N	lame: Period: Date:
	BIOLOGY FINAL EXAM REVIEW – Part 1
	Completion of ALL 3 review packets on or before the final exam will give you <u>5 points on your exan</u> OR <u>a homework pass for Term 4</u> .
er 1	11: Genetics
1	. Define the following vocabulary terms:
	Genetics -
	Heredity -
	Mendel -
	Trait -
	Genes -
	_Alleles -
	Homozygous -
	Heterozygous -
	Pure-breeding -
	_ Hybrid -
	Dominant -
	Recessive -
	Genotype -
	Phenotype -
	_ Cross -
	Punnett square -
	Dihybrid cross -
	Recessive Genetic Disorder -
	Dominant Genetic Disorder -
	Pedigree -
2	. Homozygous or heterozygous? a. Hybrid:
	b. Pure-bred:

Na	ame: Pe	riod:	Date:
3.	Genotype or Phenotype? a. A bunny has brown fur: b. The alleles of a tall person is TT:		
4.	Two yellow pea seeds are heterozygous for their seed color. What are the ratios of the offspring? (make a Punnett Square to show your work)	e genoty	pe and phenotype
	enotype Ratio:enotype Ratio:		_ _
5.	Red-green colorblindness is a sex-linked recessive trait. A woman who had marries a man who is not colorblind. a. Complete a Punnett Square	as red-gre	een colorblindness
	b. Will the female offspring be colorblind? Why or why not?c. Will the male offspring be colorblind? Why or why not?		
6.	a. What is individual I-1's genotype? b. What is individual I-2's genotype? c. Draw a Punnett Square between these two individuals (I-1 and I-		
	d. What are the chances of them having an albino child?e. What is individual II-3's genotype?	_	

Naı	me:	Period:	_ Date:
Cha	pter 12: DNA, RNA, Protein		
7.	In which organelle will you find DNA?		
8.	What are the four nitrogenous bases found in DNA ?		
9.	What is Chargaff's Rule ?		
10.	What type of <u>weak bond</u> holds the nitrogen bases between DN	A strands together?	
11.	The shape of a DNA molecule is called a	·	
12.	What is the building block of DNA?	_	
13.	What are the three parts of a DNA nucleotide ? DRAW ONE AND	D LABEL IT!	
14.	Why does DNA need to replicate?		
15.	During what stage of the cell cycle does DNA replicate?		
16.	What three letters do the names of enzymes end in?		
17.	What is the job of the DNA Helicase ?	DNA molecule Gene 1 DNA strand 3'	Gene 2 Gene 3
18.	What are the <u>two</u> jobs of DNA polymerase ?	(template) TRANSCRIPTION U G G mRNA 5	
19.	Explain what happens during DNA replication (3 main steps).	Codon	

TRANSLATION

Amino acid

Protein

Name:		Period:	Date:
20. What is semi-conse	rvative replication (what is the replicated DNA mad	de of)?	
21. What are the four n	itrogenous bases in RNA ?		
22. What are three diffe	erences between <u>DNA and RNA</u> ?		
23. Transcribe RNA from	m the DNA sequence below (match the bases).		
DNA: A T G RNA:	G C		
	lementary (matching) <u>DNA</u> for the sequence below GGTCATACCA	<i>1</i> .	
25. <u>Transcription</u> uses I	DNA to make <u>Translation</u> uses m	RNA to make	·
26. Three RNA bases m	ake a	R. B.	Canada Alemine Caracine Alemine Caracine Alemine Caracine Alemine Caracine
27. What does a codon	code for?	Alanine CA	A G U C GOO STOP
28. Which organelle rea	ads the RNA to make proteins in the cell?	U G	G A C U C Leur
Transcribe this DNA into	represent the " <u>start</u> " codon? o RNA. Then, <u>translate</u> this GENE into a protein ranslating at the START codon and STOP at the STO	Lyane G Lyane Lyane	A C U G A C U
Template DNA: mRNA: Protein:	GGG ACC AGA TAC AAA GAT TTT ATC AG	<u>iT</u>	
How many amino acids	are in this protein?		
28. Which amino acid is	created by the start codon AUG ?		

29. What is a mutation?

	Name:		Period:	Date:	
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BIOLOGY FINAL EXAM REVIEW – Part 2

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OR <u>a homework pass for Term 4.</u>

Chapters 35-39: Body Systems

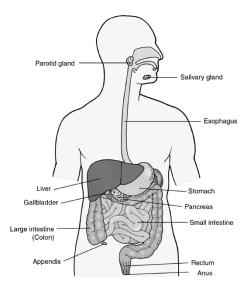
The Digestive System

- 1. What is the function of the digestive system?
- 2. List, IN ORDER, the organs of the digestive system:
- 3. Where does chemical digestion begin?
- 4. What enzyme in your saliva breaks down starches?
- 5. Where do nutrients cross over into your bloodstream? (be specific)
- 6. Where is water absorbed during digestion?
- 7. What other body system does the digestive system cross over with? Where?

