are needed **1 mark**

(At high temperatures) enzymes are denatured / do not work **1 mark**

1. Light intensity

Temperature ***Both required – either order Not acceptable – heat or light***

**Qu 4.**

1. Hydrogen
2. Light energy is trapped by chlorophyll

Any 2 from 3 – **1 mark each (max 2 mks)**

Light energy / it is converted into ATP

ATP goes from stage 1 to stage 2

Chemical energy is converted into sugar – **1 mark**