

Ionic vs. Covalent Bonding KEY
Compare and Contrast

description	Ionic bonding	Covalent bonding
e ⁻ shared or e ⁻ given and received	e ⁻ given by metals and received by non- metals	e ⁻ shared
Metal and non-metal or Non-metal and non-metal	Metal and non-metal	Non-metal and non-metal
Conductivity	Conductor of electricity	Non-conductor of electricity

Classify each of the following compounds as ionic or covalent and name each compound.

Compound	Ionic or covalent	Compound Name
(NH ₄) ₂ S	ionic	Ammonium sulphide
OCl ₂	covalent	Oxygen dichloride
SnCl ₂	ionic	Tin II chloride
NaNO ₃	ionic	Sodium nitrate
N ₂ O ₃	covalent	Dinitrogen trioxide
SCl ₂	covalent	Sulfur dichloride
NBr ₃	covalent	Nitrogen tribromide
FeF ₂	ionic	Iron II fluoride

The compounds in each group below have similar looking formulas but they have very different names. Classify each as ionic or covalent and name each compound.

Chemical Formula	Ionic or covalent compound	Compound Name
a. VO_2	Ionic	Vanadium (IV) oxide
b. NO_2	covalent	Nitrogen dioxide
c. CrBr_2	Ionic	Chromium II bromide
d. CdBr_2	Ionic	Cadmium bromide
e. SBr_2	covalent	Sulfur dibromide
f. $\text{Na}_2\text{Cr}_2\text{O}_7$	Ionic	Sodium dichromate
g. Na_2CrO_4	Ionic	Sodium chromate
h. Cr_2O_3	Ionic	Chromium III oxide
i. N_2O_3	covalent	Dinitrogen trioxide
j. SO_3	Covalent	Sulfur trioxide
k. Li_2SO_3	Ionic	Lithium sulfite
l. Li_2SO_4	ionic	Lithium sulfate
m. SO_2	covalent	Sulfur dioxide
n. OCl_2	Covalent	Oxygen dichloride
o. BeF_2	Ionic	Beryllium fluoride
p. FeF_2	ionic	Iron II fluoride
q. CO_2	Covalent	Carbon dioxide
r. NaHCO_3	Ionic	Sodium bicarbonate (sodium hydrogen carbonate)
s. PbCO_3	ionic	Lead III carbonate