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ART 103

February 8, 2021

Reading#1

Q1. -- What is a good working definition of what a System is and perhaps what it is not?

****A system** is a set of components working together as a whole in a structure, machine, or network. An example of a subpar definition for a system might be one that includes procedure, structure, or order. From the readings, we have observed that a system might not need a rigorous set of rules to function or produce an outcome.

Q2. -- For the 4 system definitions, you were to look up please give in your own words what they mean and give an example of them for each case.

Modularity is the interchangeable components in a system that can be arranged in different ways. An example would be shelf organizers that can be arranged in many patterns using the same parts.

Decomposability is the extent to which something can decompose or be broken down. An example would be the decay rate of carbon.

Emergence is properties and behaviors that appear when an entity interacts with other parts of a system. An example of an emerging behavior is friction, which appears when two surfaces are moving against one another.

Chaos Theory is a complex system that is very reactive to slight changes in its condition. These changes can yield great and varied outcomes from this system. An example of Chaos Theory can be the migration patterns of birds, one small factor can change the whole pattern.

Q3 -- Give us your definition of what Tessellation means and give an example you encountered, not mentioned in the reading.

A Tessellation is when a shape is repeated over and over again, across a plane to form a pattern. Some examples of Tessellations that I have encountered can be found in Polynesian Art, more specifically Fijian Masi (a type of tapa cloth).

Fijian Masi

Fijian Masi

Q4 -- What is The difference between ideas of Modularity and Tessellation? What are the properties that are in opposition to each other?

Modularity is when a specific part of a system can be interchangeable and moved to fulfill different roles or to function differently in the system, while Tessellation is a repetition of a shape or tile to form a pattern. Moving parts

Q5 -- What is the difference between designing something that has Complexity (aperiodic) vs being Uniform (periodic)

PROCESS

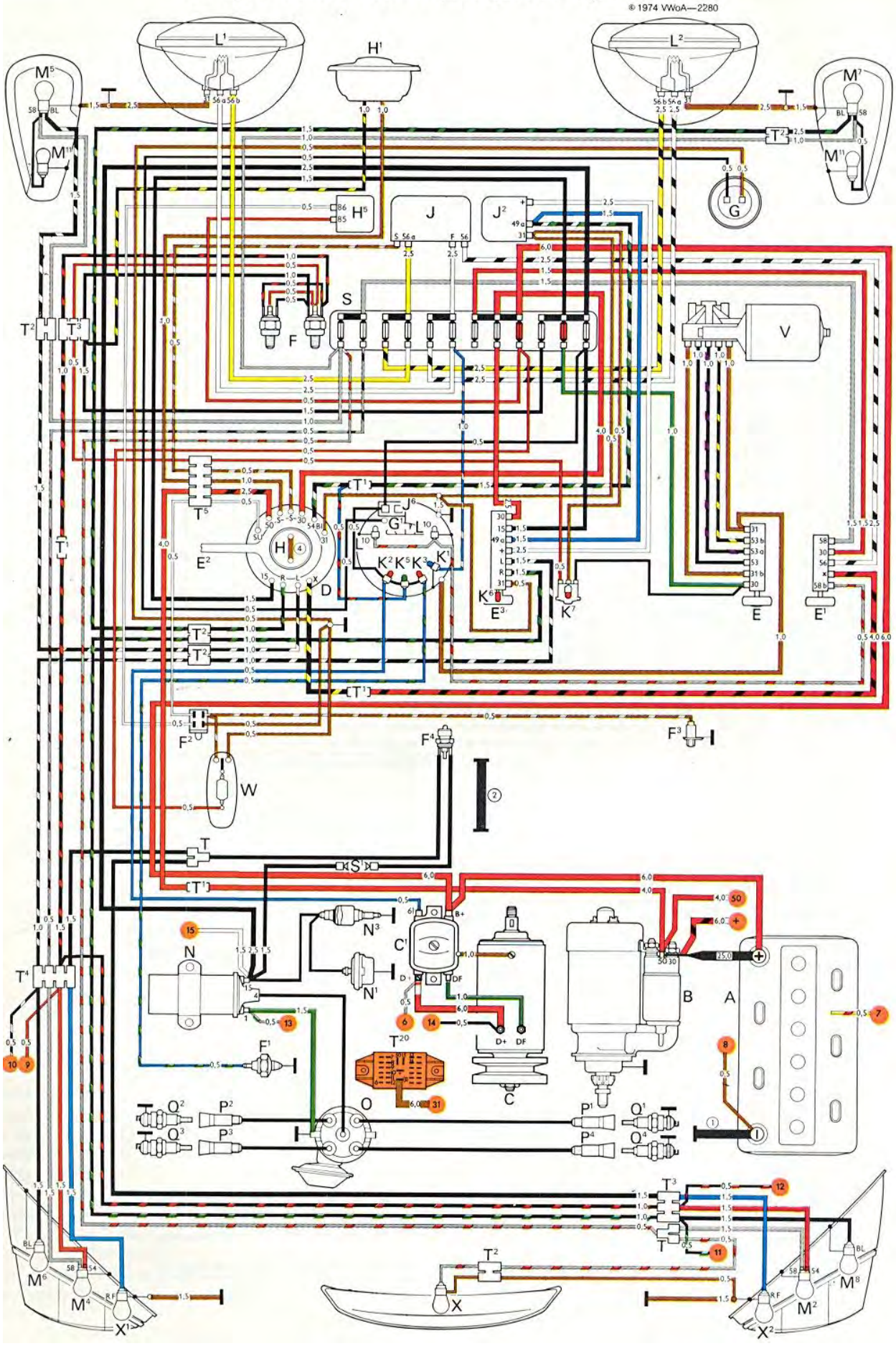
Q6 Group Activity. Each student will need to Bring in a series of 8 diagrams

