



# LAHORE GRAMMAR SCHOOL

Faisalabad

## 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