

Name: _____ Period: _____ Date: _____

2013 Gateway Biology Review Packet for Chemistry Students

3/4 - Heredity: Watch the video located here: <http://tinyurl.com/punnettsqr>

- 1) Fill in the Punnett square below as instructed.

	f	f
F		
F		

- 2) What trait was the letter "F" chosen to represent?

- 3) Why was a capital F used for the black rabbit and a lower case f used for the white rabbit?

- 4) What color are the offspring?

- 5) Why weren't there any white offspring?

Brown eyes are dominant to blue. The father's genotype is Bb. The mother has blue eyes.

- 1) Create a Punnett square for the two parents to see the chances of them having a blue-eyed child.
- 2) How many of the possible children will be heterozygous?

3/5 - Ecological Succession:

Watch these 2 videos: <http://tinyurl.com/successionsong> and <http://tinyurl.com/successiontypes>

- 1) What is a pioneer species and give an example?

a.

b.

- 2) What is succession?

- 3) What are the 2 types of succession?

a.

b.

- 4) What disturbances would cause succession?

- 5) What is the difference between primary and secondary succession?

3/6 - Nutrition: Fill in the words below into the correct box for each macromolecule.

Composed of: C,H,& O C,H,N,O,& P C,H,O,& P C,H,O,& N

Function: long term energy storage quick energy stores genetic material structure/controls rate of reaction

Monomer: amino acids nucleotide monosaccharide head + fatty acid tail

Examples: fats, oils, & waxes glucose DNA & RNA enzymes

Composed of:	Function:
CARBO- HYDRATE	
Monomer:	Examples:

Composed of:	Function:
LIPID	
Monomer:	Examples:

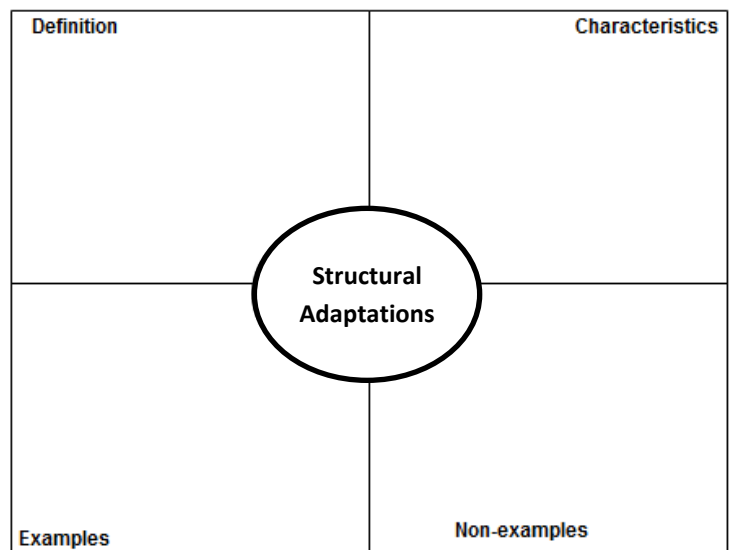
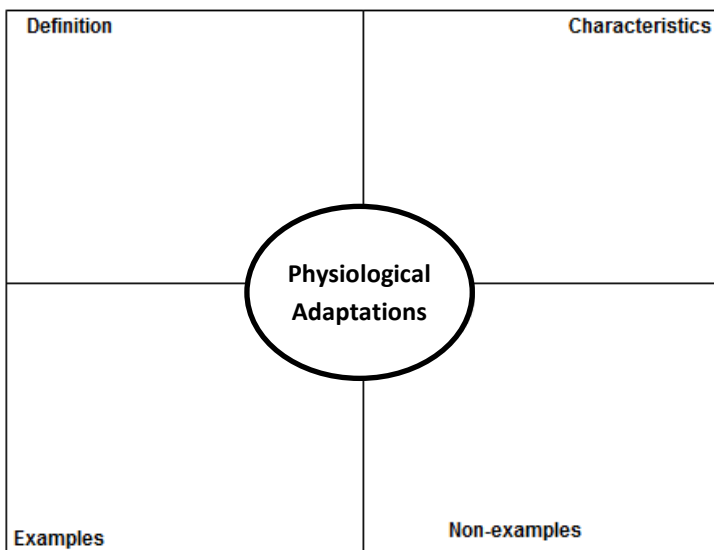
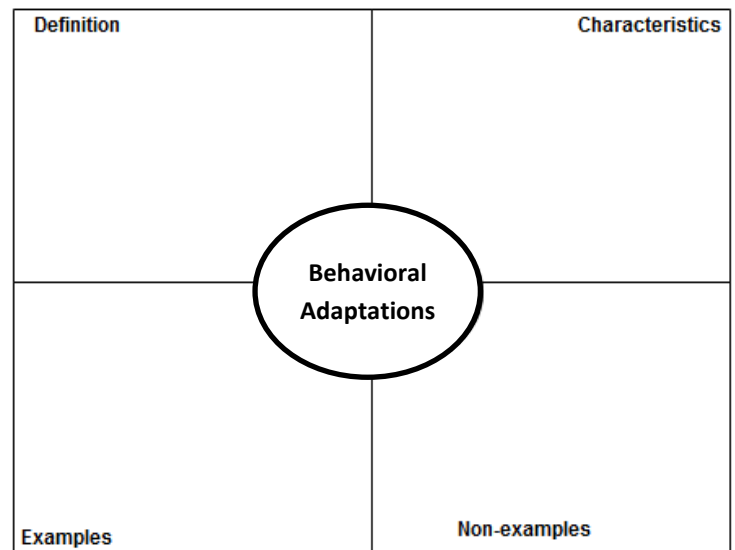
Composed of:	Function:
NUCLEIC ACID	
Monomer:	Examples:

Composed of:	Function:
PROTEIN	
Monomer:	Examples:

3/7 - DNA: Sort your cards into two categories: DNA and RNA. Fill in the chart as we go over it together.

DNA		RNA	
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•

3/8 - Adaptations: Organisms can exhibit several types of adaptations, including behavioral, chemical, and physical. In the boxes provided, briefly describe each type of adaptation.



3/12 - Nutrition: Watch the video located here: <http://tinyurl.com/macronutrition>

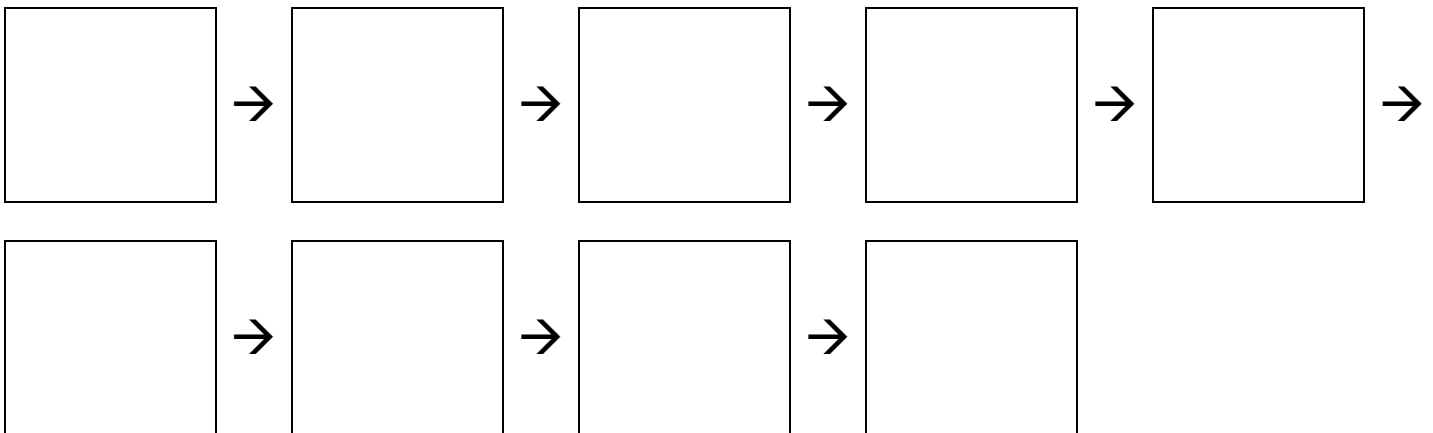
1. What is the function of the macromolecules?

