Plants *Glucose → ethanol + carbon dioxide*
Occurs if water becomes waterlogged
Fermentation: anaerobic respiration in some plants/microbes – important to food and drinks industry

11. Core Practical: Investigate rate of respiration in living organisms

Peas respire – use up oxygen / higher rate as temperature increases – enzymes denature with too high temperature
Respirometer / woodlice (or peas/beans) / water bath – measure effect of temperature on rate of respiration
Add **soda lime granules** / **potassium hydroxide solution-soaked wool** to 2 test tubes – absorbs CO_2 produced
Cotton wool balls places above soda lime in each test tube
Woodlice placed on top of cotton in one / other: control – glass beads with same mass of woodlice
Use syringe to set fluid in **manometer** to known level
Set water bath to 15˚C & leave experiment for set time
Volume of air in test tube will decrease – used up as woodlice respire
Reduces pressure in tube: liquid in manometer will move towards woodlice test tube
Distance moves in given time measured – calculate volume of oxygen take up / minute = rate of respiration
Repeat with water bath at different temperatures – investigate effect of temperature on rate of respiration

12. *cardiac output = stroke volume × heart rate*
Cardiac output: total volume of blood pumped by ventricle / minute
Heart rate: number of beats / minute
Stroke volume: volume of blood pumped by one ventricle each time it contracts