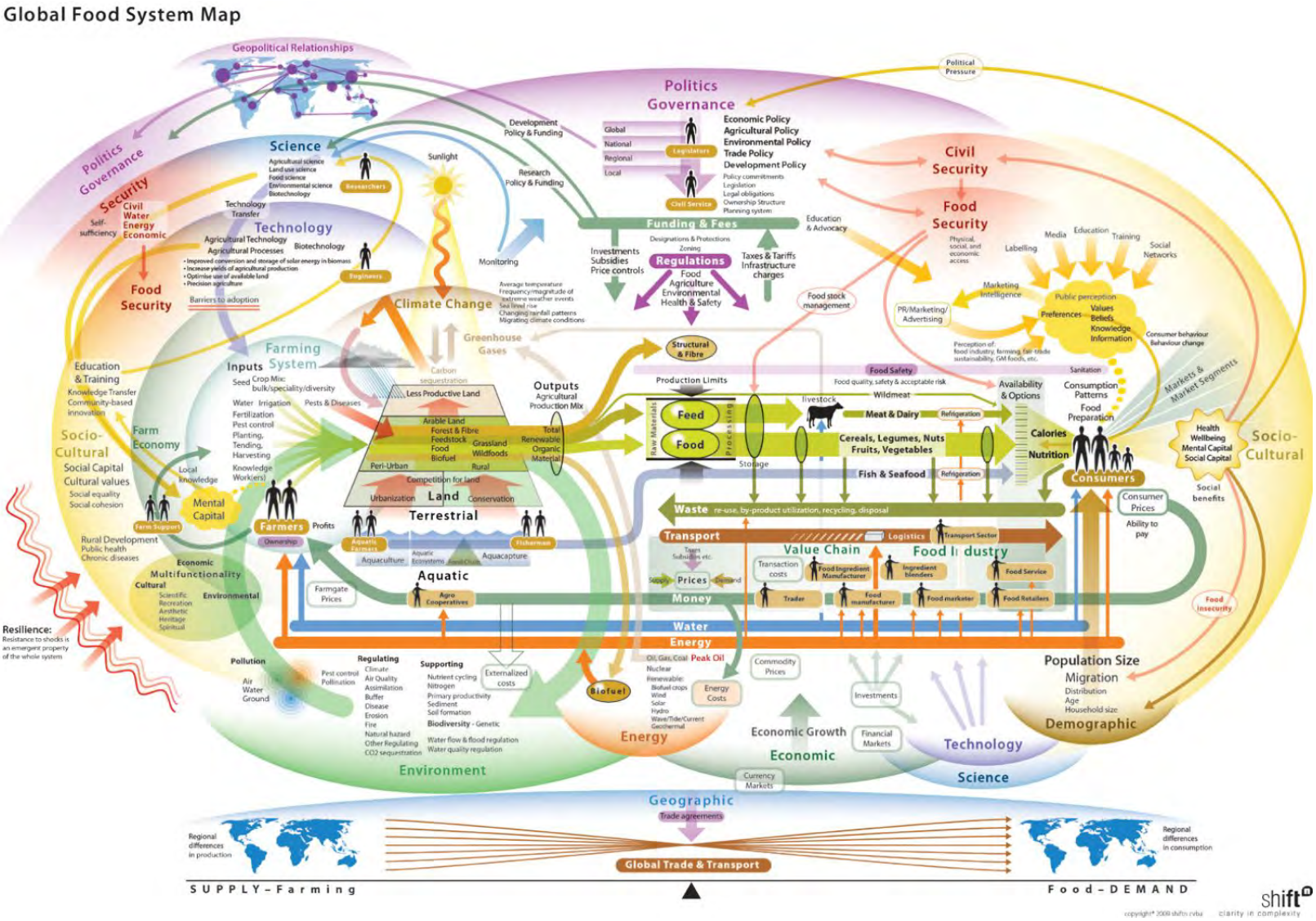
Specifically :

