



PEISG

Admission Requirements for Class 9

Age Requirement: 13+ to <14

English

Should be able to

- Read and answer comprehension questions (fictional and non-fictional texts).
- Use descriptive writing features, figures of speech.
- Understand text organization, paragraphs, main idea.
- Be very confident with advanced grammar.
- Understand purpose and audience of author.
- Write all genres. Formal and informal.
- Understand conventions of summarization.

Mathematics

Should be able to

- Fully perform the 4 operations (including decimal), approximate, rounding, significant figures and accuracy, and order of operations,
- Use positive, negative and zero indices and the index laws,
- Solve problems involving percentages by using decimals and fractions, calculate profits and loss,
- Create algebraic expressions using word problems,
- Solve simultaneous equations and inequalities using algebraic and graphical methods,
- Find inverse of a function, understand terms like *Range* and *Domain*,
- Understand, create and solve quadratic equations,
- Understand and apply inequalities and inequality signs,
- Create a table of values and plot graphs and identify the graph for a given equation,
- Create sequences using term-to-term and position-to-term rules,
- Understand and calculate mean, mode and medians,
- Understand and create tally tables and Stem & Leaf diagrams,
- Understand and use properties of angles on straight line, triangle and parallel lines,
- Understand and use Pythagoras theorem to solve problems,
- Understand geometric reflection and translations,

Sciences

Should be able to

Chemistry

- Define an atom, and sub atomic particles,
- Define the Particle Theory of Matter, and define solids, Liquids and Gases in relation with it,
- Explain changes in states of matter,
- Explain Elements, Mixtures and Compounds,
- Differentiate between Metals and Non-Metals,
- Define Gas pressure and Diffusion,
- Name common lab equipment to measure time, mass, volume, pressure etc.,
- Know the first 20 elements on the periodic table.

Physics

- Understand and explain physical quantities like mass, weight, time, distance, force etc.,
- Understand motion and be able to calculate speed etc using equations or graphs,
- Interpret Distance-Time and Speed-time graphs,
- Understand Force, and its effect on motion,
- Understand the concept of energy, explain various forms of energy,
- Explain the effects of temperature change upon Volume and Pressure of a gas,
- Understand the concept of mechanical waves, and know how waves are formed,
- Understand pressure, including hydraulic pressure,
- Define electric current, identify circuit components like battery, resistor, lamp etc.,

Biology

- Identify and explain seven characteristics of living things,
- Identify and differentiate between animal and plant cells,
- Understand the process of Photosynthesis and write the equation for it,
- Understand the concept of water and mineral transport in plants,
- Understand the term *Balanced Diet*, and identify the food sources for each dietary group,
- Identify the main regions of alimentary canal and associated organs, including mouth, salivary glands, oesophagus, stomach, small intestine, large intestine, pancreas, liver, gall bladder and large intestine. Understand the functions of the regions of the alimentary canal, in relation to ingestion, digestion, absorption, assimilation and egestion of food,
- Recognise the basic components of the Respiratory system and describe their functions,
- Define aerobic respiration and gaseous exchange, and explain effects of smoking,
- Recognise the basic components of the Circulatory system and describe their functions,
- Describe the human reproductive system, including menstrual cycle, fertilisation and foetal development,
- Describe sexual reproduction in plants, including pollination, fertilisation, seed formation and dispersal,
- Identify producers, primary consumers, secondary consumers, tertiary consumers and quaternary consumers as the trophic levels in food chains and food webs.