2. What are the four macromolecules?

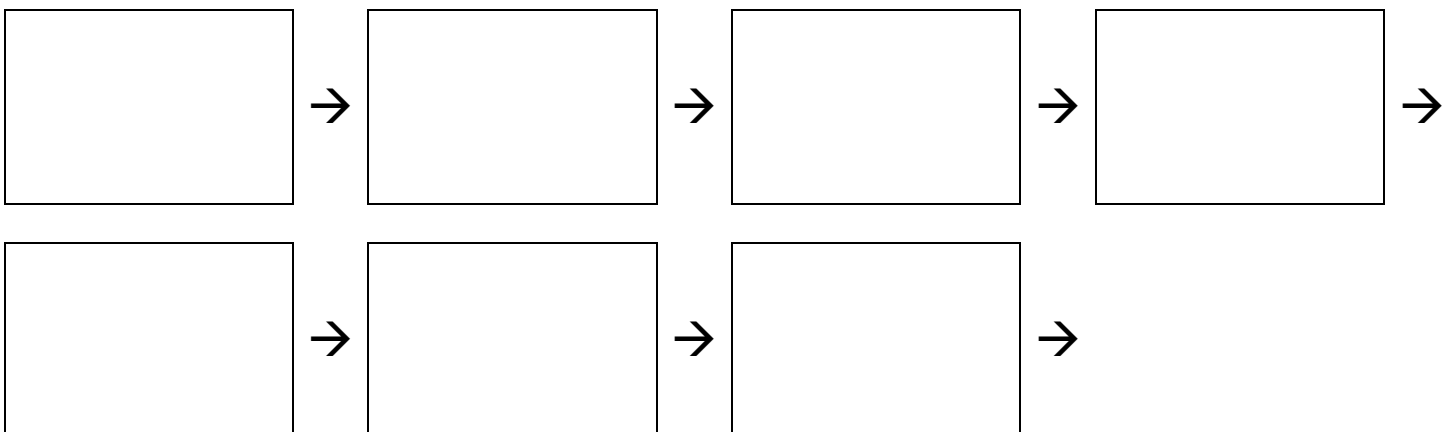
3. What are some examples of each of the four macromolecules?

3/13 - Ecological Changes: Arrange the succession cards provided in order from beginning to end. After we have reviewed it together in class, add your answers to the boxes below.

