

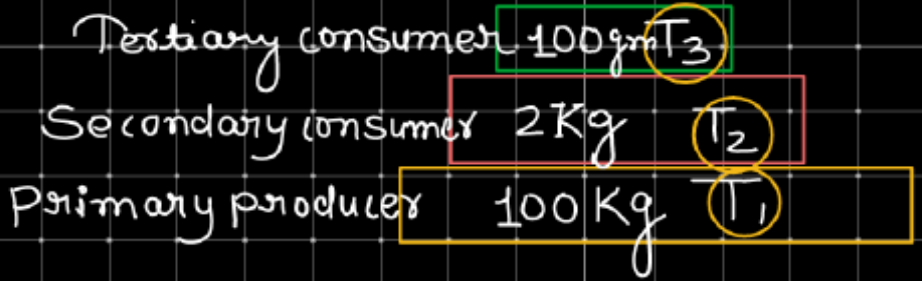
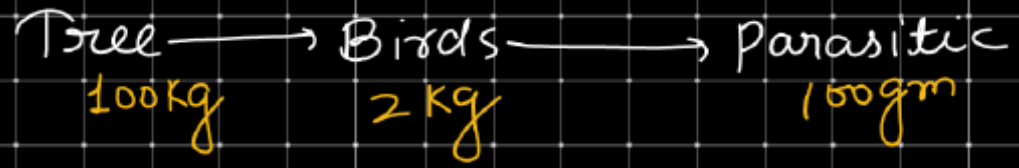
Pyramids \Rightarrow POND



Inverted



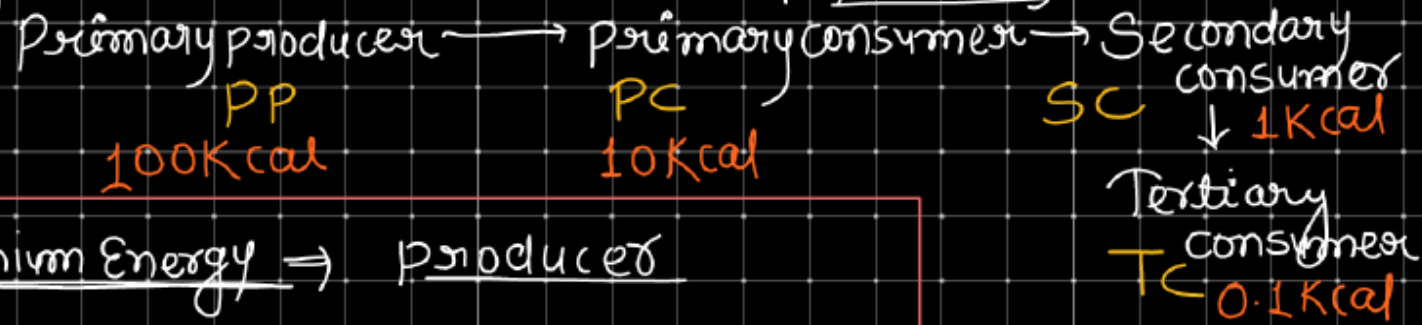
Pyramid Tree Ecosystem.



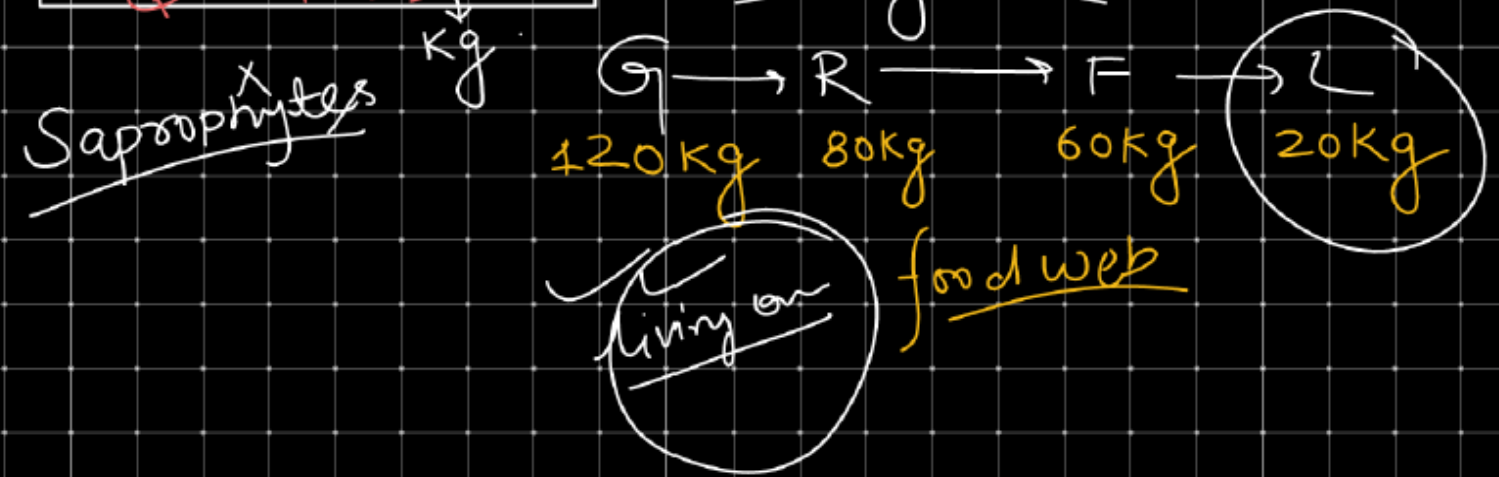
⇒ always Upright

Pyramids of Energy

10% rule followed



- ① Maximum Energy ⇒ produced
- ② Minimum Energy ⇒ Top consumer



2020
2021 NEE1

PRODUCTIVITY

Total biomass/organic matter production
unit time and unit area

primary productivity

producer

GPP

(Gross primary productivity)

Secondary productivity

consumer

GSP

Gross Secondary productivity

NPP \Rightarrow Net primary productivity

NSP \rightarrow Net community productivity

(Net primary productivity)
NPP

NCP
3 Kcal
GSP
7 Kcal

GPP

- Total photosynthesis
- Total Energy production
- Total organic matter production
- Respiratory loss
R = 90%

$$GPP = NPP + R$$

$$R = GPP - NPP$$

$$NPP = GPP - R$$

$$NPP = NCP + GSP$$

$$GSP = NPP - NCP$$

$$NCP = NPP - GSP$$

GPP 100 Kcal

Q If a plant produce 200 kcal/min energy it remaining portion After consumer eating 30% them find out of the GSP of ecosystem?

Gpp = 200 Kcal

NPP 10% 20 Kcal

Respiratory loss - 90%
180 Kcal

3%
NCP
6 Kcal

7.2%
GSP
14 Kcal

14 Kcal