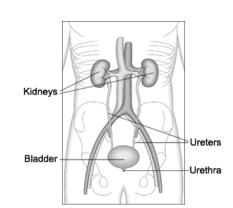
The Excretory System

- 8. What is the function of the excretory system?
- 9. List, IN ORDER, the organs of the excretory system?
- 10. What is the functional unit of the kidney that filters the blood called?
- 11. What other body system does the excretory system cross over with? Where?





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Name:	Period: I	Date:

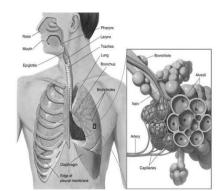
The Circulatory System

- 12. What is the function of the circulatory system?
- 13. List, IN ORDER, the organs of the circulatory system?
- 14. What are the 3 types of blood vessels called? Which way do they carry blood?
- 15. What other body system does the circulatory system cross over with? Where?



The Respiratory System

- 16. What is the function of the respiratory system?
- 17. List, IN ORDER, the organs of the circulatory system?



- 18. What are the 3 types of blood vessels called? Which way do they carry blood?
- 19. What other body system does the circulatory system cross over with? Where?

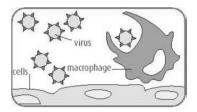
The Nervous System

- 20. What is the function of the nervous system?
- 21. List the organs of the nervous system.
- 22. What is the difference between a sensory neuron and a motor neuron?
- 23. What is the central nervous system? The peripheral nervous system?
- 24. What other body system does the nervous system cross over with?

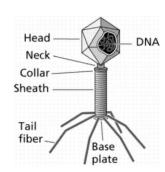


The Immune System

- 25. What is the function of the immune system?
- 26. List the organs of the immune system.

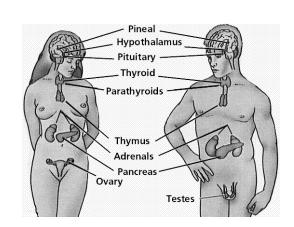


- 27. What are the TWO types of white blood cells? What is the difference between them?
- 28. What is a pathogen? Give an example of one.
- 29. What is a virus? Explain why a virus is NOT considered alive.



The Endocrine System

- 1. What is the function of the endocrine system?
- 2. What are the organs of the endocrine system?



- 3. List 3 glands and what they control.
- 4. What other body system does the endocrine system cross over with? Where?

Name:	Period:	Date:

The Musculoskeletal System

- 5. What are the main function **S** of the skeletal system?
- 6. What is the skeletal system made up of?
- 7. What is the main function of the <u>muscular</u> system?



8. Fill in the table below. For EACH type, describe where that muscle can be found, and if they are under voluntary or involuntary control.

MUSCLE TYPE	LOCATION	TYPE OF CONTROL
Skeletal		
Smooth		
Cardiac		

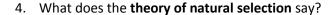
	Name:	Period:	Date:
	BIOLOGY FINAL EXAM REVIEW – Part 3		
	Completion of ALL 3 review packets on or before the final exam will given OR a homework pass for Term 4.	ve you <u>5 point</u>	s on your exam
Chapte	er 3: Cycles of Matter Water Cycle		
	1. Write the definitions for the following words:		
	Precipitation -		
	Condensation -		
	Evaporation -		
	Runoff -		
	Transpiration -		
	2. Draw AND <u>label</u> a picture of the <u>WATER</u> cycle. Be sure to use these L transpiration, evaporation, run off, clouds, sun, and precipitation.	ABELS: conde	ensation,
	Carbon Cycle 1. Write the definitions for the following words:		
	Carbon dioxide –		
	Oxygen -		
	Respiration –		
	Photosynthesis -		
	Decomposition -		
	Pollution -		

Fossil Fuel –

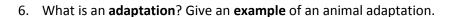
Na	me:		Period:	Date:		
2.	How does photosynthesis affect the carbon cycle?					
3.	How does respiration affect the carbon cycle?					
4.	How does pollution and industrial activity affect the carbon cycle?					
5.	How does decomposition and pooping affect the carbon	ı cycle?				
	Nitrogen Cycle 1. What is the nitrogen cycle?					
2.	Why do organisms need nitrogen?					
3.	What processes RELEASE nitrogen into the ground or atmosphere?					
4.	What do nitrogen fixing bacteria do? Why are they important?					