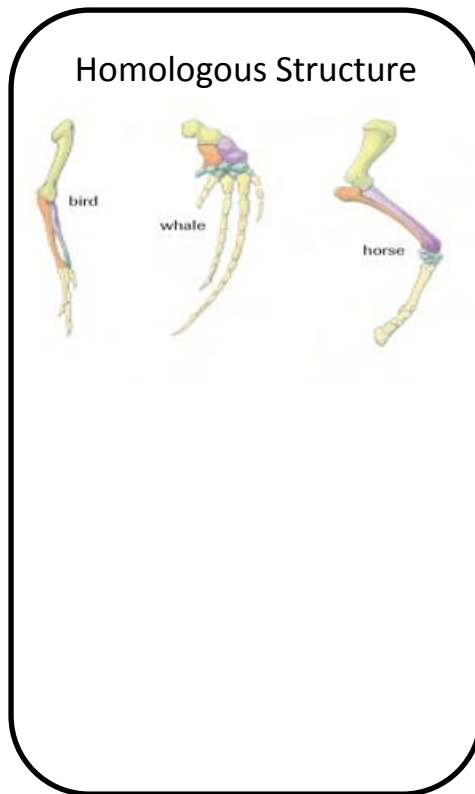
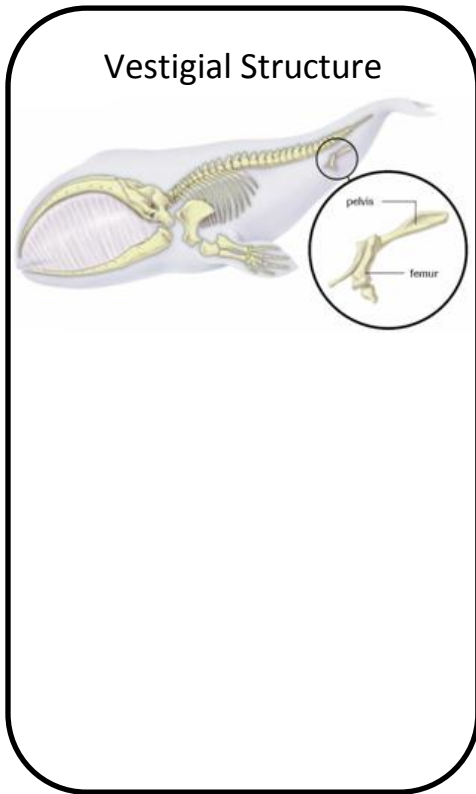
Primary Succession



Secondary Succession

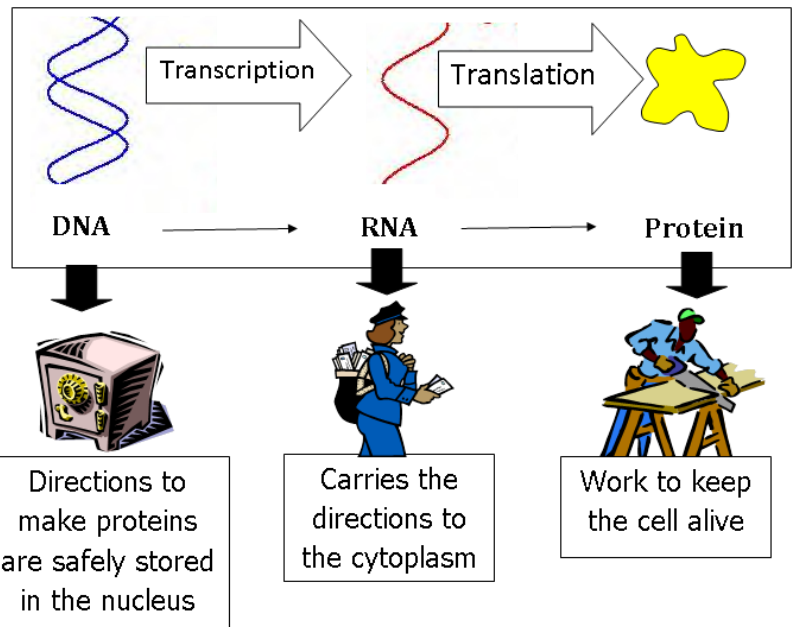


3/14 - Adaptation: Use the pictures below to describe each of the listed vocabulary words. Give another example of each type of structure.



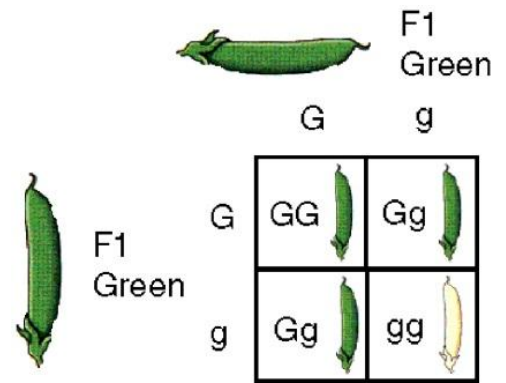
3/15 - DNA:

1) Use the document to the right to brainstorm words and phrases for the subject of DNA and protein synthesis.



