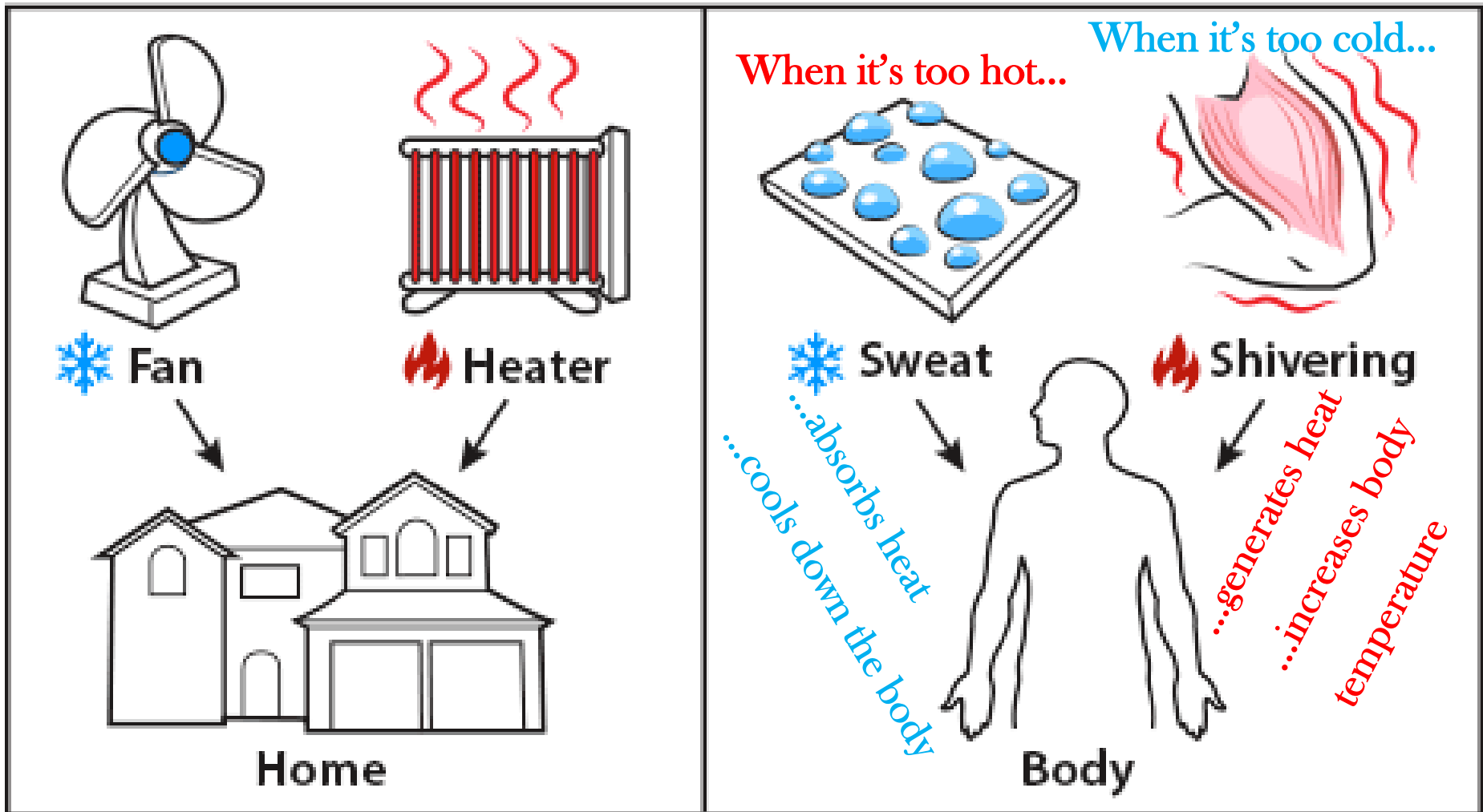


HOMEOSTASIS



- The tendency of the body to seek and maintain a condition of internal balance (equilibrium)
- the body makes internal adjustments when changes occur to its external environment

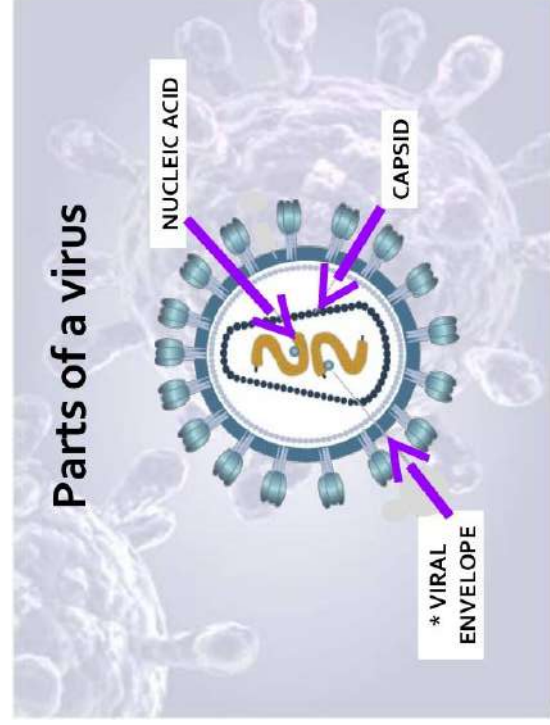


WE HAVE TO KEEP THINGS BALANCED!

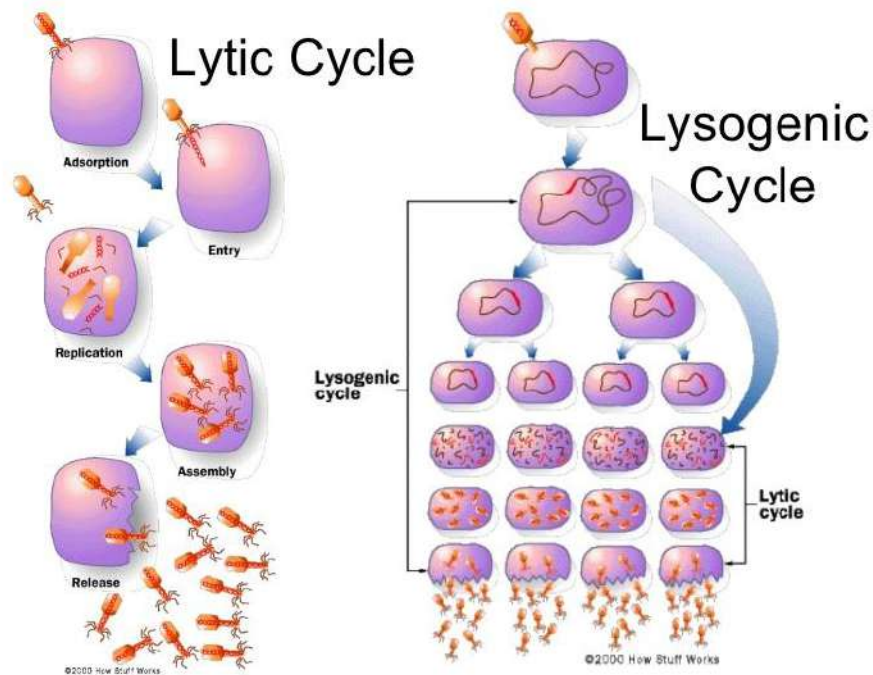
What did the cell say to the virus?



