

Some practical units for measuring length

$$1 \text{ micron} = 10^{-6} \text{ m}$$



Bacterias

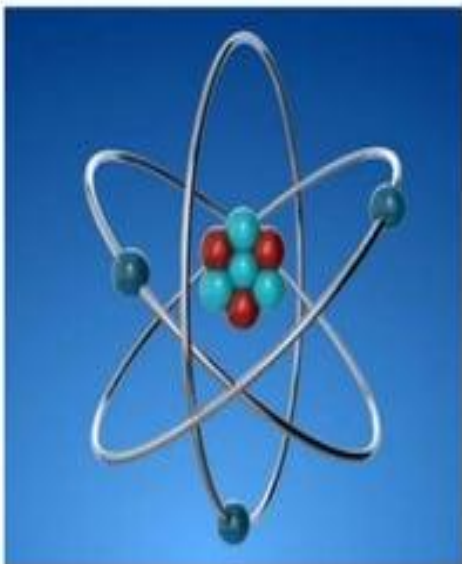
$$1 \text{ nanometer} = 10^{-9} \text{ m}$$



Molecules

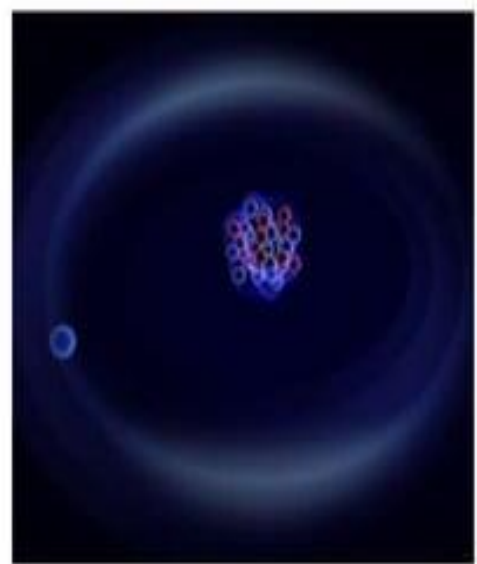
Some practical units for measuring length

