

## Metabolism: Energy Relationships

GLUCOSE	→	CO <sub>2</sub> + H <sub>2</sub> O	686 kcal/mole
GLUCOSE	→	LACTIC ACID	56 kcal/mole
ATP	→	ADP	7 kcal/mole

GLUCOSE → LACTIC ACID:

56 kcal released (8% of total available)

14 kcal bound to ATP (2 X 7 kcal)

$14/56 = 25\%$  Efficiency (Anaerobic Yield)

GLUCOSE → CO<sub>2</sub> + H<sub>2</sub>O:

686 kcal released (100% of total available)

266 kcal bound to ATP (38 X 7 kcal)

$266/686 = 40\%$  Efficiency (Aerobic Yield)

1 Mole (Gram Formula Weight) of Glucose contains 686 kcal of energy

$$\text{C} = 12 \times 6 = 72$$

$$\text{H} = 1 \times 12 = 12$$

$$\text{O} = 16 \times 6 = \underline{96}$$

180 a.w.u. ∴ 180 grams = 1 mole of Glucose

(NOTE: 180 grams is about 6 ½ ounces)

# CORI CYCLE