2) In 2-3 sentences, describe what is represented in each part of the diagram.

3/18 - Heredity: What does Document A say about heredity in peas? Challenge yourself to use as many vocabulary words as you can remember!



Document A

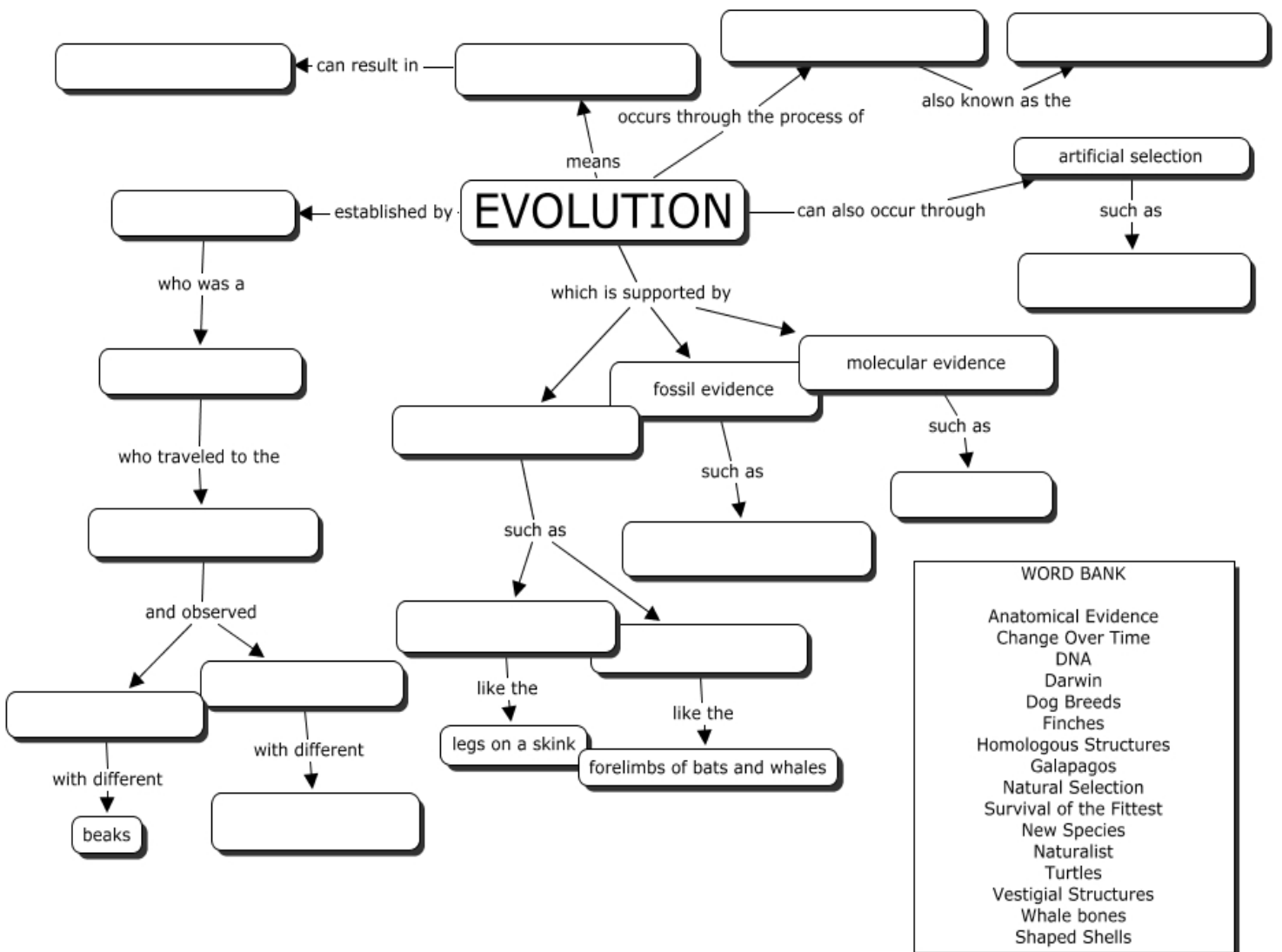
3/19 - DNA: Watch the video located here: <http://tinyurl.com/cdivision>. Fill in the chart with the info.

