

Chemistry Worksheet for grade 12th

- Which compound in each of the following pairs has the larger lattice energy? Note: Ba^{2+} and K^{+} have similar radii; S^{2-} and Cl^{-} have similar radii. Explain your choices.
 - K_2O or Na_2O
 - K_2S or BaS
 - KCl or BaS
 - BaS or BaCl_2
- Which of the following compounds requires the most energy to convert one mole of the solid into separate ions?
 - MgO
 - SrO
 - KF
 - CsF
 - MgF_2
- Explain why the HOH molecule is bent, whereas the HBeH molecule is linear. Explain how a molecule that contains polar bonds can be nonpolar.
- Predict the electron pair geometry and the molecular structure of each of the following molecules or ions:
 - SF_6
 - PCl_5
 - BeH_2
 - NH_3
 - PCl_3
 - SF_2
 - H_2S
- Identify the electron pair geometry and the molecular structure of each of the following molecules or ions:
 - CF_4
 - BF_3
 - SiF_5
 - BeCl_2
- Which of the following molecules and ions contain polar bonds? Which of these molecules and ions have dipole moments? ClF_5 , ClO_2 , PCl_3 , SeF_4 , and XeF_2
- Which of the following molecules have dipole moments? CS_2 , SeS_2 , CCl_2F_2 , PCl_3
- Draw the Lewis structures and predict the shape of each compound or ion: CO_2 , NO_2^{-} , SO_3 , SO_3^{2-} .
- Draw the Lewis electron dot structures for these molecules, including resonance structures where appropriate: CS_3^{2-} , CS_2 , CS .
- Identify the more polar bond in each of the following pairs of bonds: (a) HF or HCl (b) NO or CO (c) SH or OH (d) PCl or SCl (e) CH or NH (f) SO or PO (g) CN or NN .
- Which of the following doesn't follow octet rule?
 - CH_4
 - CCl_4
 - HCl
 - NO_2
- In which of the following substances will the hydrogen bond be strongest?
 - HCl
 - H_2O
 - HI
 - H_2S
- Write the hybridization of the following compound:
 - SF_6
 - PCl_5
 - BeH_2
 - NH_3
 - PCl_3
 - SF_2
 - H_2S
 - CCl_4
- Which is not an exception to octet rule?
 - BF_3
 - SnCl_4
 - BeI_2
 - ClO_2
- The compound with the lowest melting point is
 - AlF_3
 - AlCl_3
 - AlBr_3
 - AlI_3
- Of the choices below, which one is not an ionic compound? A) PCl_5 B) CrCl_6 C) RbCl D) PbCl_2 E) NaCl
- Which of the following compounds would be MOST ionic? A) Al_2O_3 B) BeS C) Na_2S D) MgCl_2 E) CsF
- Which formula represents a nonpolar molecule containing polar covalent bonds?
A. H_2O B. CCl_4 C. NH_3 D. H_2