

Class Eight | Learning Journey & Curriculum Map

Class Eight | Child Development

Class 8 is the culmination of the 'Class Teacher years' and in the subjects and topics that are taught, there is a kind of completion, on one level, of a survey of the world that began in Class 1. In their fourteenth year, the children/students have learned enough about the world to be able to orientate themselves in it - to begin to think about their place in it - even to live independently, if necessary. They understand, at a basic level, how things work; they are thinking about the future.

Class Eight | Science

Active Learning Intention	Active Teaching Implementation	Active Environments Impact
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<p>Plants and Animals</p> <ul style="list-style-type: none"> ● Understands and can represent in detail many structures of the human body, e.g. the eye and/or ear; the spinal column, the foot, the relationship of bones and muscle in major joints ● Understands the form of particular bones, and the skeleton as a whole <p>Physics</p> <ul style="list-style-type: none"> ● Understands the Archimedes principle, hydrostatic buoyancy, stability (e.g. of ships) hydraulic scales, specific weight, static pressure, the principal of pumps, laminar and turbulent flow, vortices and resistance ● Knows the speed of sound and understands sound reflection (echo) and absorption ● Applies understanding of sound to building and instrumental acoustics ● Understands and describes changes of state of liquids, solids, gases, including evaporation ● Explains the anomaly point of water and significance for nature ● Describes warm and cold water pipe systems, convection, radiation, conduction and insulation ● Understands the warming and chemical 		<ul style="list-style-type: none"> ●
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<p>effects of electric currents</p> <ul style="list-style-type: none"> • Understands the electrical conduction and insulation effects of various materials, and earthing • Understands the magnetic effect of a current and its applications, e.g. electro-motor, dynamo • Understands measurement of electrical resistance and conductance (Ohm's law) 		
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Class Eight | Science | Curriculum Narrative

In Physics, we study the properties of fluids. Having characterised compressible fluids, incompressible fluids and flow and defined pressure, they investigate: the properties and effects of air pressure and the relationship between atmospheric pressure and altitude which led into the work of Torricelli and Pascal on vacuum, atmospheric pressure and barometers; the increase of pressure with depth in a liquid, surface tension and the density of liquids; the effect of pressure on melting and boiling temperatures. In Class 9, the topic of fluid dynamics will be expanded into Thermodynamics. In Chemistry, they begin from the mineral world of salts, reduction to the metals, the character, influence and uses of copper, iron, mercury, lead, silver, tin and gold. Oxidation and reduction leads from hydrogen to oxygen and photosynthesis with the chemistry of the plant: from carbohydrates, oil and protein. In Human Science, we consider the whole shape of the human body and the skeleton that supports it; how the weight falls on the sacrum and is distributed over the feet; the details of bone joints and the leverage they give all our bodily movements as well as learning the names of many individual bones. They describe, they discuss, they draw and they have the unique opportunity to see a real human skeleton.. This phenomenological approach to science develops in the students the attitude, even the habit, of approaching the world with the intention of gathering evidence to form a picture based on reality rather than jumping to conclusions based on pre-conceived ideas, received knowledge or first impressions. This attitude can, of course, be applied to every subject taught, and every sphere of life and enables them - us - to look at issues from many points of view. This, together with the development of practical skills that bring an understanding and appreciation of how the things we use are produced, provides our students with a rich connection with other people, places and times - something that is badly needed in a world where everything - the things we buy and the information we are given - is sorted, edited and packaged for us.