

Week #6: May 11-May 15, 2020

Junior High Science - 8th gr

Debra Welch

Hello students! I hope all of you are staying healthy. I just want everyone to know that I am thinking of you and miss having school as normal. Remember to keep your immune systems strong! Basic directions are: You need to complete one lesson a week for only the class you were currently enrolled in and choose from the 3 choices. Choices 1 & 2 are for review of material we have already covered this year. I will start at the beginning and go through the year's material. Choice #3 will always be new work using your textbook or other handouts I include. I will make every effort to keep your work simple to do, considering that we are not learning together in the classroom. Your work should be turned in as a hard (paper) copy to the office or through email in a word or google document. My email is: [debra.welch@oakland5.org](mailto:debra.welch@oakland5.org). Please be sure all work has your name! If you have not turned in the assignment by the following Monday, I will need to email your parents and/or place a phone call home. Please be diligent to turn work in on time. I suggest you set up a schedule just as if you were at school and allow for the normal time period. Most assignments I send you will take less time than our normal 40 minutes. Comments will be made on paper copies and returned to you. If you send in homework answers as an email I will reply to your email and give my comments/reflections of your work. I will be supplying you with the necessary notes or you will need to use your book to find the answers. If you have any questions feel free to email me and I will get back to you by email during my office hours. If you can't email feel free to call the office and leave me a message. Good Luck and stay healthy!

See Assignments on following page:

Class	Choice 1	Choice 2	Choice 3 (Enrichment)
8th Grade Life Science	<p><b>Practice w/Monohybrid Punnett Squares</b></p> <p><u>Do the worksheet</u> answer questions 1-14 &amp; do 1&amp; 2 below on page 2 &amp; fill out the punnett squares.</p> <p><i>Refer to Textbook, Chap5 on Heredity &amp; your notes.</i></p>	<p><b>Heredity- C5</b></p> <p>Do the worksheet "Genetics Problems-Monohybrid/ Dihybrid</p> <p>Do #1-6; Answer the Phenotypes questions at bottom of the page.</p>	<p><b>Refer to Ch9 &amp; Ch12 to do the worksheets:</b></p> <p>Overview" Plants" DR p15 &amp; DR p17-18</p> <p>Do Overview "Introduction to Animals" DR p17</p>
6th Grade General Science	<p><b>Use your Text, Chapter 3 (Rocks)</b> and do the puzzles on Rocks- <i>3pgs</i></p> <p>Igneous, Sedimentary &amp; Metamorphic.</p>	<p><b>Mineral Map-</b></p> <p>Look at the map of the US "Where we find minerals" and answer questions 1-9.</p>	<p>Refer to the powerpoint notes provided last week on "<b>Weather</b>" and textbook. <u>Read notes</u> provided on "Clouds"</p> <p>Do: Weather Map Symbols p87</p> <p><i>Using wordlist below fill in the blanks</i></p>

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

## Practice with Monohybrid Punnett Squares

Read the following passage and answer the questions.

Often times, people will refer to a trait or characteristic such as eye color or hair color as being genetic, but what does the word genetic really mean?

**Genetics** is termed as the study of heredity and how traits in offspring are based upon those of the parents.

**Heredity** is the process in which traits (characteristics that can be passed only from a living thing to its young) are passed from parents to offspring. A **Punnett square** is a grid system that can be set up and used to predict the possible outcomes that may result from the mating process between two individuals, when their genotypes are known. Each cell within the square is representative of one possible genotypic outcome for any offspring. The term **genotype** refers to the genetic make-up of an organism. Genotype is represented by using letters of the alphabet to stand for each allele that has been passed from the parents. A capital letter represents the dominant allele and a lower case letter represents the recessive allele. **Alleles** are all the forms of a gene for any given trait. There are usually two allele possibilities for every trait. For example: B and b are both alleles for the trait of hair color. Since genotype is the genetic make-up, **phenotype** is the physical result of a gene combination. **Dominance** is when one allele can mask the presence of another (B is the dominant gene for brown hair). **Recessive** refers to a characteristic that is masked by the presence of a dominant allele (b is a recessive gene for blonde hair). The only way to have a recessive trait expressed is to have both alleles be recessive (bb, resulting in the blond hair color). Homozygous is defined by the occurrence where the paired alleles for a specific trait, in this case hair color, are identical (BB or bb). If both parents are homozygous, they can each only pass on one allele type to their offspring. This means that all the offspring will have one B and one b allele and will be Bb genotype. This Bb genotype is termed as **heterozygous**. A heterozygous genotype is when the genes that an offspring receives are different, Bb. In this instance, dominance will also be expressed because the offspring will have the dominant trait of brown hair.

