

WAVES



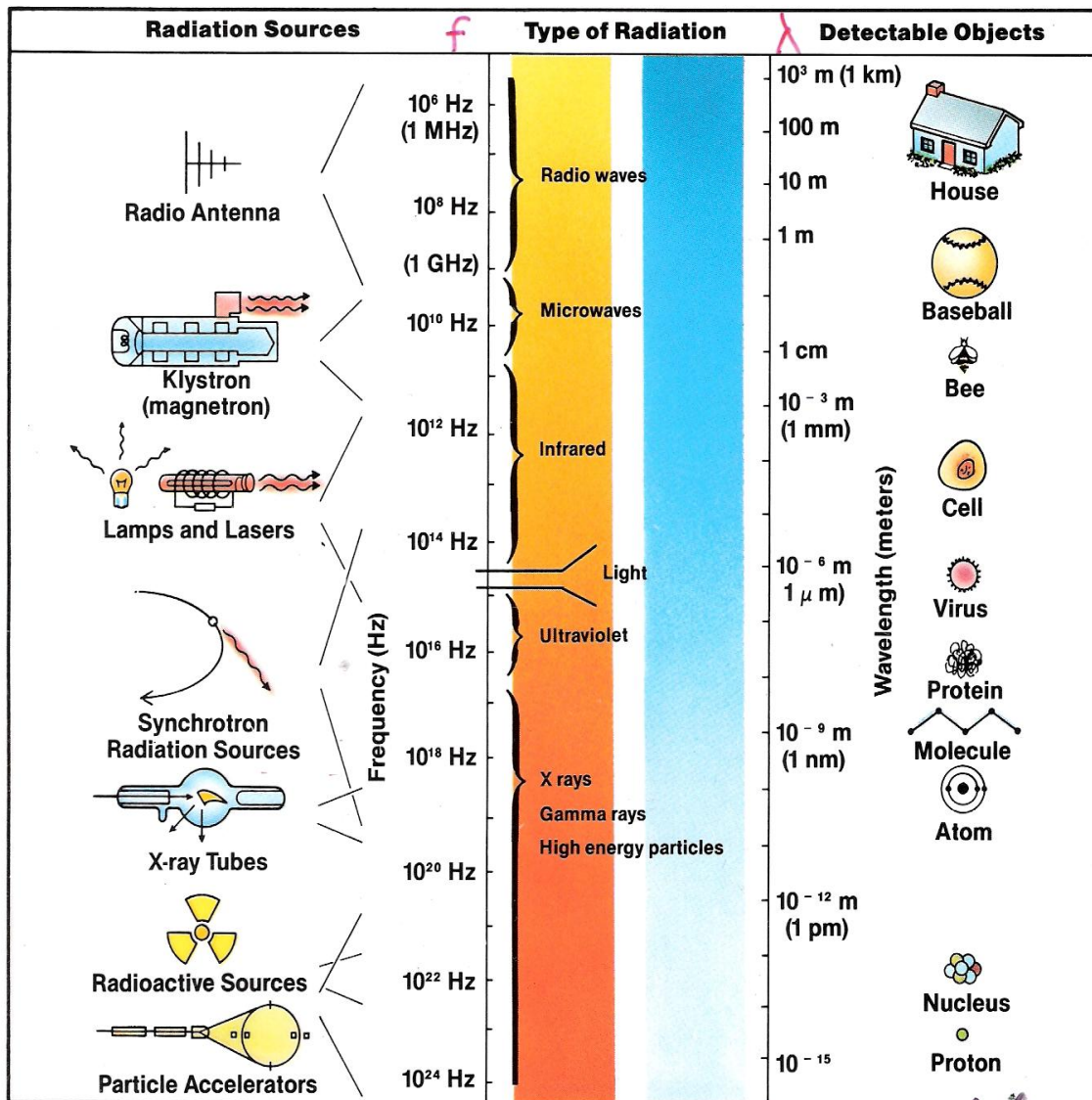
Beetle Bailey



Hagar the Horrible



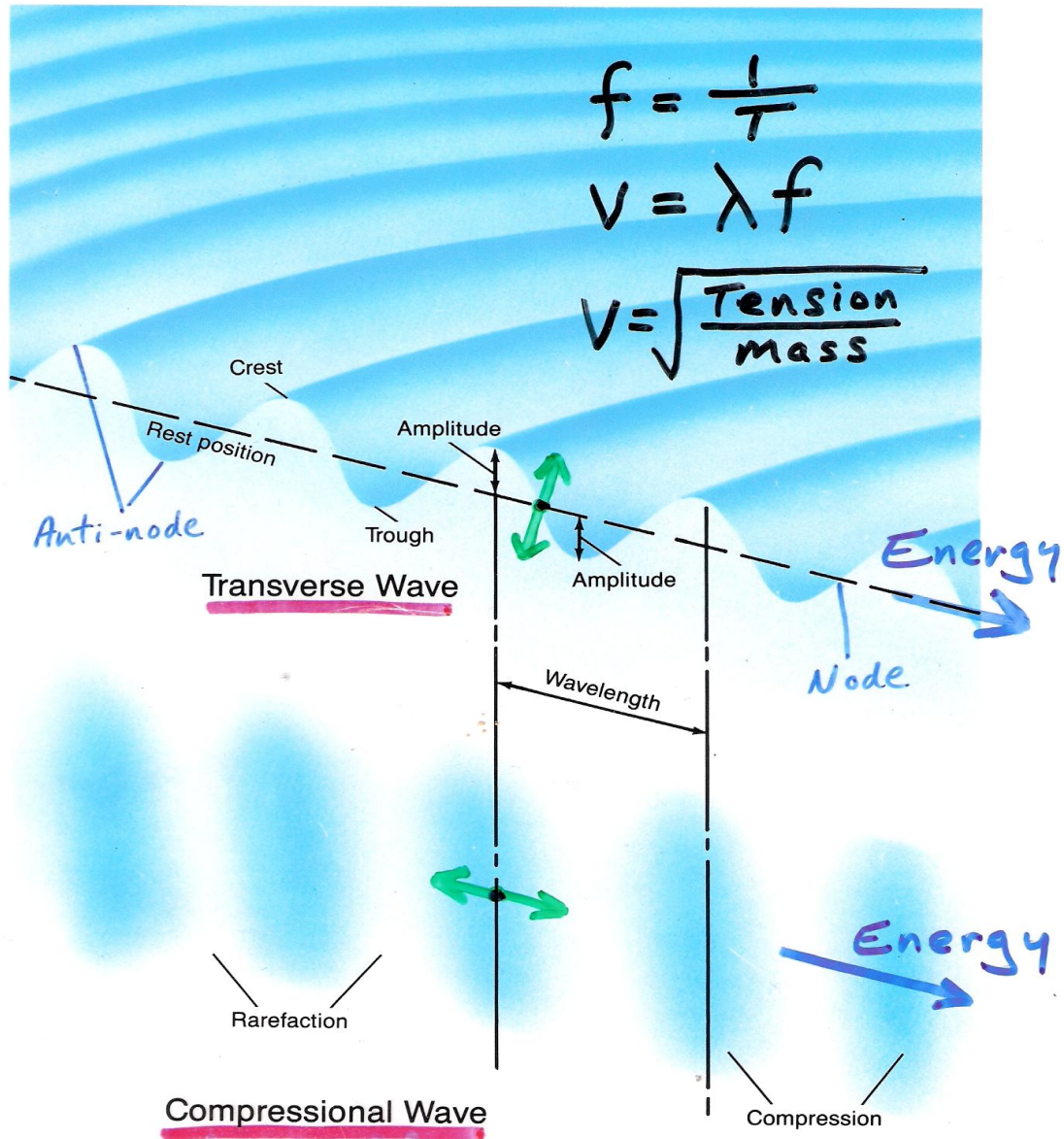
REPRESENTATIVE ELECTROMAGNETIC SPECTRUM



$$c = \lambda f = 3 \times 10^8 \text{ m/s}$$
 Vacuum

ROY G BIV

WAVE PROPERTIES



WAVE CATEGORIES

► **Longitudinal** vs. **Transverse:**

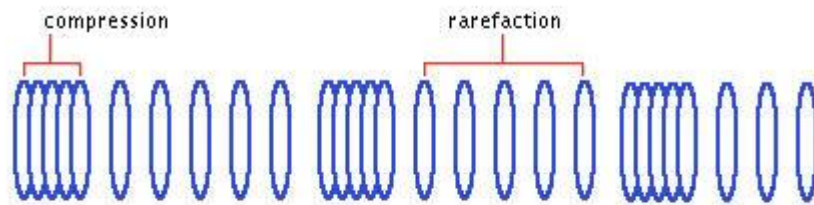


Figure 1: Longitudinal Wave

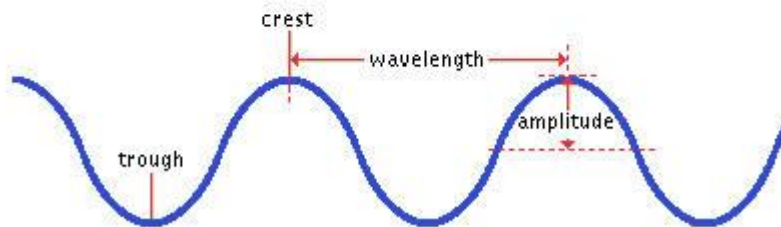


Figure 2: Transverse Wave

Longitudinal: oscillates parallel to energy flow

Transverse: oscillates perpendicular to energy flow

► **Mechanical** vs. **Electromagnetic:**



- Medium to pass through
- Usually observable



- Passes through vacuum
- Cannot see

► **Traveling** vs. **Standing:**



- Appears to move



- Appears to stand still due to **INTERFERENCE**