

2. SYLLABUS.—A selection of such topics as the following :—

(a) *Elementary General Science*.—Solutions and emulsions. Crystallization. Humidity of air. Oxidation. Acids and gases related to agricultural and dairy science. Neutralization bleaching. Elementary knowledge of rocks in the neighbourhood. Simple chemical and mechanical examination of these. Gravitation. The pendulum. Water finds its own level. Town and house water-supplies. Water-pump. Hydraulic ram. Momentum. Application of momentum to life situations such as alighting from moving vehicle, standing up in row-boat, driving or running round corner. Friction. Principle of moments simply applied to ordinary weighing-machine and the see-saw. Simple calculations connected with the principle of moments. Levers and their commonest applications. Heat and its effects on solids, liquids, and gases. Boiling a form of molecular dispersal, hence elementary knowledge of heat as a form of motion. Application of expansive force of steam. Use of thermometer. Boiling-point dependent on density of liquid and pressure of surrounding atmosphere. Distillation. Effect of pressure on temperature of gases leading to elementary notions of principle of refrigeration. Relative density and specific gravity. Principle of Archimedes. Centre of gravity.

Sound—what it really is and how it can be conveyed. Principle of the telephone and the gramophone.

Elementary experiments in electricity and magnetism, simple and home-made apparatus being used.

(b) *Elementary Agriculture*.—Classification and properties of soils. Examination of soil in the neighbourhood. Moisture in soil. Retentivity of moisture and plant-food in soil. Soil-temperatures. Improvement of soil-texture and soil-content. Drainage of soil. Bacteria in soil. Nitrification: the nitrogen cycle. Effects of liming, of using various artificial manures. Effect of different crops on soil-content. Rotation of crops. Restoration of fertility of soils. Fungoid and animal pests. Preventive and curative sprays. Study of the root, classification of roots, root-pressure, effect of root-pruning. Flowers of grasses, fruit-trees, native plants, weeds. Methods of fertilization. Plant-breeding. Study of the leaf. Carbon assimilation. Tree-planting. Selection of trees for different purposes: hedges, shelter, timber, ornament. Plantation-forming.

(c) *Dairy Science*.—As for Standard VI, with the addition of the following: Coagulation of milk; causes of variation and of defects in composition of milk; composition of skimmed milk; separated milk; buttermilk and cream; acidity and the estimation of acidity; pasteurizing and sterilizing milk. Ripening of cream. Use of starters.

DRAWING.

INTRODUCTION.

The prescriptions of work in this subject have been arranged in four definite stages—that is, for the Preparatory Division, the Junior Division, the Middle Division, and the Senior Division. The work of the classes within any of these divisions will not vary materially in content, but will be expected to show a progressive advance in quality. Schemes of work should show clearly the scope of the work proposed, and the manner in which harmonious development of the subject is secured from group to group or from class to class. It is intended that the spontaneous efforts of the child to express himself graphically shall be supplemented by definite instruction in the craftsmanship of the subject, so that reasonable skill is attained. In other words, it is intended that definite instruction shall be given in the drawing of natural and fashioned objects, in design, and in instrumental drawing, in so far as it affects design or handwork, so that the pupil may gain sufficient mastery over the technique of the subject to enable him to use drawing as a means of expression whether in connection with literature, history, or the manual arts. Thus the child will acquire increasing ability to express ideas and feelings, to represent things seen, and to satisfy and cultivate his æsthetic sense. Throughout the syllabus the importance of the use of colour and tone is emphasized. It has not been thought necessary to point out all the ways in which drawing may be associated with other subjects in the curriculum; but no scheme or plan of work will be considered satisfactory that does not make full provision for close association of this kind.

PREPARATORY CLASSES.

Free representation in colour of events in the child's life and of scenes illustrating folk-tales, fairy-stories, and nursery rhymes. Free drawing in both mass and line with chalk, crayon, or pastel of common things in the