LAHORE GRAMMAR SCHOOL

55 MAIN

Science Syllabus for Students Opting for Sciences in Class 9

BIOLOGY

A healthy diet:

- Nutrients, use of nutrients in body
- Nutrient content of different foods
- A balanced diet, malnutrition
- Deficiency diseases
- A healthy diet plan

Digestion:

- Physical and chemical break down of nutrients
- The role of saliva, esophagus, stomach, duodenum, liver and pancreas
- Role of small and large intestine

The circulatory system:

- The heart, blood vessels, blood, moving substances in the blood
- A healthy heart and exercise

The respiratory system:

- Parts of the respiratory system, air passage and tubes, air pump, breathing movements
- Gaseous exchange, aerobic and anaerobic respiration
- Smoking and health

PHYSICS

Density:

- Measuring the density of solids, liquids and gases
- Sinking and floating
- Basic concept of kinetic particle model/theory

PRESSURE:

- Pressure calculation and its SI unit
- Pressure on a surface
- Reducing and increasing pressure
- Pressure in liquids and gases

Turning on a pivot:

- Turning effect of forces
- Types of levers
- Moments and principle of moments
- Moment calculations

Electrostatics:

- The atom and electric charge
- charging, insulators and conductors
- Induced charge

Electricity:

- Series and parallel circuits
- Drawing circuits with appropriate symbols
- Measuring current and voltage
- Resistance
- Properties of series and parallel circuits

Heat energy transfers:

- Heat and internal energy
- Conduction, convection and radiation
- Evaporation

CHEMISTRY

Atomic Structure:

- Atomic structure of first 20 elements
- Isotopes

The periodic table:

- How elements are arranged in groups and periods of periodic table
- Properties and use of Group 1, 2, 7 and 8 of the periodic table.

Patterns of reactivity:

- How metals react with oxygen, water and acids
- Displacement reactions and the reactivity series

Preparing common salts:

- Word equations for making salts
- Making salts with acids and their reactions with metals, and metal carbonates

Rates of reaction:

- Effect of concentration, temperature and particle size and catalyst on rate of reaction
- Measuring rate of reaction by the change in mass of reactants
- Measuring rate of reaction by change in volume of a product