$$1 \text{ angstrom} = 10^{-10} \text{ m}$$



Atoms

$$1 \text{ fermi} = 10^{-15} \text{ m}$$



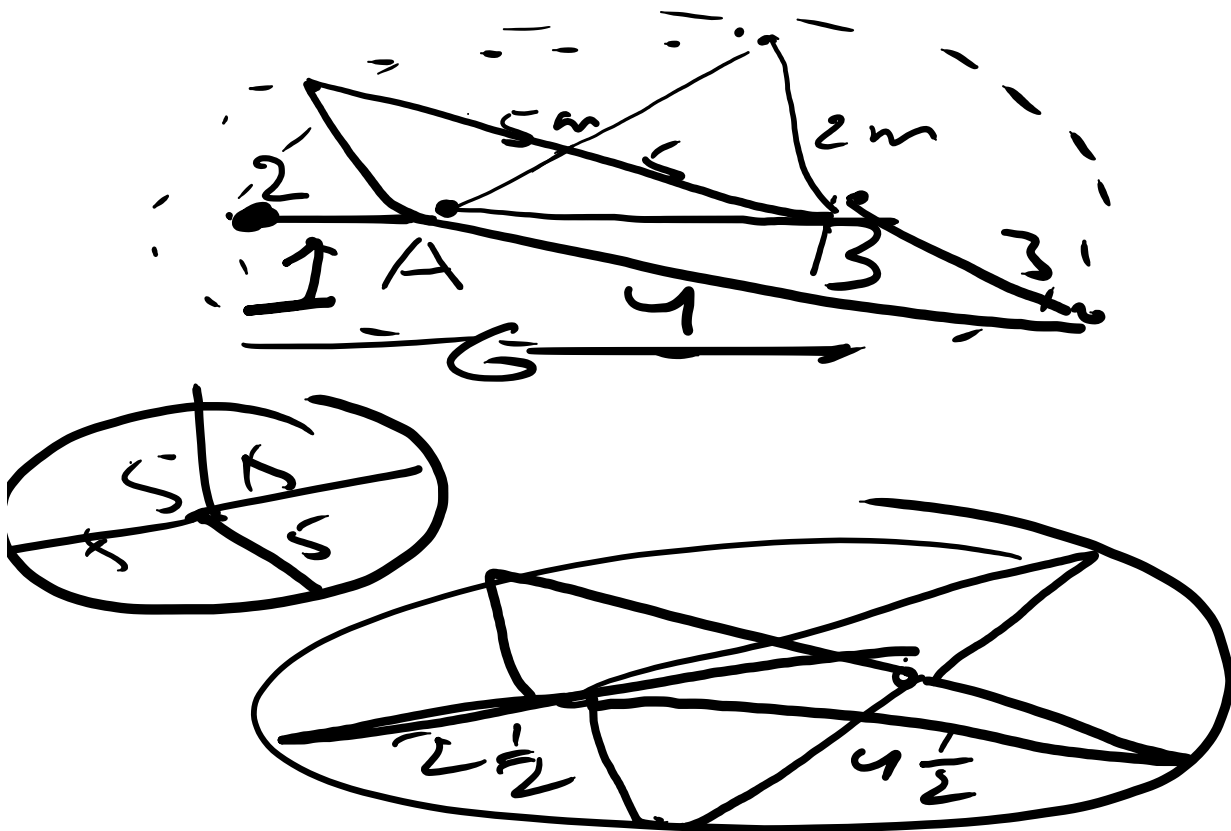
Nucleus

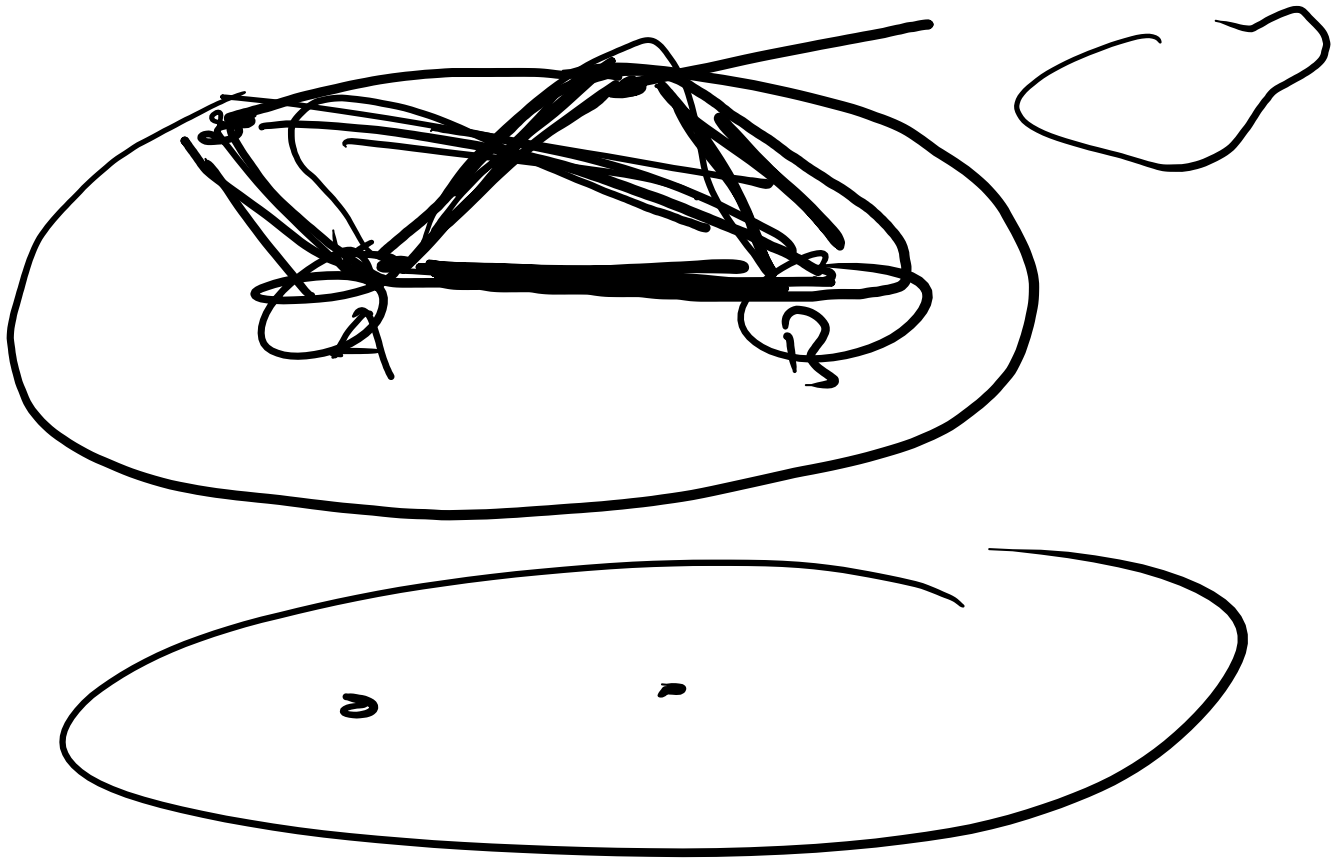
Some practical units for measuring length