1. Genetics is the study of \_\_\_\_\_.
2. Traits are characteristic that can be passed only from a \_\_\_\_\_ thing to its \_\_\_\_\_.
3. The process in which traits are passed from parents to offspring is \_\_\_\_\_.
4. Each cell of a Punnett square represents one possible \_\_\_\_\_ outcome for any offspring of two specific parents.
5. Genotype refers to the \_\_\_\_\_ make-up of an organism.

Welch (8th gr)  
wk 6, Ch 1  
p 2

6. \_\_\_\_\_ is the physical trait that is expressed in an individual.
7. \_\_\_\_\_ are the different forms of a gene for any given trait.
8. For each trait, there are \_\_\_\_\_ allele possibilities.
9. When the expression of one allele is masked by the presence of another, it is said to be \_\_\_\_\_.
10. When an allele masks the presence of another allele, it is said to be \_\_\_\_\_.
11. When both alleles of a parent or offspring are identical, one is said to be \_\_\_\_\_.
12. A heterozygous genotype is when the alleles present are \_\_\_\_\_, such as Bb.
13. It is proper to put the \_\_\_\_\_ allele before a recessive allele when determining the genotype of the offspring in a Punnett square.
14. For an offspring to \_\_\_\_\_ a recessive trait, both parents must have at least one \_\_\_\_\_ allele in their genotype.

For the following pairs of traits, conduct a monohybrid cross to determine the genotype and phenotype of the offspring.

1. Dominant trait: B (brown hair)  
Recessive trait: b (blonde hair)  
Possible Genotypes: \_\_\_\_\_  
  
Possible Phenotypes: \_\_\_\_\_

	B	b
B		
b		

2. Dominant trait: C (circular flower)  
Recessive trait: c (square flower)  
Possible Genotypes: \_\_\_\_\_  
  
Possible Phenotypes: \_\_\_\_\_

	C	c
c		
c		

Genetics Problems – monohybrid/dihybrid

1. Monohybrid Cross: Cross one homozygous tall corn plant (TT) with a homozygous dwarf corn plant (tt). Tall is dominant over dwarf.

Genotypes: \_\_\_\_\_

Phenotypes: \_\_\_\_\_

2. Monohybrid Cross: Cross two heterozygous tall corn plants, from the offspring in problem one.

Genotypes: \_\_\_\_\_

Phenotypes: \_\_\_\_\_

3. Monohybrid Cross: Cross one heterozygous tall corn plant with a homozygous dwarf corn plant.

Genotypes: \_\_\_\_\_

Phenotypes: \_\_\_\_\_

4. Monohybrid Cross: Cross one parent heterozygous for dimples, with another parent homozygous for no dimples. Dimples are dominant.

Genotypes: \_\_\_\_\_

Phenotypes: \_\_\_\_\_

5. Monohybrid Cross: Cross two parents both heterozygous for dimples.

Genotypes: \_\_\_\_\_

Phenotypes: \_\_\_\_\_

6. Dihybrid Cross: Black hair is dominant to white hair, and short hair is dominant to long hair. Cross a homozygous black, short-haired rabbit with a homozygous white, long-haired rabbit.

What are the genotypes of the parents? \_\_\_\_\_ and \_\_\_\_\_

What will be the genotype of the offspring? \_\_\_\_\_

What will be the phenotype of the offspring? \_\_\_\_\_

Cross two of the offspring's genotypes to determine the probability of their offspring.

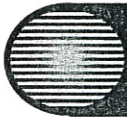
What four phenotypes are possible and what is the ratio?

