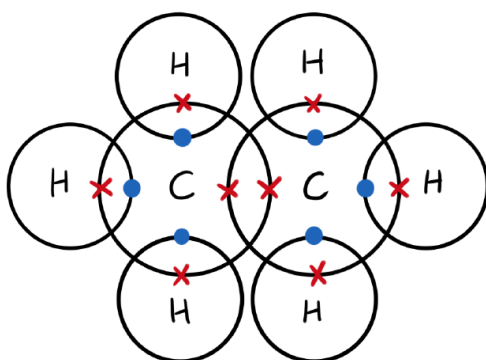
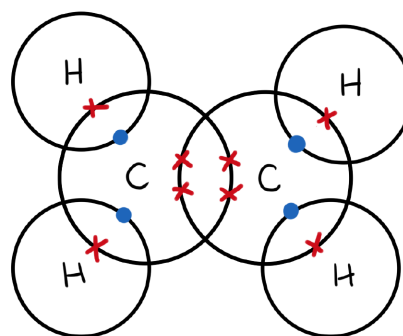


Name:

Class:



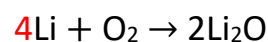
Draw the dot and cross diagram to show the arrangement of electrons in a molecule of **ethane** and **ethene**.

**Ethane****Ethene**

Name the group of the periodic table which contains Al.

Group 3

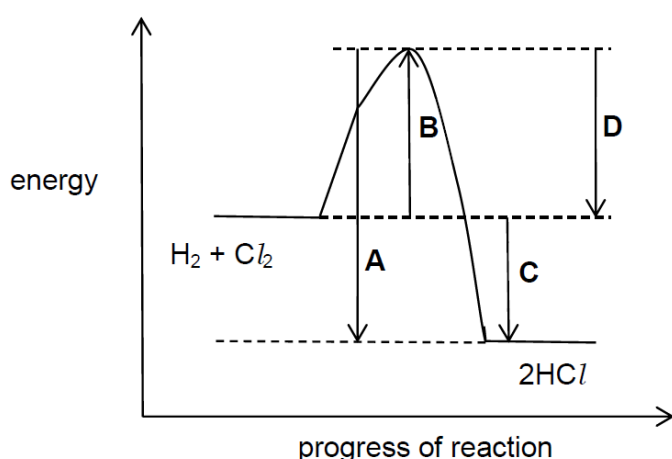
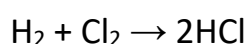
Balance the equation for the reaction of lithium with oxygen.



When 12 g of carbon, C, burns in oxygen, O₂, 44 g of carbon dioxide, CO₂, is formed. What mass of C would need to burn to form 11 g of CO₂?

12 : 44**0.272727 : 1****3 : 11****Mass of Carbon = 3 g**

Look at the reaction profile for the reaction between hydrogen and chlorine.



Which energy change represents the enthalpy change of reaction?

C

Graphite is a good conductor of electricity.

Diamond does not conduct electricity.

Use ideas about structure and bonding in diamond and graphite to explain these observations.

- Diamond is a giant molecular covalent lattice.
- Diamond makes four covalent bonds with surrounding carbon atoms.
- It has no delocalised electrons which can move and carry charge.
- Graphite is a giant layer lattice.
- Graphite forms three covalent bonds with surrounding carbon atoms.
- Graphite has delocalised electrons which can move and carry charge.