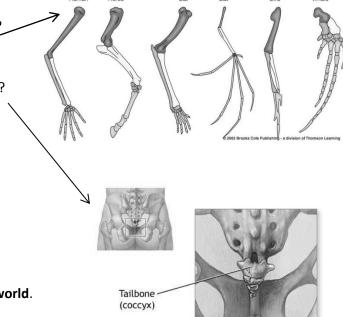
Name:	Period:	Date:	
ution (Chapter 15) & Ecology (Chapter 3) 1. Write the definitions for the following words:			
Producer –			
Autotroph –			
Heterotroph -			
Herbivore –			
Primary consumer –			
Carnivore –			
Secondary consumer –			
Top consumer –			
Decomposer –			
Food chain –			
Food web –			
Trophic level –			
Adaptation –			
Characteristic –			
Natural Selection –			
Evolution –			
Homologous structures –			
Embryology -			
Vestigial Structures –			
Fossils –			

- 1. What evidence for evolution is the picture #1 showing?
- 2. What evidence for evolution is the picture #2 showing?
- 3. What are fossils? What do they show scientists?





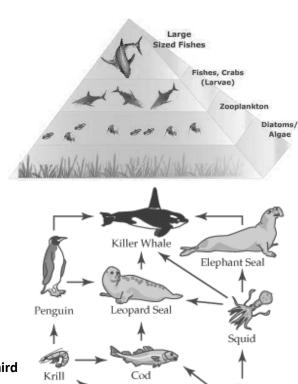




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Zooplankton

- 7. Write a **food chain** below with any four organisms. **Label** the **top** consumer, **primary** consumer, **secondary** consumer and **producer**.
- 8. a) <u>Label</u> the trophic levels of the following energy pyramid as **primary** consumers, **secondary** consumers, **top** consumers and **producers**.
 - b) Which level of the pyramid provides the $\underline{\text{MOST}}$ energy to the ecosystem? WHY?
 - c) Which level provides the **LEAST** energy? **WHY**?
- 9. Use the marine food web to answer the following questions.
- a)<u>Label</u> the **producers**, **primary** consumers, **secondary** consumers, **third** consumers and **top** consumers.
- b) What would happen to the population of **killer whales** if the **phytoplankton** were to die? **Why**?



Phytoplankton

Name:	Period:	_ Date:
c) What would happen to the population of penguin if the krill w	ere to die? Why ?	
d) Which organism provides the MOST energy to the food web?	'Why?	
e)Which organism provides the LEAST energy to the food web? N	Why?	

f) What would happen to the population of squid if the killer whales were to die? Why?

Chapter 18: Classification

Use the table below to help you answer the following questions.

DOMAIN	Bacteria	Archaea		a		
KINGDOM	Eubacteria	Archaebacteria	Protista	Fungi	Plantae	Animalia
CELL TYPE	Prokaryote	Prokaryote	Eukaryote	Eukaryote	Eukaryote	Eukaryote
CELL STRUCTURES	Cell walls with peptidoglycan	Cell walls without peptidoglycan	Cell walls of cellulose in some; some have chloroplasts	Cell walls of chitin	Cell walls of cellulose; chloroplasts	No cell walls or chloroplasts
NUMBER OF CELLS	Unicellular	Unicellular	Most unicellular; some colonial; some multicellular	Most multicellular; some unicellular	Multicellular	Multicellular
MODE OF NUTRITION (how it eats)	Autotroph or heterotroph	Autotroph or heterotroph	Autotroph or heterotroph	Heterotroph	Autotroph	Heterotroph
EXAMPLES	Streptococcus, Escherichia coli	Methanogens, halophiles	Amoeba, Paramecium, slime molds, giant kelp	Mushrooms, yeasts	Mosses, ferns, flowering plants	Sponges, worms, insects, fishes, mammals

1.	I have a cell wall, I am an autotroph and I am multicellular. What kingdom am I in?
2.	I do NOT have a nucleus. I can live in very hot or cold environments. What kingdom am I in?
3.	What is the BIGGEST taxon (level of classification)?
4.	What is the smallest taxon (level of classification)?

Name:	Period:	Date:	

5. Classification of four organisms:

Use this table to answer the following questions.

Level of		Whale	Humpback	Spider	
Classification	Corn	Shark	Whale	Monkey	
Kingdom	Plantae	Animalia	Animalia	Animalia	
Phylum	Anthophyta	Chordata	Chordata	Chordata	
Class	Monocotyledones	Chondrichthyes	Mammalia	Mammalia	
Order	Commelinales	Squaliformes	Cetacea	Primates	
Family	Poaceae	Rhincodontidae	Balaenopteridae	Atelidae	
Genus	Zea	Rhincodon	Megaptera	Ateles	
Species	Zea mays	Rhinacodon typus	Megaptera	Ateles paniscus	
			novaeangilae		

a.	which two organisms in the above table are most closely related? EXPLA	IIN!

b.	Which level of classification shows if the organism is a mammal (mammalia)?

c.	How many	different	kingdoms are	shown ab	ove? What	are the	different l	kingdoms y	ou see?
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d. Which organism is **least** like the others? EXPLAIN!

Fitness and Nutrition

1. What are the **six** food groups? Give an **example** food from each.

2. What are the **three** major **macromolecules** in food? Give an example of each.

3. What is a **calorie**? What does it measure?