1. -- Bring in 2 system diagrams that have more than 100 elements.

VW Type 1/Sedan 113—from August 1970 (1971 Models)

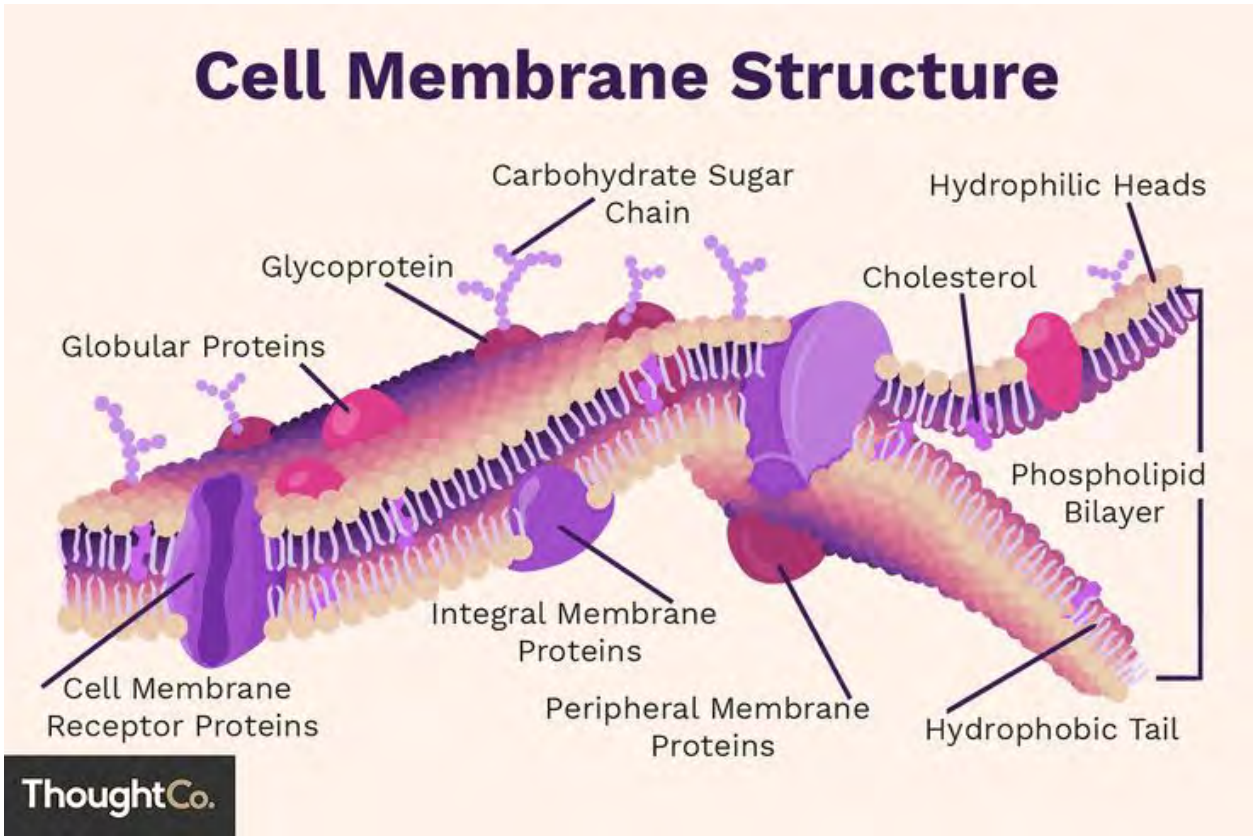
© 1974 VWoA—2280

