



Sensor	Code	What apparatus can sensor be used in conjunction with or enhance?	Possible Experiments	Level
Carbon dioxide	900-130	Basic apparatus e.g. bell-jar along with O <sub>2</sub> , humidity sensors	Combustion of fuels e.g. wax candle.	KS3, KS4
		pH sensor	Measure the pH of solutions containing CO <sub>2</sub> /HCO <sub>3</sub> <sup>-</sup> buffer	KS5
Oxygen	900-105	Basic apparatus	Combustion of fuels e.g. wax candle.	KS3, KS4
pH	900-106	Basic apparatus	Anything to do with acids and bases	KS3, KS4, KS5
		Various kits such as 'How effective is an antacid?'; 'Shampoo chemistry kit'; 'Closer Look at toothpaste' (all on p.155) and other kits on p.149 such as 'Properties of Shampoo' and 'properties of antacids'.	Testing the pH of household solutions; Testing the change in pH when an acid is added to an alkali; Comparing the actual to theoretical pH values for strong and weak acids and buffers.	KS3, KS4 and KS5
Voltage	900-101	Chemical battery (p167); The hydrogen fuel demonstration (p145); Simple Cell kit (159) and Daniel Cell (159)	Show that chemical reactions can produce electricity; Measure the voltage obtained from electrochemical cells; Compare electrode potentials obtained experimentally with those obtained theoretically; Investigate fuel cells.	KS3; KS4; KS5
Conductivity	900-125	Basic apparatus including the Microscience kits; pH sensor	Show that acids, alkalis and salts produce ions in solution; compare the conductivity of strong and weak acids; measure the rate of a chemical reaction by changes in conductivity; measure the change in conductivity when Ba(OH) <sub>2</sub> is neutralised by aqueous sulfuric acid.	KS3; KS4; KS5
Colorimeter	900-129	Basic apparatus	Rates of reaction using colorimetry	KS5
UVB	900-142	Basic apparatus	Look at characteristics of 'sun blocker molecules'	KS5
Temperature	900-103	Basic apparatus plus other sensors	Endothermic and exothermic reactions; temperature changes due to combustion; verification of Charles' Law.	KS3, KS4 and KS5
WIDE RANGE Temperature	900-144	Basic apparatus plus other sensors	Endothermic and exothermic reactions; temperature changes due to combustion; will withstand -200°C to 1200°C	KS3, KS4 and KS5
Pressure	900-110	Basic apparatus plus other sensors	Pressure determinations; Verification of Boyle's Law and Pressure Law; Rates of reaction where there are changes in gas volume	KS3, KS4 and KS5