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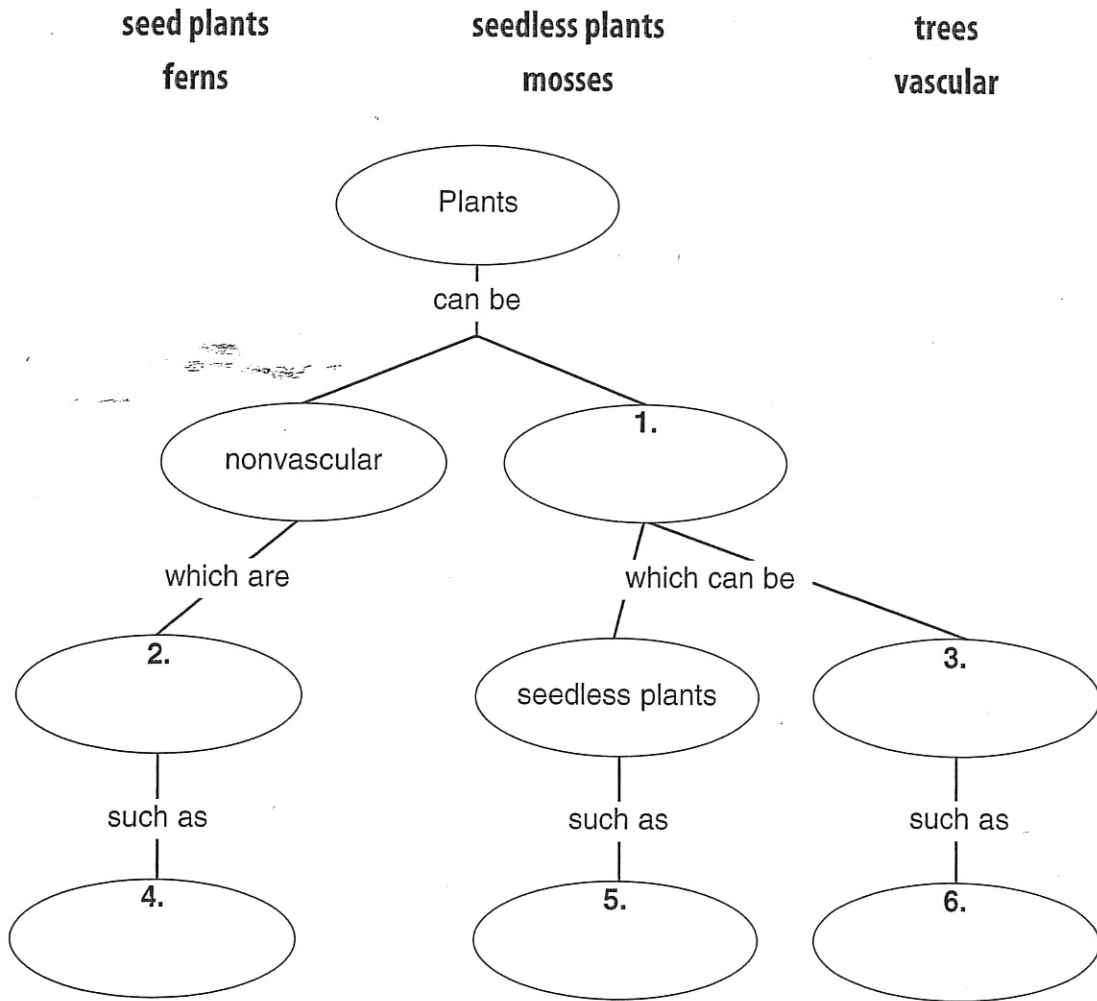
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Directed Reading for Content Mastery

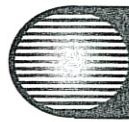
Overview Plants

Directions: Complete the concept map using the terms in the list below.



Directions: Identify plants listed below by writing in the correct designations in the spaces provided. The plants might be **seedless, vascular, or both.**

- \_\_\_\_\_ 7. ferns
- \_\_\_\_\_ 8. mosses
- \_\_\_\_\_ 9. carrots
- \_\_\_\_\_ 10. redwoods
- \_\_\_\_\_ 11. liverworts
- \_\_\_\_\_ 12. horsetails



Directed Reading for  
Content Mastery

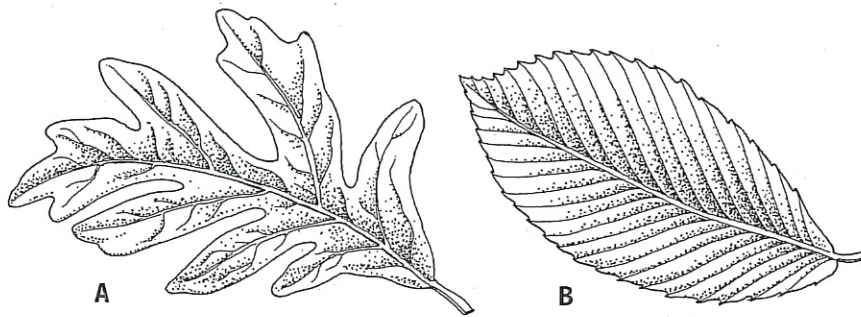
Section 2 ■ Seedless Plants  
Section 3 ■ Seed Plants