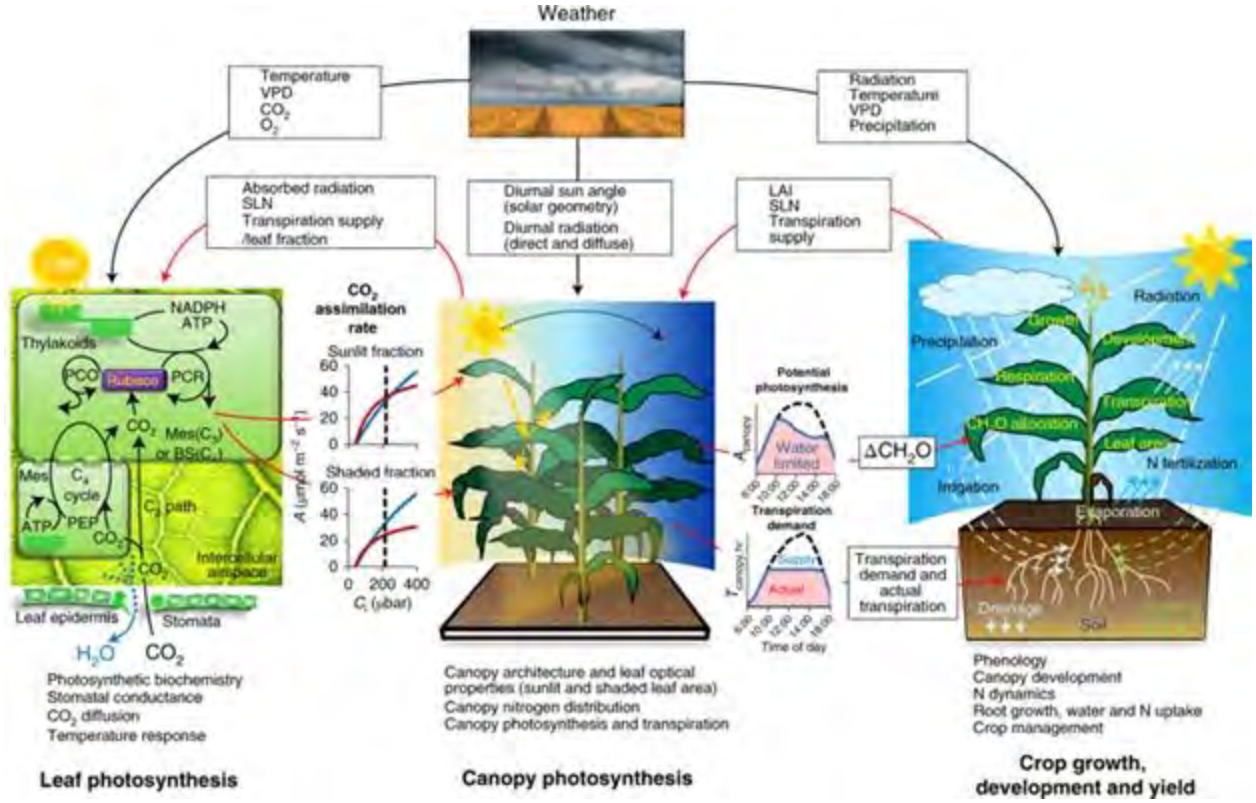




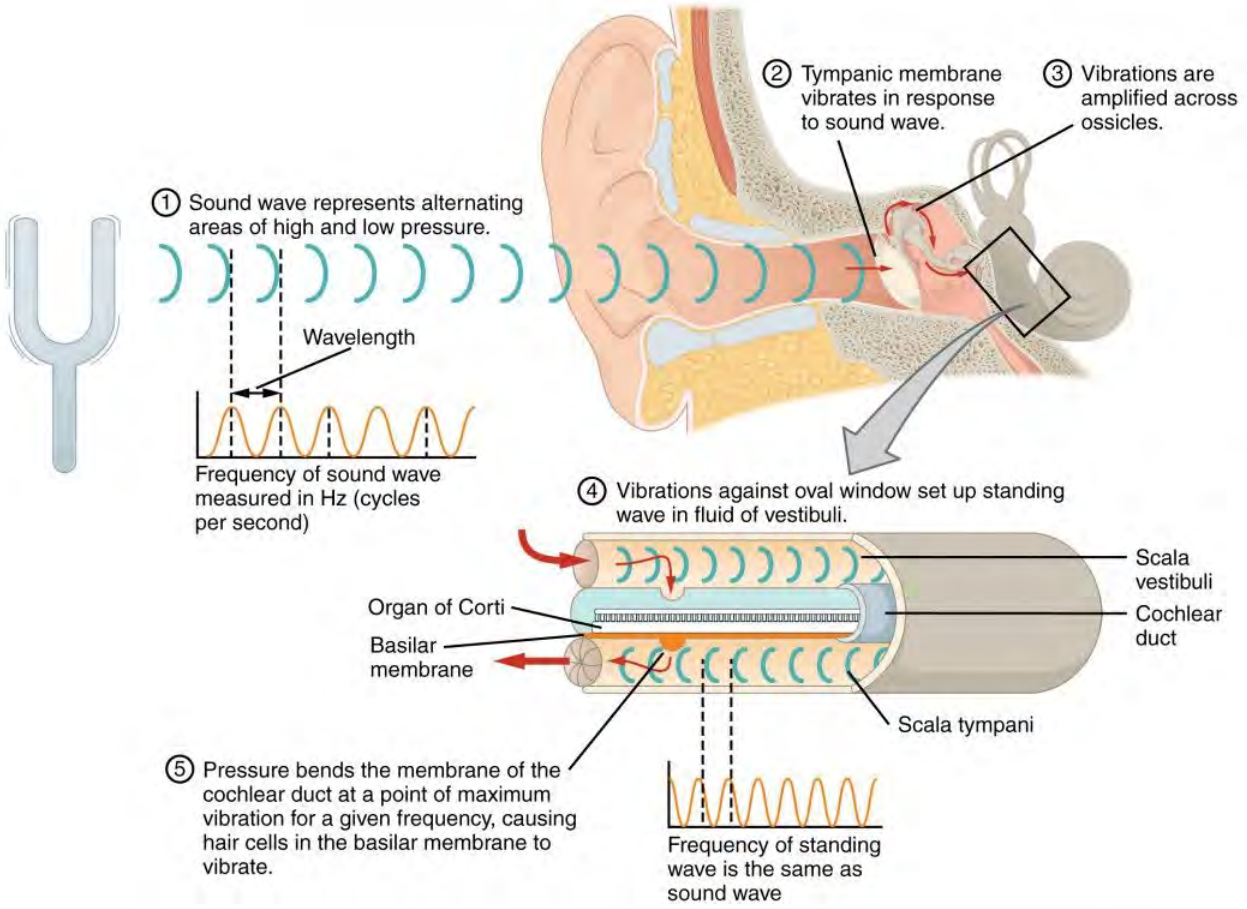
Car Wiring System.

