KNOWLEDGE ORGANISER
BIG IDEA: ECOSYSTEMS
TOPIC: RESPIRATION

Key Word	Definition
Respiration	a chemical reaction, in cells, that breaks down glucose to provide energy and new molecules.
aerobic respiration	Breaking down glucose with oxygen to release energy and producing carbon dioxide and water.
anaerobic respiration	Releasing energy from the breakdown of glucose without oxygen, producing lactic acid
fermentation	Releasing energy from the breakdown of glucose without oxygen, producing ethanol and carbon dioxide in plants and microorganisms

Most living things use **aerobic respiration** but switch to **anaerobic respiration**, which provides less energy, when oxygen is unavailable

Anaerobic respiration occurs when there is not enough oxygen present. The build up of lactic acid leads to muscle fatigue, also known as cramp.

The **fermentation** of yeast is used in brewing and bread making. Yeast are unicellular fungi.

Aerobic Respiration

glucose	+	**oxygen**	→	**carbon dioxide**	+	**water**	**and**	**(energy)**
from the digestive system		from the respiratory system		waste product (exhaled)		waste product (exhaled)		

Anaerobic Respiration

glucose → **lactic acid** **(and** **little energy)**

Fermentation

glucos → **Carbon dioxide** + **ethanol**