Wk 6 - Choke 3  
p 2

**Directions:** Identify each structure as part of a seedless plant, a seed plant, or both.

- \_\_\_\_\_ 1. fern leaf  
 \_\_\_\_\_ 2. chloroplast  
 \_\_\_\_\_ 3. yellow flower  
 \_\_\_\_\_ 4. bean  
 \_\_\_\_\_ 5. cellulose  
 \_\_\_\_\_ 6. spore  
 \_\_\_\_\_ 7. cone  
 \_\_\_\_\_ 8. peach

**Directions:** Use the illustrations to answer the following questions.



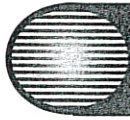
9. Which illustration shows a dicot? Which one shows a monocot?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

10. Explain how you reached your conclusion above.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





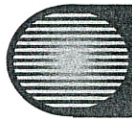
Directed Reading for  
Content Mastery

Key Terms  
Plants

Welch (Stager)  
WLC 6 - Choice 3 p 3

**Directions:** Draw a line to connect the description on the left to the appropriate term on the right.

- |   |                    |
|---|--------------------|
| 1. tubes that move food from where it is made to other parts of the plant                             | rhizoids           |
| 2. plants without vascular tissues  | phloem             |
| 3. plants with tissues that carry water and nutrients   | cuticle            |
| 4. vessels that carry water and dissolved substances from roots to other parts of the plant           | nonvascular plants |
| 5. vascular plants that produce seeds on the surface of female reproductive structures, such as cones | stomata            |
| 6. vascular plants that flower and have fruits that contain seeds                                     | angiosperms        |
| 7. organisms that are the first to grow in new or disturbed areas                                     | gymnosperms        |
| 8. plants with one cotyledon inside their seeds   | dicots             |
| 9. plants with two cotyledons inside their seeds xylem  | monocots           |
| 10. openings that open and close to allow carbon dioxide, water, and oxygen to enter and exit a leaf  | pioneer species    |
| 11. threadlike structures that anchor nonvascular plants in place                                     | vascular plants    |
| 12. waxy, protective layer on a plant's surface that slows the loss of water                          | xylem              |



## Overview

# Introduction to Animals

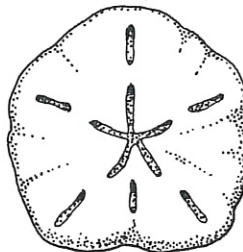
**Directions:** Write **T** if the statement is true; write **F** if the statement is false.

- \_\_\_\_\_ 1. An animal cell has a nucleus and organelles.
- \_\_\_\_\_ 2. Animals depend on other organisms for food.
- \_\_\_\_\_ 3. Mimicry is one adaptation for escaping predators.
- \_\_\_\_\_ 4. About 97 percent of all animals have backbones.
- \_\_\_\_\_ 5. Adult sponges usually float around from place to place.
- \_\_\_\_\_ 6. For cnidarians, the polyp body type is usually sessile; the medusa body type is free-swimming.
- \_\_\_\_\_ 7. Sponges and polyps are parasitic.
- \_\_\_\_\_ 8. Coral reefs protect the shoreline from damage.
- \_\_\_\_\_ 9. Most flatworms are parasites.
- \_\_\_\_\_ 10. Blood flukes are harmless to people.
- \_\_\_\_\_ 11. Roundworms have a mouth and an anus.

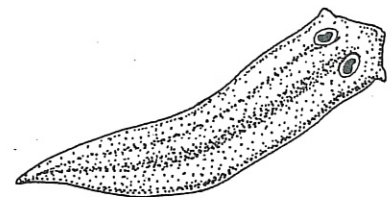
**Directions:** Label the following animals with the kind of symmetry each has.



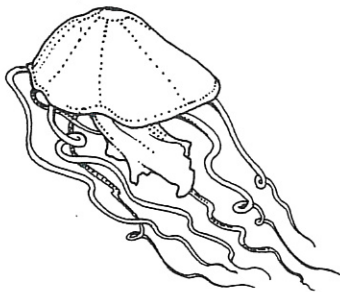
12. \_\_\_\_\_



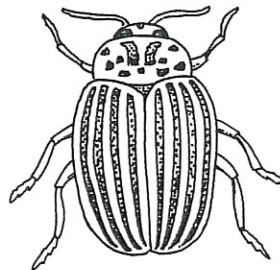
13. \_\_\_\_\_



14. \_\_\_\_\_



15. \_\_\_\_\_



16. \_\_\_\_\_



17. \_\_\_\_\_