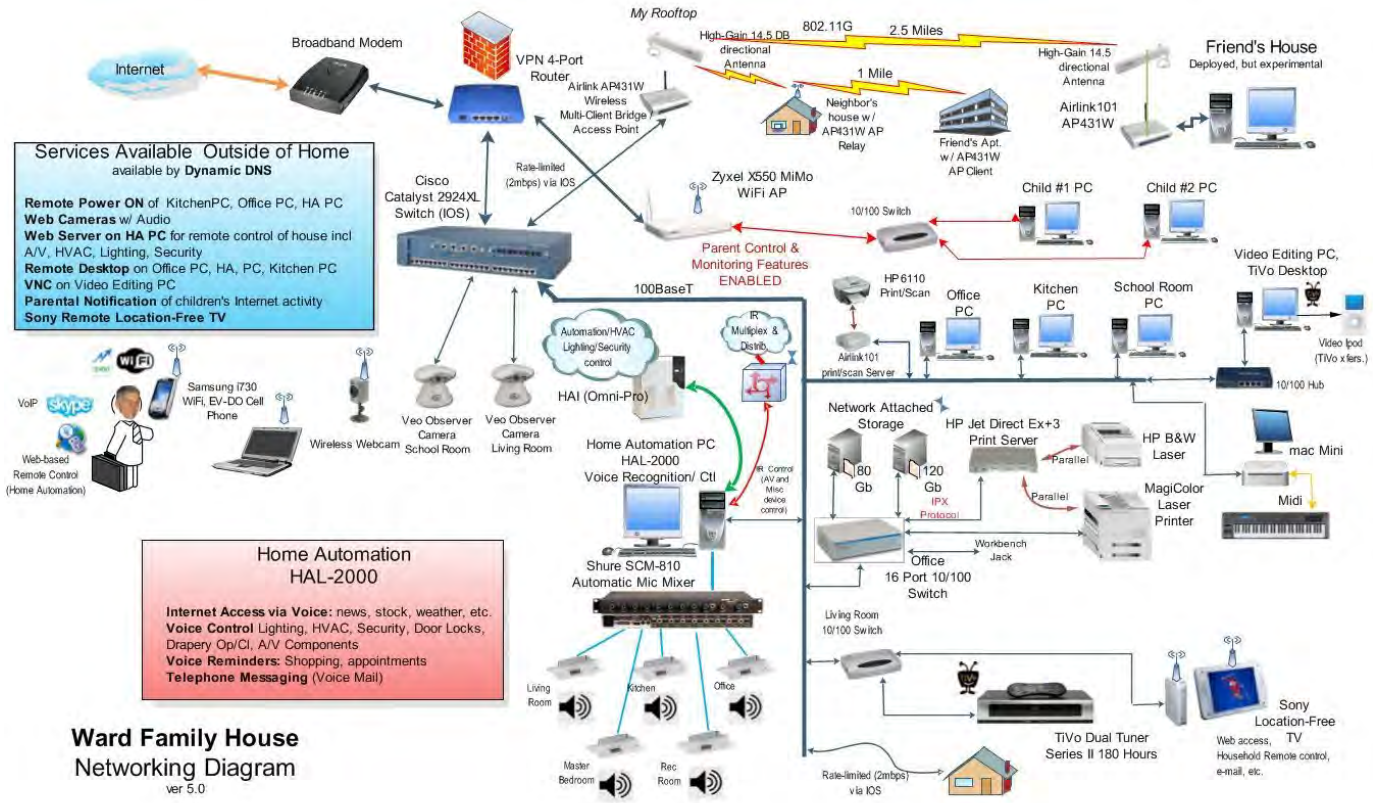
2. -- Bring in 2 system diagrams that are something considered living


Cell Membrane Structure
Carbohydrate Sugar Chain
Hydrophilic Heads
Glycoprotein
Cholesterol
Globular Proteins
Phospholipid Bilayer
Integral Membrane Proteins
Cell Membrane Receptor Proteins
Peripheral Membrane Proteins
Hydrophobic Tail
ThoughtCo.