Viruses and Cells			
Characteristic	Virus	Cell	
Structure	DNA or RNA core, capsid 	Cell membrane, cytoplasm; eukaryotes also contain nucleus and organelles 	
Reproduction	only within a host cell	independent cell division either asexually or sexually	
Genetic Code	DNA or RNA	DNA	
Growth and Development	no	yes; in multicellular organisms, cells increase in number and differentiate	
Obtain and Use Energy	no	yes	
Response to Environment	no	yes	
Change Over Time	yes	yes	

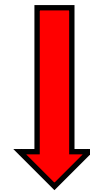


Viral Reproduction



LYTIC CYCLE

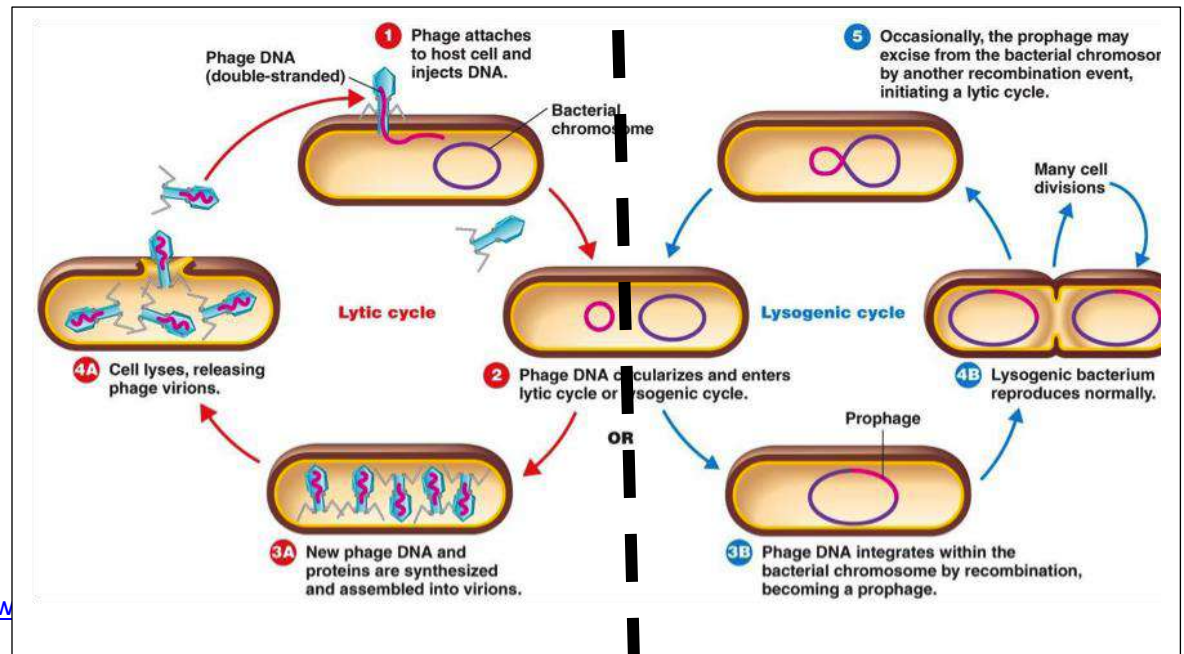
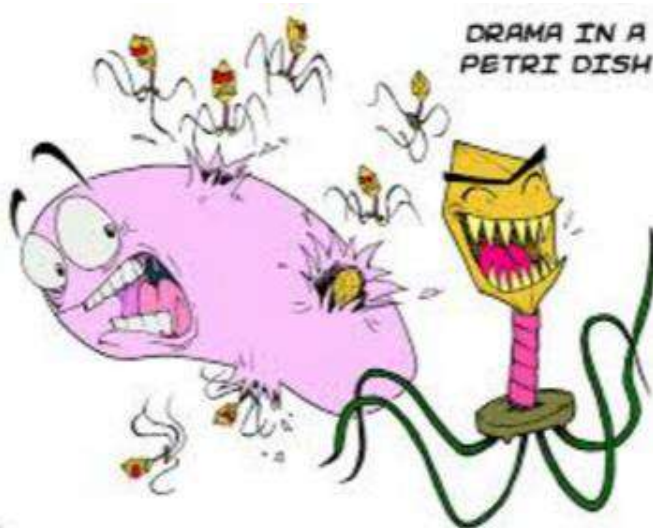
– Destroy them all!!!



