

rapidity with which all trading and commercial accounts are calculated, are facts of notoriety to all who have any acquaintance with purchases of sales made in that country.

4. SCHOOL EXPERIMENTS IN ELECTRICITY.

Every teacher can easily manage to get a glass tube, or a glass rod, or even a piece of a lamp-chimney; also, a rod of sealing-wax, a few pieces of woollen cloth (flannel) and silk; also, a few little pieces of any kind of fur, some hard rubber (say a piece of a broken comb.) A collar-box, from which the bottom has been removed, forms a paper hoop which is also valuable for electrical purposes. Finally some common but very thin paper—best silk paper—is very useful. With the above, or portions thereof, the fundamental properties of electricity can be illustrated. Beside, it is well to get a small piece of amber; in the jewellery stores or fancy stores they usually keep strings of beads made of amber, and most store keepers are sufficiently gentlemanly to sacrifice one bead on the altar of science, if gently asked to do so, especially by that great division of the teaching brotherhood consisting of sisters.

If you obtained some silk paper, cut off a strip about an inch wide, and six or seven inches long, and while holding it in the left, draw it a few times through between the thumb and first finger of the right hand. It will now be strongly electrified, so as to be attracted by a knuckle of the right hand while the strip is still held in the left. Thus, by rubbing a piece of paper it acquired the new property of approaching the finger. The cause of this mutual attraction is called electricity.

Now cut some thin paper up into very small pieces. Rub the glass, or sealing-wax, or hard rubber, etc., with either the woollen, silk, or fur; and in each instance you see, upon bringing the rubber, glass, etc., near the paper cuttings, that these fly toward it. Often, after having adhered for a little while, the paper cuttings suddenly rebound, so as to indicate a repulsion. The attraction due to electricity may also be shown by the rim of the paper box mentioned above. Rub the rod of sealing-wax thoroughly, hold it parallel to the paper ring, and sufficiently near the rim. This latter will roll toward the rod, and, upon properly removing the rod, the rim follows it along the table (which must be exactly horizontal, for the power is rarely sufficient to raise the rim up hill). Again, bend a piece of card-paper at right angle, put it on the narrow base, and approach the rod of sealing-wax to the upper and longer vertical part: the electrical attraction will pull it down.

These experiments may readily be multiplied. They can at any time be shown before a class, especially when the room is properly heated.

By rubbing hard rubber with a piece of fur, and presenting a knuckle to the rubber at different places, a sharp noise is heard when the knuckle is held near enough to the ear: and when the experiment is performed in the dark, small sparks are seen to pass between the knuckle and the hard rubber.

By these simple means, any teacher may present the fundamental phenomena of electricity to his pupils. Attraction, repulsion, light and sound as effects of electricity. He may already have referred the small ones to the great exhibitions of electricity in the atmosphere, produced by the motions of the elements, and resulting in flashes of lightning and claps of thunder. He may also state that this force properly developed, serves as the swift messenger between distant nations, in the telegraph.

Finally, exhibit a piece of amber; show that it is very readily and strongly electrified. State that already the ancient Greeks brought amber from the Baltic; that they called it in their language *electron*, and that this is the origin of the name of the peculiar force developed in it by friction.—*Iowa School Journal*.

5. ADMIRABLE SUGGESTIONS ON THE SCHOOL-ROOM.

Though the direct instruction of the pupils is rightly regarded as the principal purpose of the primary school, every earnest and intelligent teacher will feel that it is his duty to devote much attention to the formation of habits of order, cleanliness, and neatness, as well as to the cultivation of a taste for the refined and beautiful.

The children attending our schools will be the parents of the next generation, and upon their inclinations and habits will depend the character of their homes and the tenor of their lives. If their homes are to prove comfortable, cheerful, attractive—in a word, homelike—we must let slip no opportunity of arousing and encouraging a love for order and tidiness, and a dislike of that which is ill regulated and slovenly. A peasant's or an artisan's home, though cheaply and humbly furnished, may present a pleasant aspect, and its charms may outweigh a thousand external and noxious influences.

