

SCIENCE.

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I.

QUESTIONS IN CHEMISTRY.

The following questions will assist in reviewing chapters XI-XVI in High School Chemistry :

1. Describe the preparation of charcoal and explain why a closed vessel should be used.
2. Describe experiments to show that charcoal will (1) absorb a gas (2) act as a reducing agent.
3. Explain how each of the oxides of carbon may be changed into the other. What changes in volume take place as one oxide is converted into the other.
4. Explain by equations the combustion of carbon monoxide, olefiant gas and methane.
5. During the combustion of Ethylene in a long cylinder carbon is deposited on the mouth of the tube, account for this.
6. From the equations representing the complete combustion of Ethylene and Methane, deduce the volume of oxygen necessary for the complete combustion of one litre of each of these gases.
7. Explain by an equation what takes place when steam is passed over highly heated, powdered charcoal.
8. In the coal gas whose composition is given on page 79, point out

the advantage or disadvantage of each gas present in it.

9. How does the conduct of ethylene and methane towards chlorine differ?
10. How would you convert a non-luminous flame into a luminous one? What inference would you draw as to the cause of the luminosity of a flame? What further experiments would you perform in order to establish the cause of the luminosity of flame?
11. State and illustrate the principle of the Davy Lamp.
12. Give a set of experiments with which to demonstrate that different substances have the temperature of ignition different.
13. How would you distinguish the gases which have been dealt with in the text previous to chapter XVI?

II.

ELECTRIC BATTERIES.

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The following schedule of the different kinds of electric batteries enables the pupils to very readily familiarize themselves with the different parts of each. The Leclanche and Daniell Batteries are given in addition to those mentioned in the text book. The first two batteries in the schedule are single-fluid cells, the remaining five are two-fluid cells.