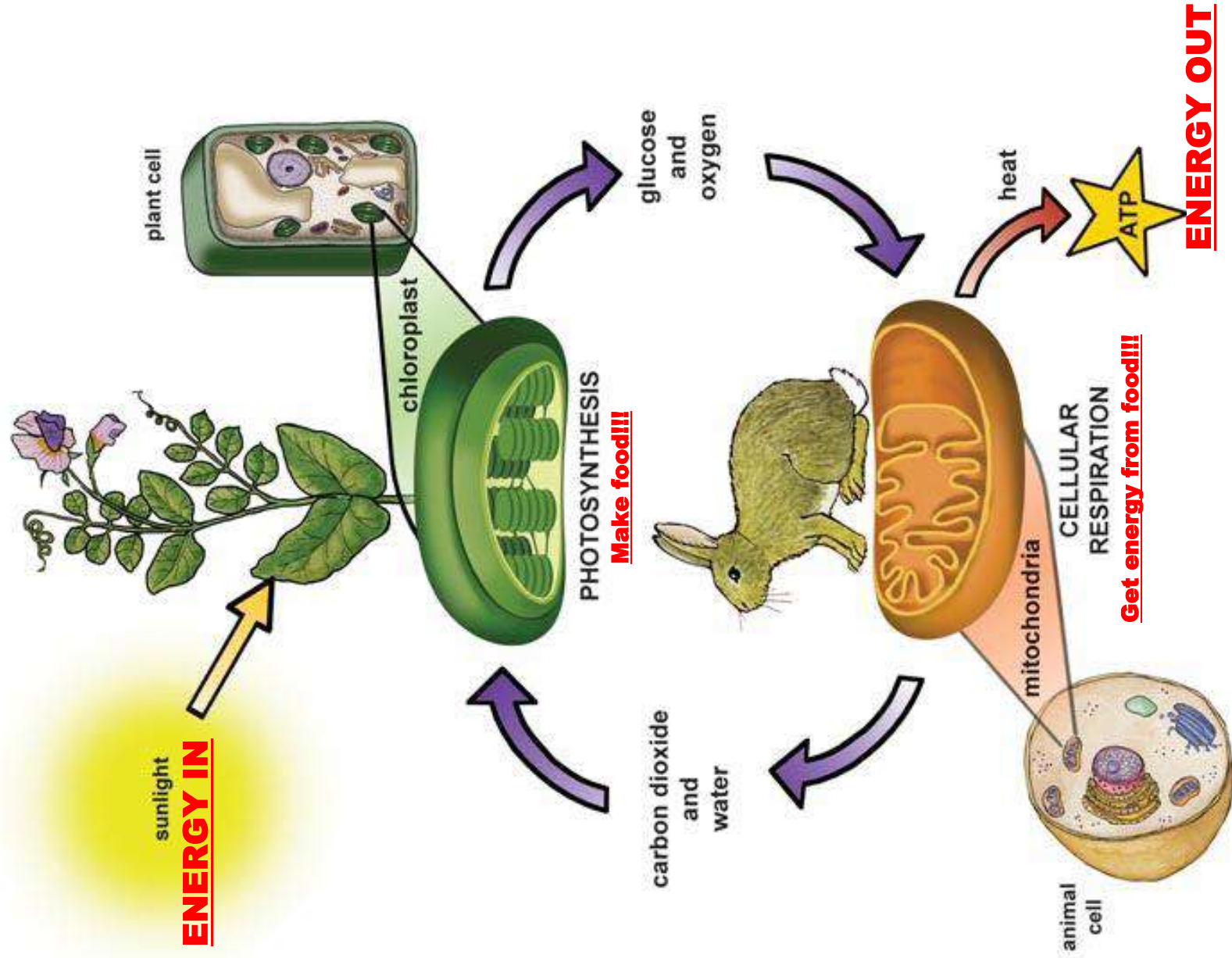
LYSOGENIC CYCLE

– Let's wait a while...
...then destroy them

all.



Photosynthesis and Cellular Respiration



OSMOSIS

-the movement of WATER across the membrane

- from area of higher water concentration to area of lower water concentration

*Has higher solute
concentration;*

Lower water concentration
Hypertonic



Has equal solute concentration;

Equal water concentration
Isotonic



Has lower solute concentration;

higher water concentration
Hypotonic

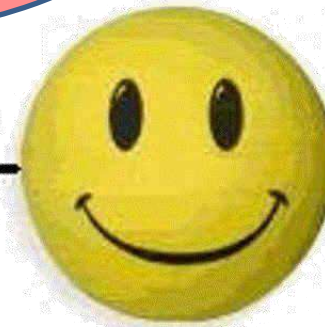
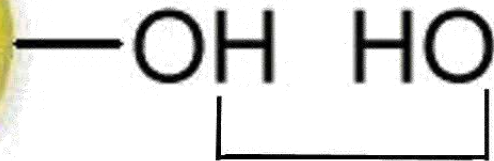
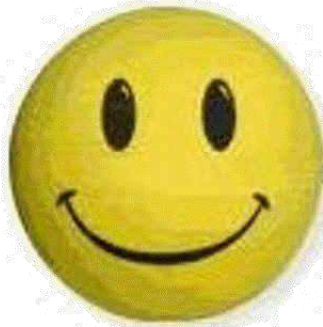


Water goes where there is more solute!

Means TO REMOVE WATER

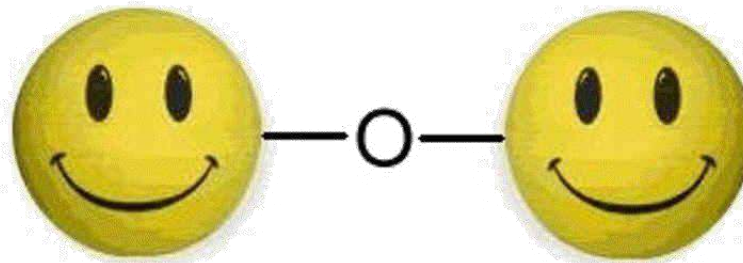
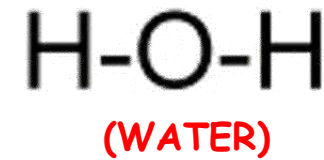
Means TO PUT TOGETHER

Dehydration Synthesis



monomer
Can be any

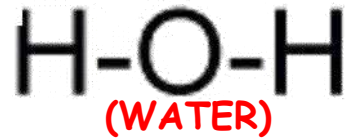
1. 1 Water molecule is removed from adjacent OH groups



2. Remaining Oxygen joins the 2 monomers with an oxygen bridge

1. Water molecule is inserted into oxygen bridge, breaking bond.

Can be any
POLYMER



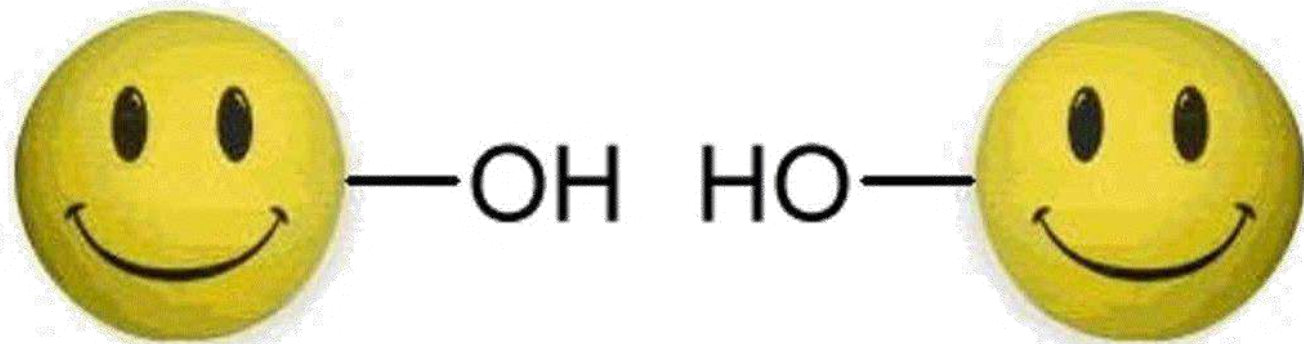
Means WATER

Hydrolysis

Means

TO

BREAK DOWN



Overview of Viral Infections

Encephalitis/ meningitis

- JC virus
- Measles
- LCM virus
- Arbovirus
- Rabies

Common cold

- Rhinoviruses
- Parainfluenza virus
- Respiratory syncytial virus

Eye infections

- Herpes simplex virus
- Adenovirus
- Cytomegalovirus

Pharyngitis

- Adenovirus
- Epstein-Barr virus
- Cytomegalovirus

Gingivostomatitis

- Herpes simplex type 1

Parotitis

- Mumps virus

Pneumonia

- Influenza virus types A and B
- Parainfluenza virus
- Respiratory syncytial virus
- Adenovirus
- SARS coronavirus