	Meiosis	Mitosis
Definition:		
Function:		
Type of Reproduction:		
Genetically:		
Crossing Over:		
Pairing of Homologues:		
Number of Divisions:		
Number of Daughter Cells produced:		
Chromosome Number:		
Steps:		
Creates:		

3/20 - Ecological Changes: Walk around to each picture or description and put an "X" in the box that matches the type or types of succession illustrated.

Description	Primary	Secondary	Both
1. Fire			
2. Pioneer Species is the Lichen			
3. Soil			
4. Volcano			
5. Changes happening to an ecosystem over time			
6. Pioneer species is grass and weeds			
7. Climax community is hardwood trees			
8. Takes the longest time to occur			
9. Farming			
10. Glacier melting leaving exposed rock			
11. Caused by a natural or man-made disaster			
12. Tornado			

3/21 - Adaptation: Fill in the concept map below using the vocabulary words from the word bank.



3/22 - Nutrition: Look at the pictures around the room. List each picture in the correct category.

Proteins	Carbohydrates	Lipids	Nucleic Acids

3/25 - DNA: DNA is the 'instruction manual' for all of life's processes. In order for the body to 'read' these instructions, each cell must undergo a process of DNA replication and protein synthesis (transcription and translation). Using the documents provided, describe the process in which the instructions in DNA create proteins.

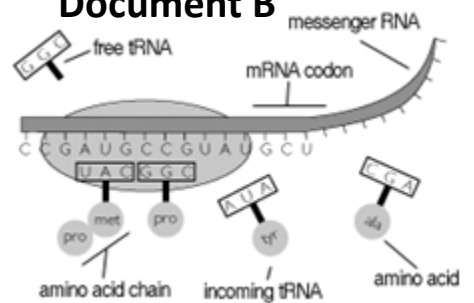
Your paragraph should include the following:

- Introduction (1 sent.)
- DNA replication (1-2 sent.)
- Transcription (1-2 sent.)
- Translation (1-2 sent.)
- Conclusion (1 sent.)

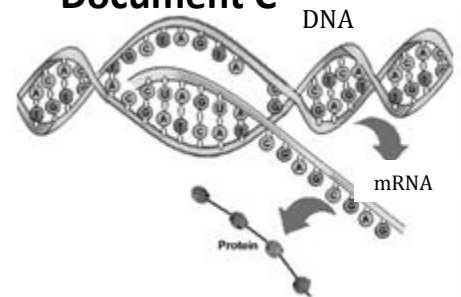
Document A



Document B

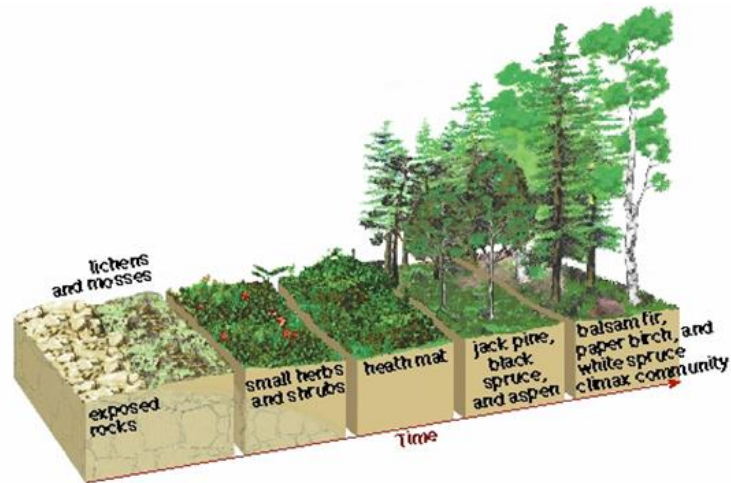


Document C



3/26 - Ecological Changes: In order for an ecosystem to develop, it must undergo certain stages called "succession." Primary and secondary succession must occur in order to produce a climax community. Using the document provided, describe the process in which an ecosystem changes over time to create a climax community. Your paragraph should include the following:

Document A

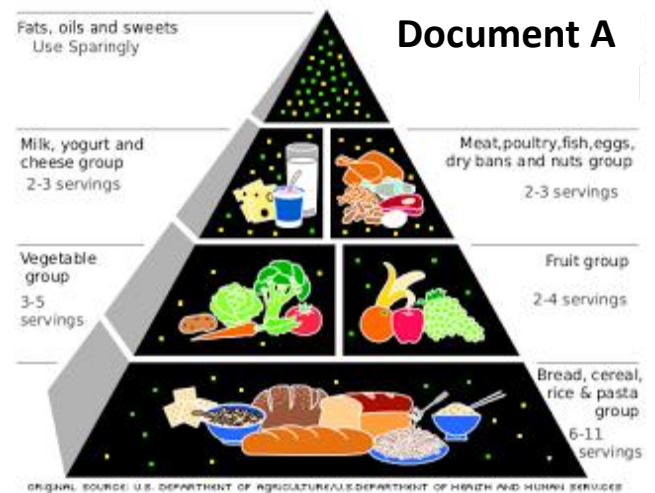


- Introduction (1 sent)
- Describe what type of succession is shown (1-2 sent)
- Explain what could cause this type of succession (1-2 sent)
- Explain Climax Communities (1-2 sent)
- Conclusion (1 sent)

3/27 - Nutrition: Eating a balanced diet is an important way to stay healthy. Your body takes in three main types of macromolecules from food sources: proteins, lipids, and carbohydrates. Using the document provided, describe the structure and function of each of the three types of macromolecules.

Your paragraph should include the following:

- Introduction (1 sent.)
- Proteins (1-2 sent.)
- Lipids (1-2 sent.)
- Carbohydrates (1-2 sent.)
- Conclusion (1 sent.)



3/28 - Heredity: Your genes are the biggest factor in determining who you are. Even children of the same parents can have very different physical characteristics. Organisms that look the same can actually have very different genes, depending on whether the specific alleles are dominant or recessive. In a paragraph, explain how an organism's genotype relates its phenotype and how a Punnett square can be used to predict the offspring of a mating pair.

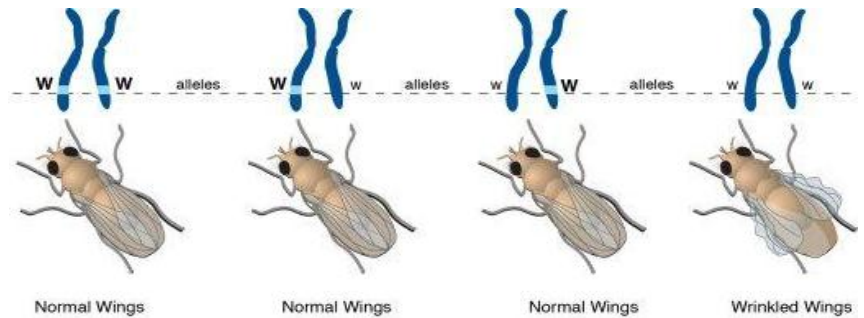
Your paragraph should include the following:

- Introduction (1 sent.)
- Dominant and recessive alleles (1-2 sent.)
- Genotype vs. phenotype (1-2 sent.)
- Punnett square (1-2 sent.)
- Conclusion (1 sent.)

Cross: $Aa \times Aa$

	A	a
A	AA	Aa
a	Aa	aa

Document A



Document B