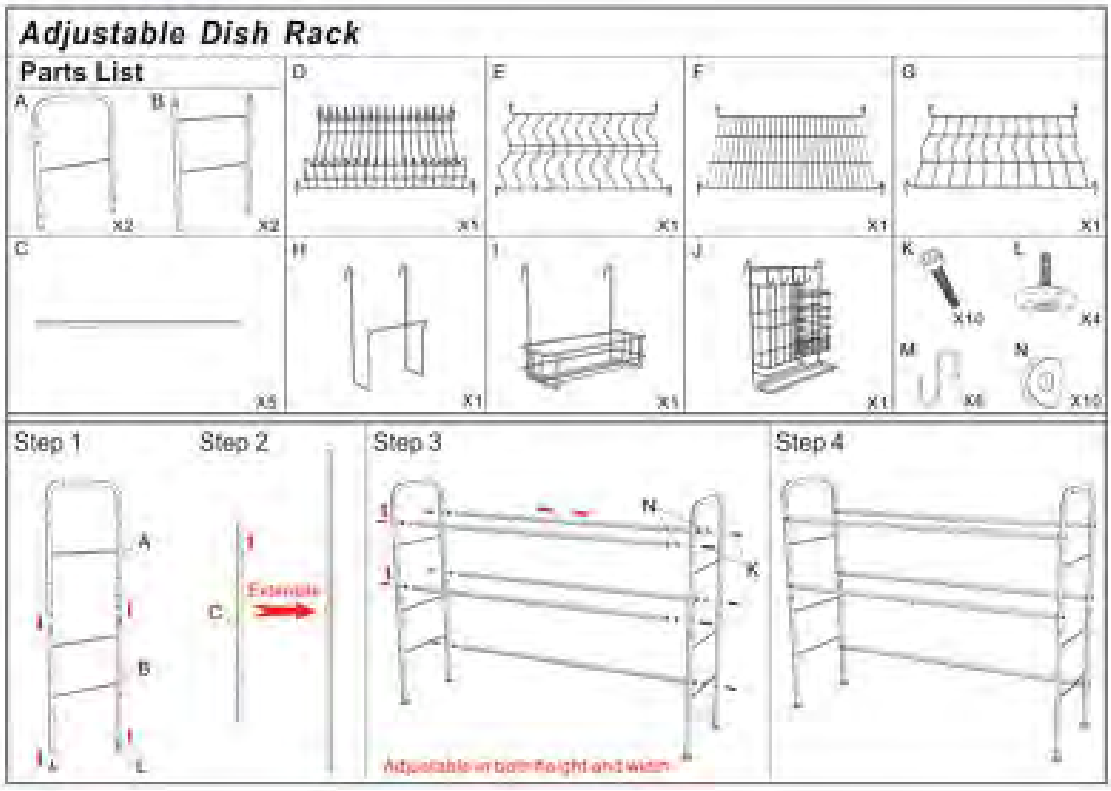

Weather
Temperature
VPD
CO_2
O_2
Radiation
Temperature
VPD
Precipitation
Absorbed radiation
SLN
Transpiration supply
/leaf fraction
Diurnal sun angle
(solar geometry)
Diurnal radiation
(direct and diffuse)
LAI
SLN
Transpiration supply
NADPH
ATP
Thylakoids
PCO
Rubisco
PCR
CO_2
Mes(C_3)
or BS(C_4)
Mes
C_4 cycle
ATP
PEP
CO_2
C_3 path
CO_2
Intercellular airspace
Leaf epidermis
Stomata
H_2O
CO_2
CO_2 assimilation rate
Sunlit fraction
Shaded fraction
A (μmol m⁻² s⁻¹)
C_i (μbar)
Potential photosynthesis
Water limited
Transpiration demand
Supply
Actual
Time of day
ΔCH_2O
Transpiration demand and actual transpiration
Radiation
Precipitation
Growth
Development
Respiration
Transpiration
CH_2O allocation
Leaf area
N fertilization
Irrigation
Evaporation
Drainage
Soil
Photosynthetic biochemistry
Stomatal conductance
CO_2 diffusion
Temperature response
Leaf photosynthesis
Canopy architecture and leaf optical properties (sunlit and shaded leaf area)
Canopy nitrogen distribution
Canopy photosynthesis and transpiration
Canopy photosynthesis
Phenology
Canopy development
N dynamics
Root growth, water and N uptake
Crop management
Crop growth, development and yield