Cardiovascular

- Coxsackie B virus

Hepatitis

- Hepatitis virus types A, B, C, D, and E

Myelitis

- Poliovirus
- HTLV-I

Skin infections

- Varicella-zoster virus
- Human herpesvirus 6
- Smallpox
- Molluscum contagiosum
- Human papillomavirus
- Parvovirus B19
- Rubella
- Measles
- Coxsackie A virus

Gastroenteritis

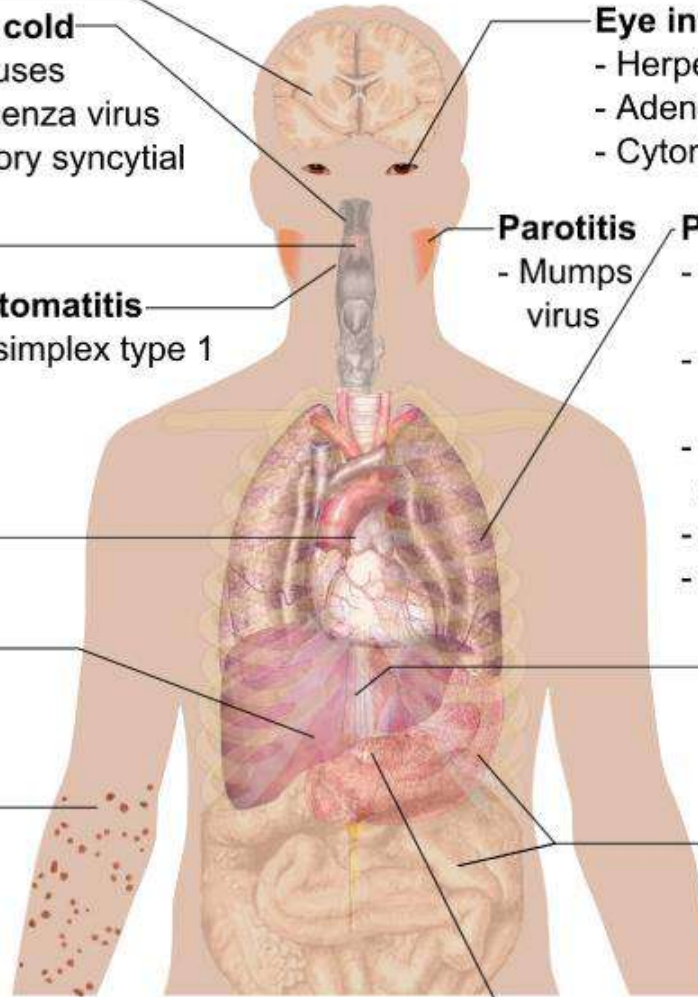
- Adenovirus
- Rotavirus
- Norovirus
- Astrovirus
- Coronavirus

Sexually transmitted diseases

- Herpes simplex type 2
- Human papillomavirus
- HIV

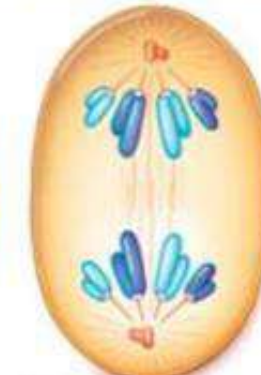
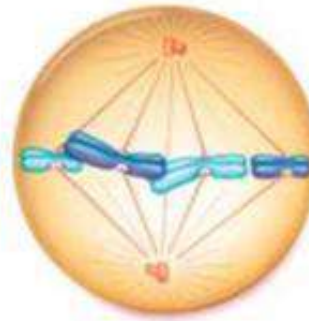
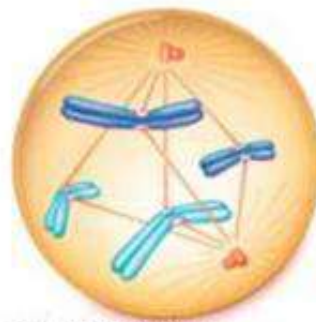
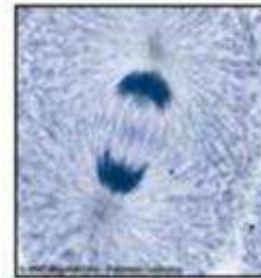
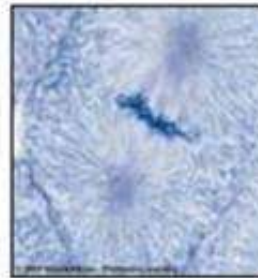
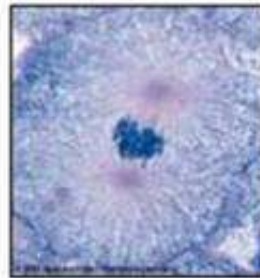
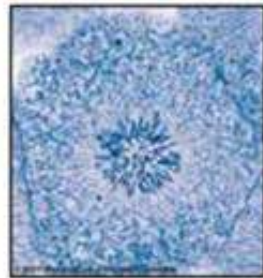
Pancreatitis

- Coxsackie B virus



WHAT DID JOE SAY TO HIS SISTER WHEN SHE STEPPED ON HIS BIG TOE?

MITOSIS



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PROPHASE

ANAPHASE

METAPHASE

TELOPHASE

- Growth
- Repair
- Maintenance



God Save G M C

G1 S y n t h e s i s

G2 M i t o s i s

M C y t o k i n e s

C S y n t h e s i s

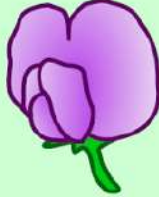




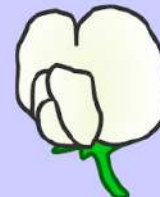
<http://www.pbtisdtech.com/>

5A

MONOHYBRID CROSS


means "1"

What is the
phenotype ratio
of the offspring
when both
parents are
heterozygous
for flower color?

