Physics

Year 8

(70 hrs, 2 hrs/week)

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Expected results

Pupil:

- understands the features of thermal movement; the peculiarities of movement of atoms and molecules of substance in different aggregate states of substances; physical properties of solid bodies, fluids, and gases;
- knows the concepts and can phrase the definition of a physical value (temperature, inner energy, heat amount, specific heat, specific melting heat, steam generation, and fuel burning) and their values;
- knows the principles of temperature measuring; the principles of building a Celsius temperature scale; two ways of changing the internal body energy; the principles of thermal exchange; and types of heat engines;

- explains the graphs of heat processes (heating/cooling, melting/hardening, steam generation / condensing); the dependence of the size of physical bodies on the temperature;
- understands the nature of electric current in different media;
- defines physical value (current, voltage, conductor resistance, work and capacity of electric current, electrochemical equivalent) and their units;
- defines the Coulomb's laws, law of conservation of electric charge, cycle section Ohm's law, Joule–Lenz law, and Faraday's laws of electrolysis;
- knows the electric current triggering events;
- distinguishes between the types of electric charge in gases.