III.—PREPARATION.

The vapour of Aluminium Chloride is passed over metallic Sodium.

(1). The Oxide is reduced by charcoal at a very high temperature.

(2). The Chromic Chloride is reduced by melting Zinc.

(3). The Chromic Chloride is reduced by Sodium.

IV.—PROPERTIES.

Silver white metal, with bright metallic glance, very ductile and malleable, S. G. 2.6, —conducts electricity eight times better than iron—melts at a red heat somewhat easier than silver, and upon cooling becomes crystalline, not oxidized in the air at the common temperature, decomposes water at 100°C only when in the form of a very fine powder and then but slowly—is little effected by dilute acids with the exception of Hydrochloric Acid, in which it easily dissolves, evolving hydrogen—soluble also in alkalies, &c.

On account of its lightness and bright lustre it is used for the metallic portions of optical instruments, as well as for ornamental work.

Pure Chromium is the most infusible of all the metals, only melting at a temperature sufficient to fuse and volatilize Platinum.

The properties of Chromium vary according to the method of preparation. Prepared after the first way it is a steel gray metal—more difficultly fusible than Platinum, very hard, easily soluble in HCl and but little effected by H_2SO_4 and HNO_3; second way, it is a bright, grey powder, consisting of little rhomboedral crystals, which, when heated in the air become yellow and blue, (like steel), and are gradually covered by a coating of Chromic Oxide—heated in pure Oxygen it burns, emitting sparks—is easily soluble in HCl, also in H_2SO_4—is not effected by HNO_3; third way, it forms bright crystals of the cubic system, which resist the action of all acids, even of a *qua regia*.

PUBLIC SCHOOL DEPARTMENT.

GRADED COURSE OF INSTRUCTION.

FIRST GRADE.

Division A. (Lowest Class.)

READING WRITING AND SPELLING.

The first 15 pages of First Book, part I.

Requisites.—A book, slate and pencil for each pupil, for seat preparation; tablet lessons, black-board and chalk, for recitation.

How to teach.—On the first tablet call the class's attention to OX and encourage the pupils to point other OX's on the tablet; then call attention to ON, comparing it with OX, and encourage them to point out the difference; then take up NO in the same way. Do not trouble the pupils with the *names* of any of the letters till the *words* of the lesson are thoroughly mastered. Print the words on the board and encourage the pupils, each with a piece of chalk, to imitate. Let the pupils go to their seats and with their books, slates, and pencils, practice printing what has been taught.