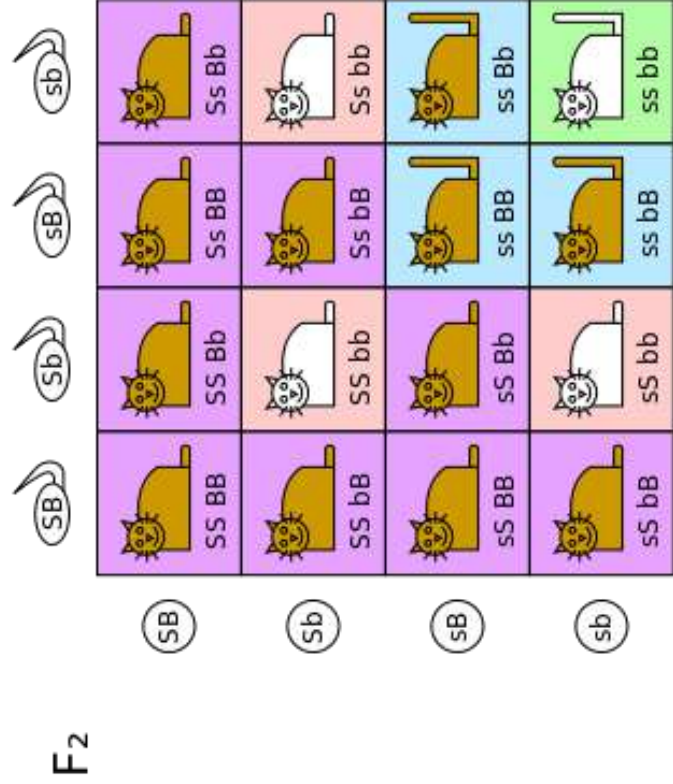
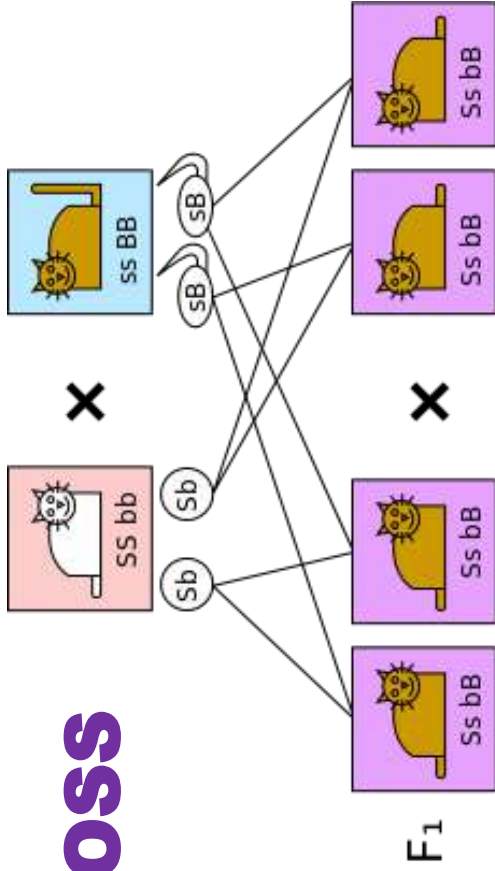
 pollen ♂			
		B	b
 pistil ♀	B	 BB	 Bb
	b	 Bb	 bb

<https://commons.wikimedia.org/wiki/User:Madprime>

DIHYBRID CROSS

means "2"

- observing the inheritance patterns of 2 traits



What percentage of the F₂ offspring will be:

SB: _____

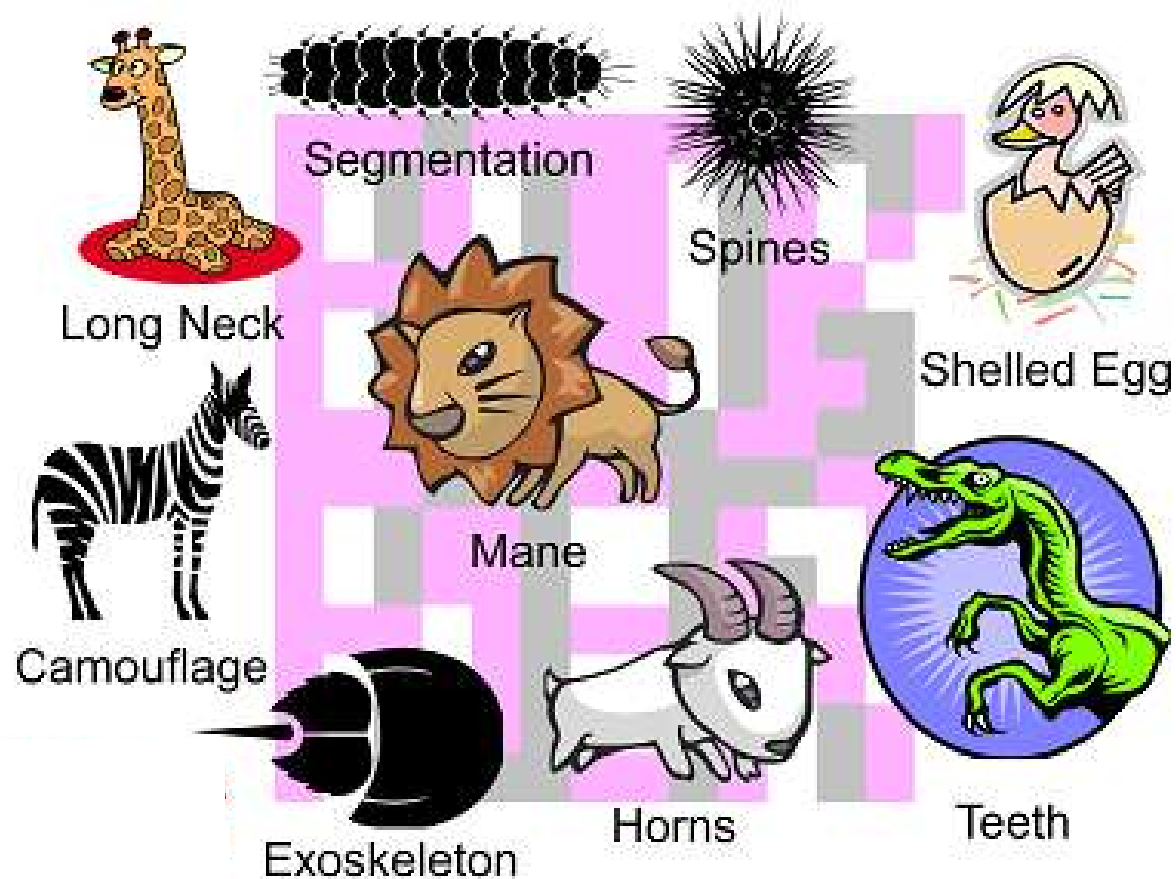
Sb: _____

sB: _____

sb: _____

ADAPTATION –

any trait with a current functional role in the life of an organism that is maintained and evolved by means of natural selection.



