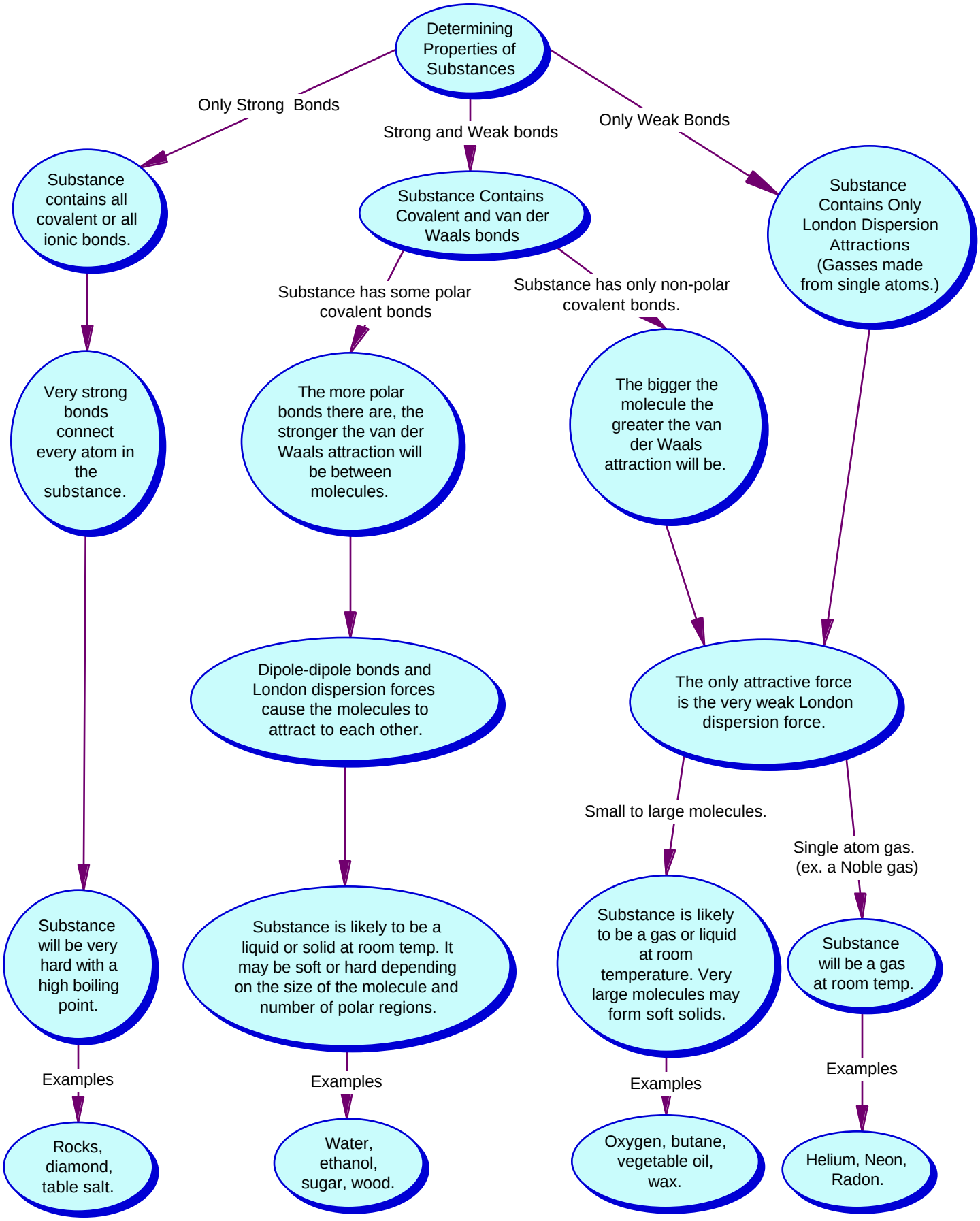
Determining Properties of Substances
Only Strong Bonds
Strong and Weak bonds
Only Weak Bonds
Substance contains all covalent or all ionic bonds.
Substance Contains Covalent and van der Waals bonds
Substance Contains Only London Dispersion Attractions (Gasses made from single atoms.)
Substance has some polar covalent bonds
Substance has only non-polar covalent bonds.
Very strong bonds connect every atom in the substance.
The more polar bonds there are, the stronger the van der Waals attraction will be between molecules.
The bigger the molecule the greater the van der Waals attraction will be.
Dipole-dipole bonds and London dispersion forces cause the molecules to attract to each other.
The only attractive force is the very weak London dispersion force.
Small to large molecules.
Single atom gas. (ex. a Noble gas)
Substance will be very hard with a high boiling point.
Substance is likely to be a liquid or solid at room temp. It may be soft or hard depending on the size of the molecule and number of polar regions.
Substance is likely to be a gas or liquid at room temperature. Very large molecules may form soft solids.
Substance will be a gas at room temp.
Examples
Examples
Examples
Examples
Rocks, diamond, table salt.
Water, ethanol, sugar, wood.
Oxygen, butane, vegetable oil, wax.
Helium, Neon, Radon.