Discuss with your neighbor(s) what these things are

- Opacity
- Limb darkening
- A star
- Stellar atmosphere
- Stellar interior

Questions on anything? Let me know.

Ay 20 Recitation 2

Yuping Huang

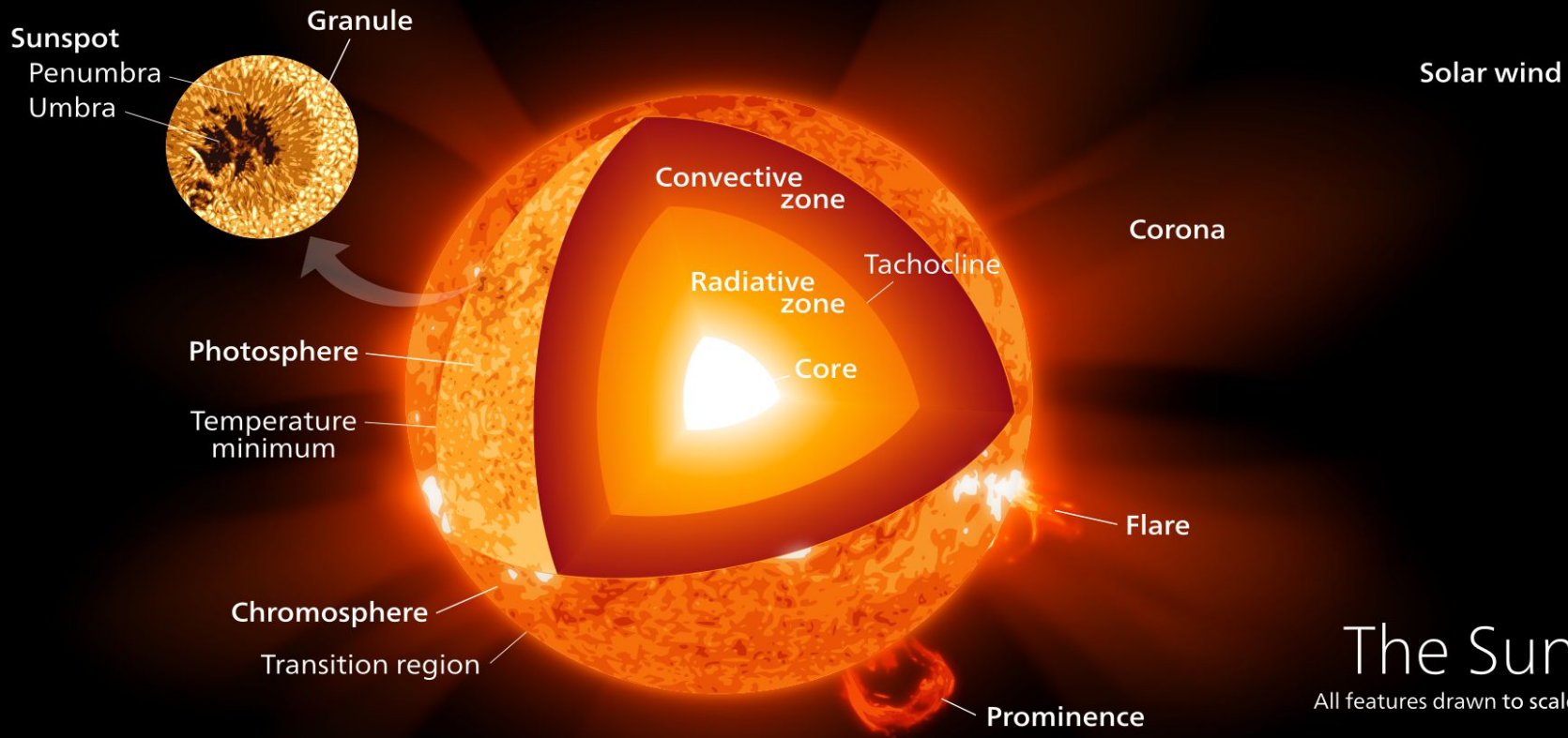Draw a diagram and write down a differential equation for the following statement...

As a beam of particles travel in its path, there is a probability α per unit distance travelled that a particle gets absorbed by the medium. At the same time, j particle per unit distance is added to the beam.

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As a beam of particles travel in its path, there is a probability α per unit distance travelled that a particle gets absorbed by the medium. At the same time, j particle per unit distance is added to the beam.

 Now write α ds, the probability of absorption, in terms of:
 (1)   Cross section σ and number density n
 (2)   Opacity κ and density ρ (opacity can be defined as cross section per mass)
 (3)   The mean free path λ
 (4)   The opacity τ

Sunspot
Penumbra
Umbra

Granule

Solar wind

Corona

Convective zone

Tachocline

Radiative zone

Core

Photosphere

Temperature minimum

Chromosphere

Transition region

Flare

Prominence

The Sun
All features drawn to scale

Calculate the temperature scale height and the photon mean free path in the solar core