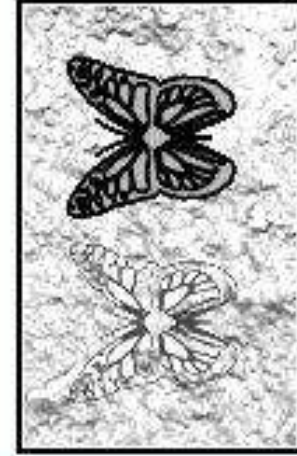
THINK ABOUT THIS...

How do these adaptations benefit the organisms?

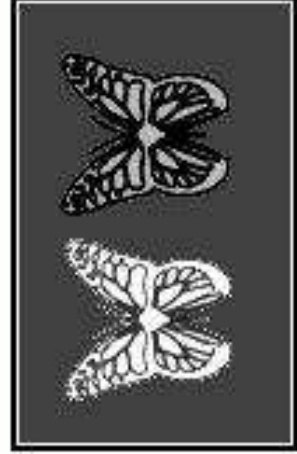
HOW MANY MOTHS DO YOU SEE IN EACH PICTURE?



How did the color of the environment affect the evolution of the moth?



99% 1848
Light has the advantage over melanic.

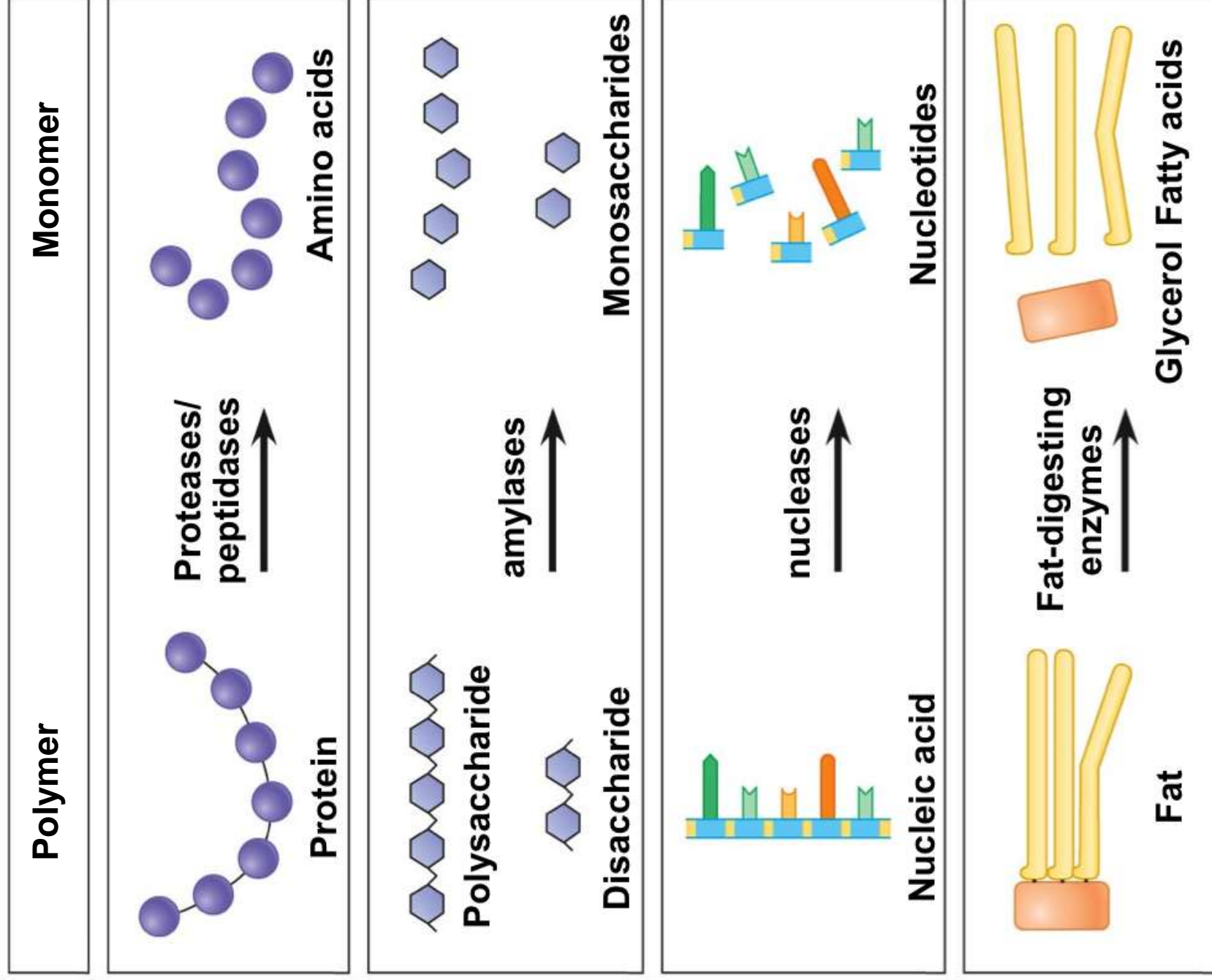


1% 1898
Melanic has the advantage over light.

