Topics:

- Bravais lattices, symmetry
- reciprocal lattice
- kinetic gas theory

Summary:

- Bravais lattice: looks identical from every lattice point
- Bravais lattice: shows symmetry properties of crystal
- reciprocal lattice: k-space equivalent of real lattice, seen in X-ray diffraction
- ideal gas: non-interacting, elastic collisions
- internal energy of ideal gas: $1/2kT$ per degree of freedom
- heat capacity constant versus temperature