- Astronomical unit = It is defined as the mean distance of the earth from the sun.
- 1 astronomical unit = 1.5×10^{11} m



Distance of planets





Some practical units for measuring length

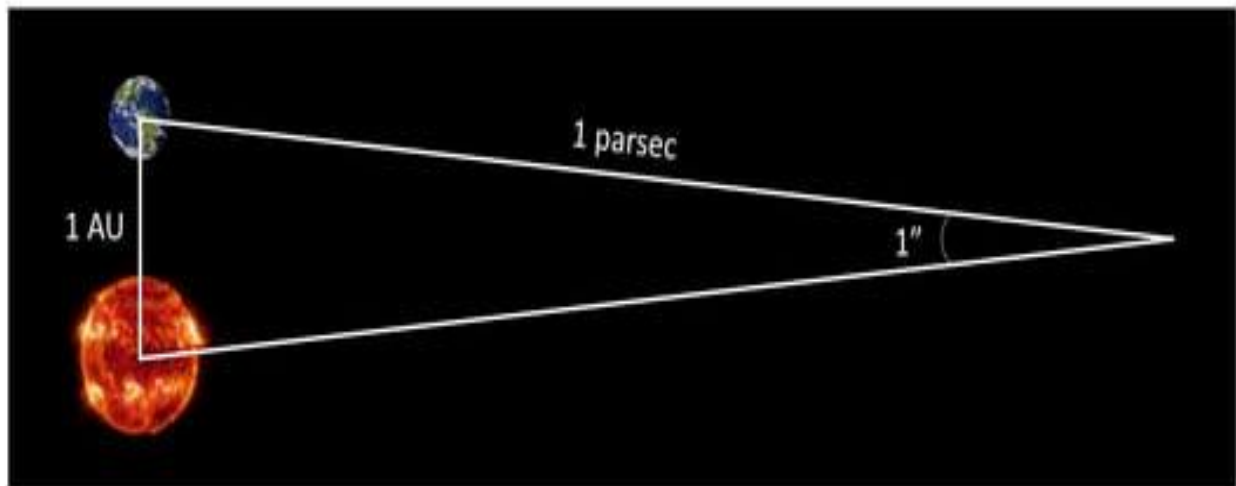
- Light year = It is the distance travelled by light in vacuum in one year.
- 1 light year = 9.5×10^{15} m



Distance of stars

Some practical units for measuring length

- Parsec = It is defined as the distance at which an arc of 1 AU subtends an angle of 1".
- It is the largest practical unit of distance used in astronomy.
- 1 parsec = 3.1×10^{16} m



Some practical units for measuring area

- Acre = It is used to measure large areas in British system of units.

$$1 \text{ acre} = 208' 8.5'' \times 208' 8.5'' = 4046.8 \text{ m}^2$$

- Hectare = It is used to measure large areas in French system of units.

$$1 \text{ hectare} = 100 \text{ m} \times 100 \text{ m} = 10000 \text{ m}^2$$

- Barn = It is used to measure very small areas, such as nuclear cross sections.

$$1 \text{ barn} = 10^{-28} \text{ m}^2$$

Some practical units for measuring mass

1 metric ton = 1000 kg



Steel bars

1 quintal = 100 kg



Grains

Some practical units for measuring mass

1 pound = 0.454 kg



Newborn babies

1 slug = 14.59 kg



Crops

Some practical units for measuring mass

- 1 Chandrasekhar limit = $1.4 \times$ mass of sun = 2.785×10^{30} kg
- It is the biggest practical unit for measuring mass.



Massive black holes

Some practical units for measuring mass

- 1 atomic mass unit = $\frac{1}{12} \times$ mass of single C atom
- 1 atomic mass unit = 1.66×10^{-27} kg
- It is the smallest practical unit for measuring mass.
- It is used to measure mass of single atoms, proton and neutron.

Some practical units for measuring time

- 1 Solar day = 24 h
- 1 Sidereal day = 23 h & 56 min
- 1 Solar year = 365 solar day = 366 sidereal day
- 1 Lunar month = 27.3 Solar day
- 1 shake = 10^{-8} s