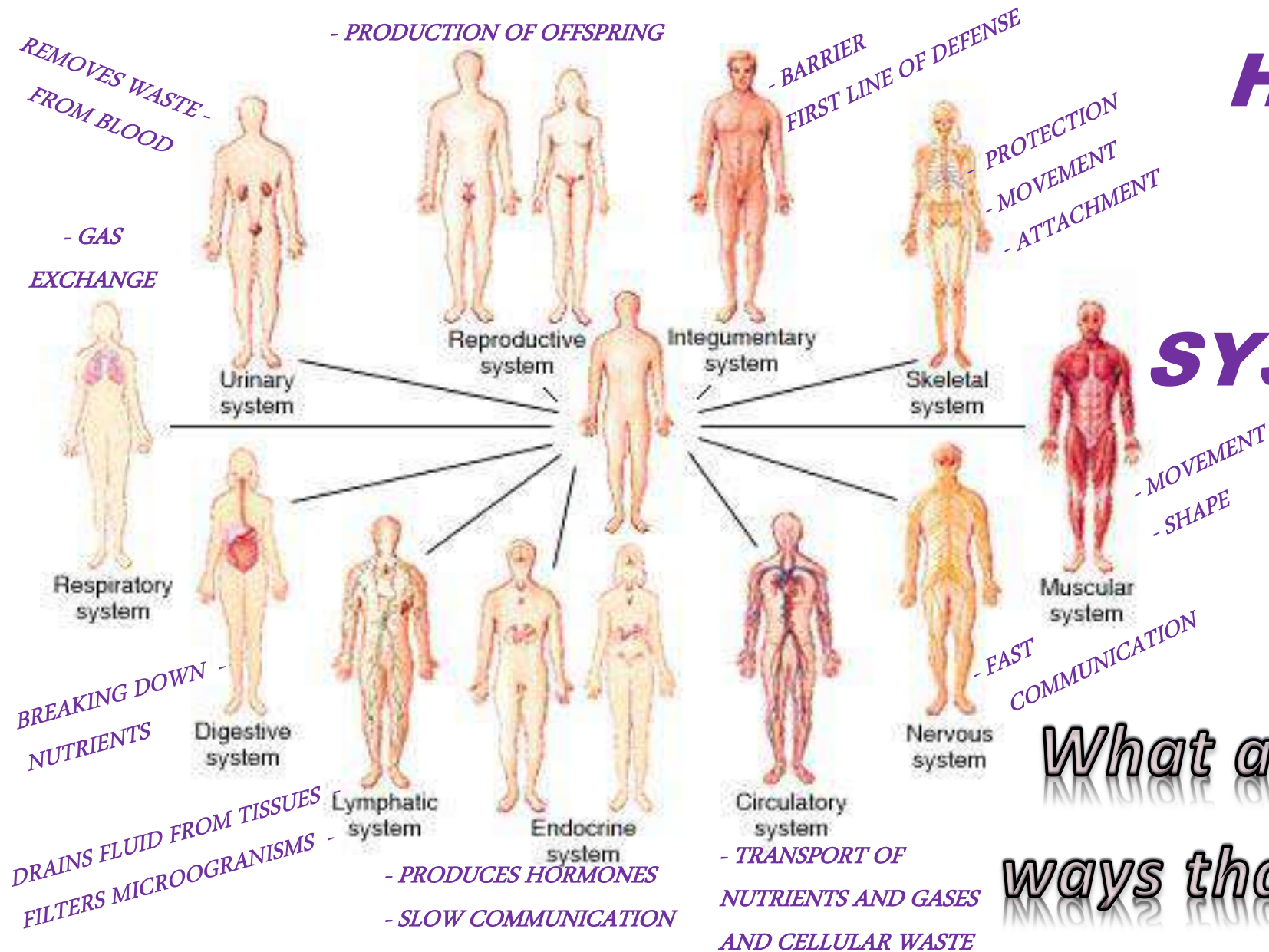


99% 1998
Light has the advantage over melanic.

BIOMOLECULES



HUMAN BODY SYSTEMS



What does each
organ system do?

What are some
ways that organ
systems work
together?

MUTUALISM

Both benefit

(++)

Alligator gets its mouth cleaned



Bird gets food

+

+

0

Birds get protection



Deer is not affected.
One benefits (+)

One is not affected (0)

COMMENSALISM

PARASITISM

One benefits (+)

One harmed (-)



Tick (PARASITE) gets food and shelter

Dog (HOST) gets sick

PREDATOR hunts and kills for food



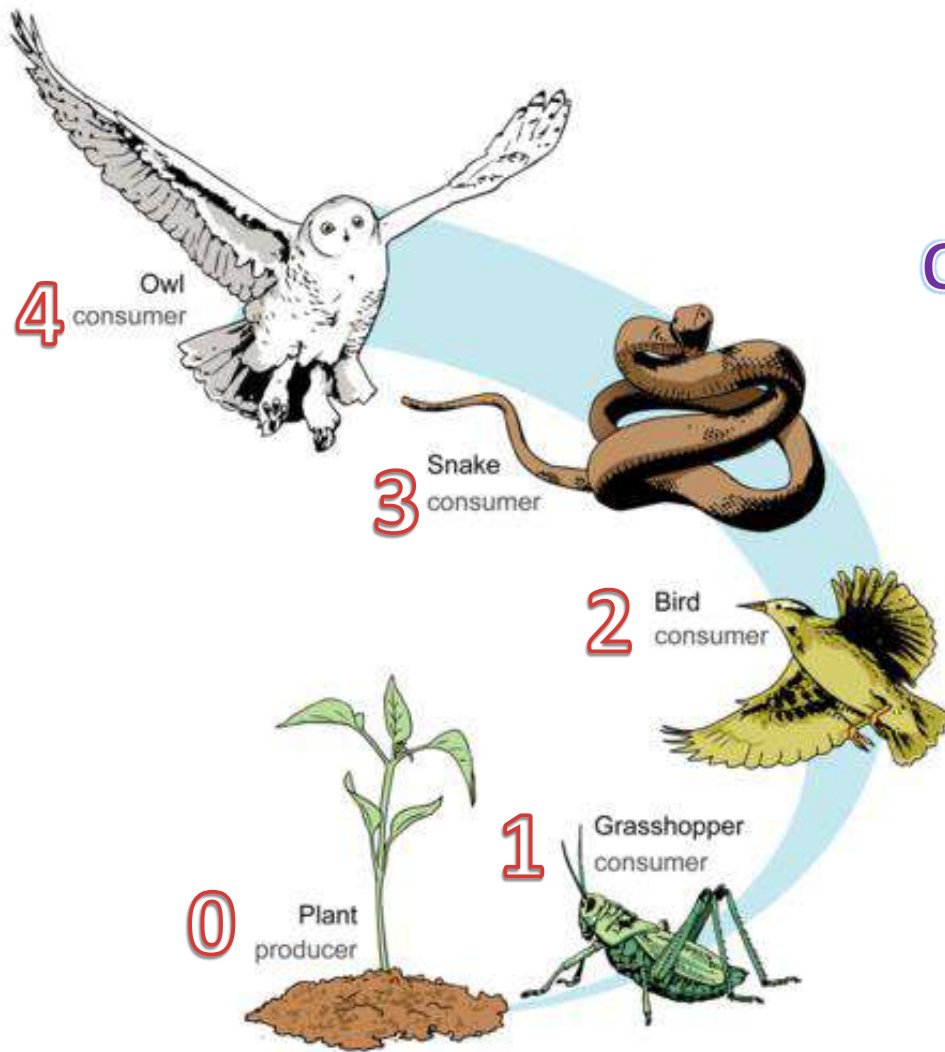
PREY gets killed and eaten

One benefits (+)

One gets eaten (X)