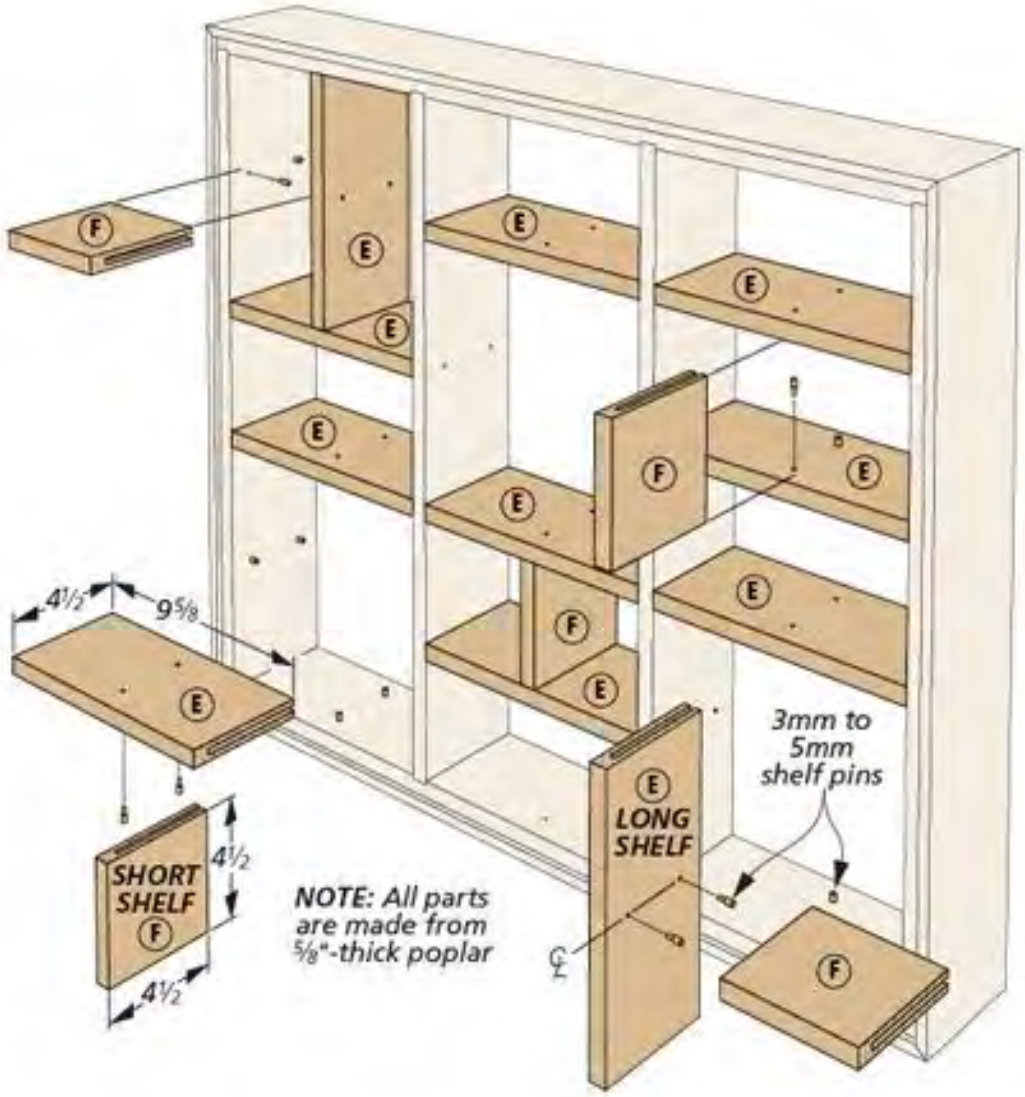
3. -- Bring in 2 system diagrams that represent something that is not visible or physical.





4. -- Bring in 2 system diagrams that represent a system that incorporates modularity.





F
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4½
9⅝
E
3mm to
5mm
shelf pins
E
LONG
SHELF
SHORT
SHELF
F
4½
4½
NOTE: All parts
are made from
⅝"-thick poplar
℄
F