

Describe how one molecule of glucose is able to produce 38 ATP via aerobic respiration

### **In glycolysis**

- are used
- For the conversion of glucose to
- And conversion of fructose-6-phosphate to
- are formed from                   phosphorylation
- i.e 2 ATPs from (2x) conversion of                   to 3-phosphoglycerate
- and 2 ATPs from (2x) conversion of                   to pyruvate
- net production                   from glycolysis

### **Link reaction**

- conversion of pyruvate to                   produce

### **In Krebs cycle/citric acid cycle (from 2 pyruvate)**

- are produced from                   phosphorylation
- During (2x) conversion                   to succinate

### **In electron transport chain**

- ATPs are generated via each NADH
- 2 ATPs are generated via each
- 2 NADH from                   are transported from cytoplasm to                   generate  
                 ATPs
- NADH produced from the conversion pyruvate to acetyl CoA generate           ATP
- NADH from 2x Krebs cycle generate           ATP
- FADH<sub>2</sub> from 2x Krebs cycle generate           ATP