PREDATION

LEAST: energy, biomass, number



Quarternary consumer

Tertiary consumer

Secondary consumer

Primary consumer

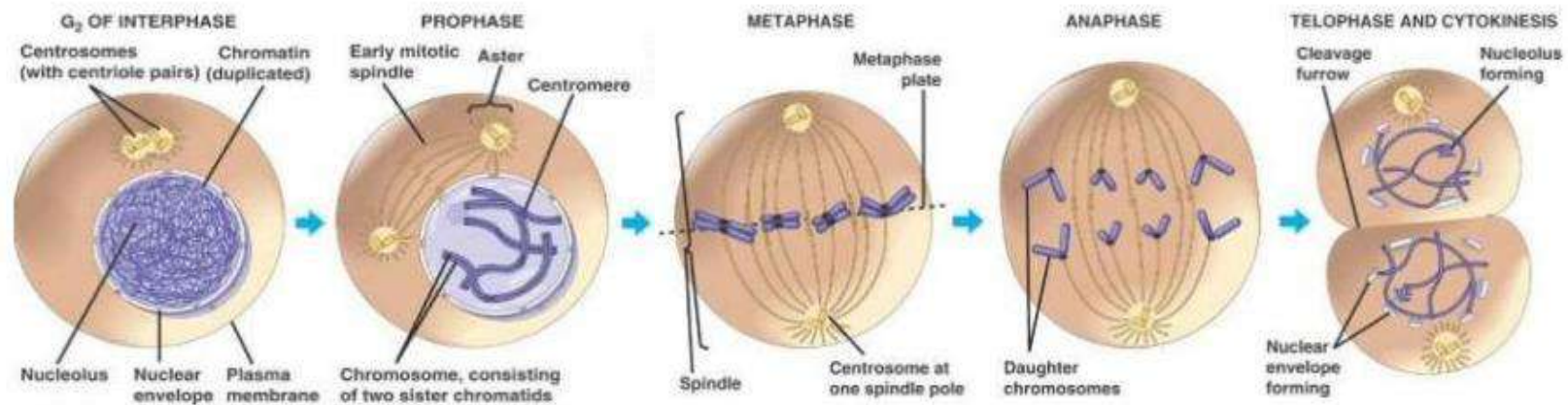
producer

MORE TO LESS

ECOLOGY

MOST: energy, biomass, number

I Pray More At The Church.
Interphase Prophase Metaphase Anaphase Telophase Cytokinesis

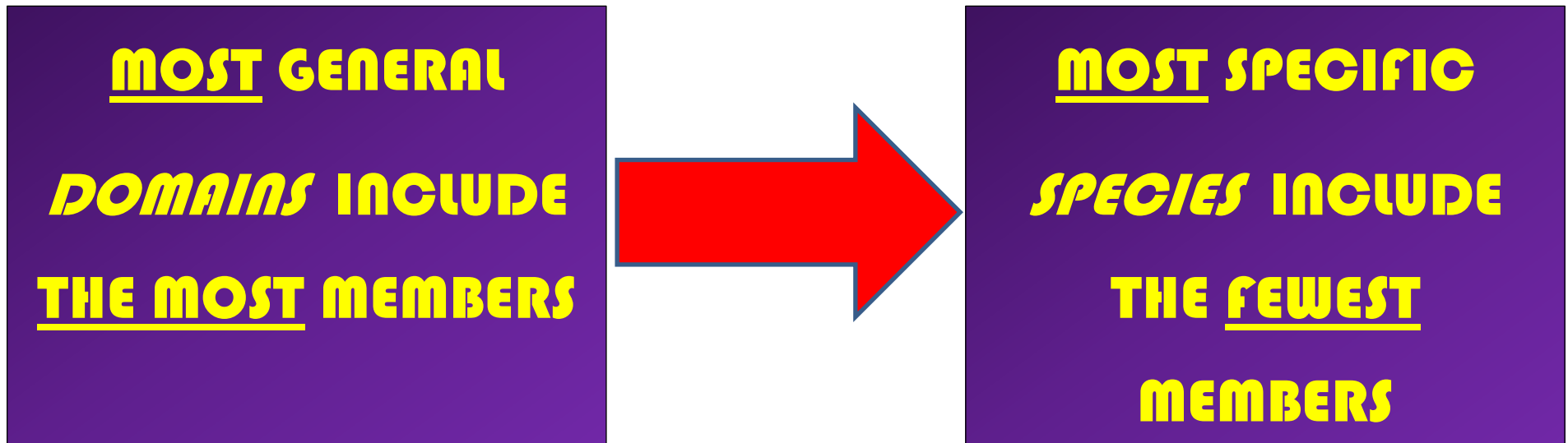


Remember the

Cell Cycle Hand Signs???

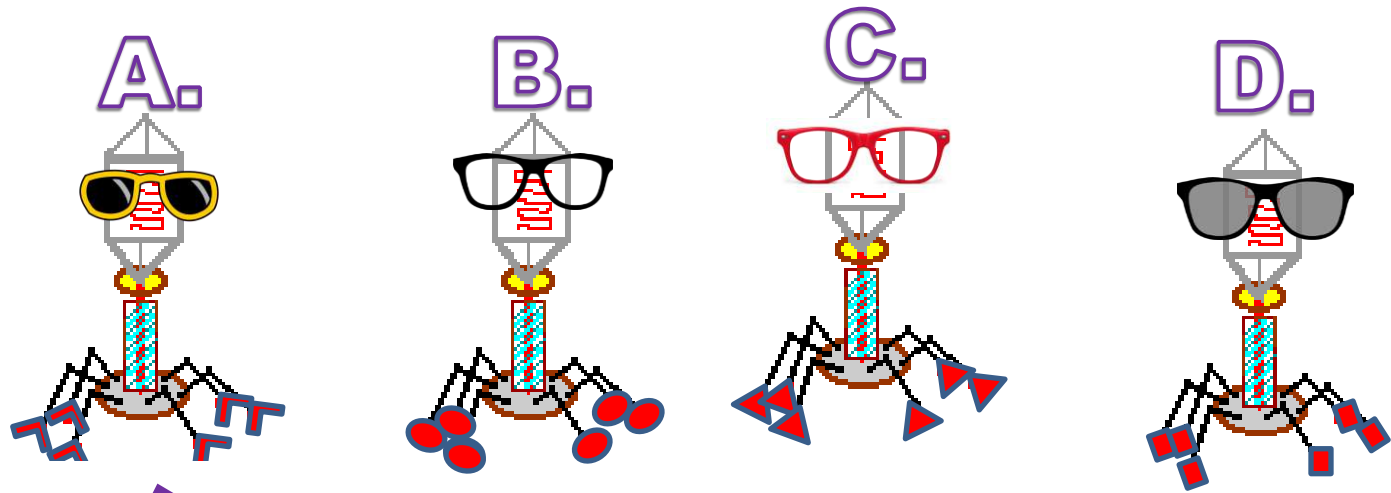
TAXONOMIC GROUPS

- How organisms are grouped together
- Based on **SIMILARITIES** and **DIFFERENCES**



Dandy King Philip Came Over For Good Steak.

o	i	h	l	r	a	e	p
m	n	y	a	d	m	n	e
a	g	l	s	e	i	u	c
i	d	u	s	r	l	s	i
n	o	m			y		e
	m						s



**WHICH PHAGE VIRUS
WILL BE ABLE TO INFECT THE
BACTERIUM?**