Children spend no small portion of their time in school. Every one, therefore, admits that they are greatly influenced by the example of the teacher and the public opinion of the school, but many think little of the effect produced by the appearance of the room in which they are taught. Yet a positive influence is exerted. A boy or girl coming from a slovenly and wretched dwelling will be attracted and benefited by frequenting a clean and pleasant school, while one that is dismal, repulsive, and dirty may positively undermine the beneficial influence of a respectable and cheerful home. In some instances the contrast may enhance their affection for all that is materially attractive, but too often we fear an opposite effect will be produced.

Founders of schools would do well to erect them on healthy and suitable sites and in an attractive style.* A handsome edifice is not necessarily more costly than an ugly one, and even if the expense is somewhat greater, it would be more than counterbalanced by the pleasure afforded to the eye. Many towns and villages already possess beautiful school-buildings, and suitable plans are to be found in several of the volumes of the Minutes of Council on Education.

We treat here, however, chiefly of the interior of school-buildings, and of their adaptation to purposes of moral education and æsthetical culture; and in doing so we must necessarily enter into very simple details. A first and essential requisite is *cleanliness*. The floors of every room ought to be swept twice a day if possible, and they should be frequently scoured. Before sweeping, the maps should be rolled up, and all tablets and pictures turned or covered. Desks, forms, apparatus, and window-ledges should be dusted as soon as the dust has subsided. If the desks are varnished, all ink spots can be removed by a wet towel; and if they are not, the stains can be taken out by a solution of oxalic acid. Earthenware ink-wells are the most suitable, as they can be easily washed. Children should be taught not to dip their pens too far into the ink, and to avoid shaking any excess of it over the floor. So, also, they should be told not to throw upon it scraps of waste and dirty paper.

The school-windows should be frequently cleaned, both inside and outside, and all broken panes should be removed. Covering with paper or any similar device should not be permitted, except as a very temporary expedient. If the sections are separated by curtains, they ought to be of a cheerful colour, and capable of easy removal, in order that they may be readily shaken and any rents repaired.

The upper part of the walls ought to be covered with a light colour-wash; a belt of black boards should occupy the centre; and the lower part should be wainscoted or painted. When the room is scoured the walls should be dusted, and cobwebs should be removed as soon as they are seen.

To diminish the dust of the school-room, scrapers ought to be fixed outside the doors, and kept in efficient repair. Mats, also, should be placed in the entrance-lobby, and the pupils must be directed to use both. The employment of mats will involve some expense, but the outlay will be amply repaid by the formation of a desirable habit.

In the lobby, or in some suitable recess, cap and cloak racks ought to be fixed, and a monitor or pupil-teacher should be held responsible for the neatness of its appearance. A large but inexpensive umbrella-stand would be a welcome addition.

Open fire-places ought to be guarded by neat and strong fenders. All ashes should be removed, and the general appearance should be as tidy as in a well-regulated home.

Every school should be provided with sufficient offices, and these ought to be kept scrupulously clean and in perfect repair. They should be separated from the rest of the playground by a wooden or brick partition.

The *orderly appearance* of the school-room is next in importance to its cleanliness. To maintain it, it is essential that all apparatus be kept in repair. Black boards, easels, and stands, when broken, should be mended; and maps, if torn from their rollers, should be

* "The situation in which the school-house is erected is by no means of slight importance. It is desirable to avoid the neighbourhood of any place of public resort, where the children would be exposed to the influence of bad example. The noise of a much frequented street or highway, arising from the passage of wheels over the pavement, from the cries of street-hawkers, &c., is the source of serious interruption to the school. The vicinity of any noxious trade; of a marsh or stagnant pool; of streets known to be frequently infested with fever, is liable to objections on sanitary principles, as well as the choice of a low site, from which there is no sufficient drainage.

"Bleak and unhealthy situations on the other hand, and sites on a dry, sandy soil, where the school-houses are exposed to concentrated radiation, with little ventilation, are not unfrequently chosen in rural districts, exposing the children, during many months in the year, to noxious natural influences, which often cannot be removed by artificial means."—Minutes of Council, 1839-40, p. 71.