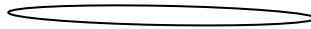


## Genetic Notes – Genetics/Heredity

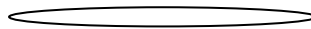
- ◆ Genetic instructions for an \_\_\_\_\_ determine that organism's \_\_\_\_\_ (characteristics). The instructions are found in \_\_\_\_\_.
- ◆ \_\_\_\_\_ is found on chromosomes in the nucleus of a cell. Chromosomes come in \_\_\_\_\_. Humans have \_\_\_\_\_ of chromosomes.
- ◆ One chromosome in each pair is \_\_\_\_\_, and one is \_\_\_\_\_. (If there was only one parents, these are both from one parent.)
- ◆ Both chromosomes in a pair contain \_\_\_\_\_ so that an organism has \_\_\_\_\_.

Different copies of a gene are called \_\_\_\_\_.

◆ One pair of chromosomes for a plant:



allele for red flowers



allele for blue flowers

Each chromosome has a gene for flower color.

- ◆ Even though you have two alleles for every \_\_\_\_\_, usually only \_\_\_\_\_ will be expressed. (An allele that is expressed is the one that is used by the organism.)
- ◆ The gene that is expressed is called the \_\_\_\_\_. The gene that remains hidden is called the \_\_\_\_\_. The only time a recessive gene is expressed is when \_\_\_\_\_.
- ◆ The genes that are present for a trait is called the \_\_\_\_\_.

◆ \_\_\_\_\_ are used to represent a dominant gene, and \_\_\_\_\_  
\_\_\_\_\_ are used to represent a recessive gene.

◆ So, if we use the letter F to represent flower color:

Genotype	Phenotype

◆ The \_\_\_\_\_ could be CC, Cc, or cc. The letters simply label  
the genes. The \_\_\_\_\_ tells what trait is expressed by  
the genes. In this case, the phenotype is \_\_\_\_\_.

◆ Some traits are determined by \_\_\_\_\_ gene, but many are determined by \_\_\_\_  
\_\_\_\_\_ genes.

◆ Plants and animals have \_\_\_\_\_ of genes.

## Genetic Notes – Genetics/Heredit

◆ Genetic instructions for an organism determine that organism's traits

(characteristics). The instructions are found in DNA.

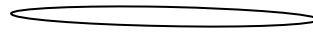
◆ DNA is found on chromosomes in the nucleus of a cell.

Chromosomes come in pairs. Humans have 23 pairs of chromosomes.

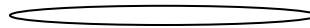
◆ One chromosome in each pair is from the mother, and one is from the father. (If there was only one parents, these are both from one parent.)

◆ Both chromosomes in a pair contain the same genes so that an organism has two genes for each trait. Different copies of a gene are called alleles.

◆ One pair of chromosomes for a plant:



allele for red flowers



allele for blue flowers

Each chromosome has a gene for flower color.

◆ Even though you have two alleles for every trait, usually only allele will be

expressed. (An allele that is expressed is the one that is used by the organism.)

◆ The gene that is expressed is called the dominant. The gene that remains hidden is called recessive. The only time a recessive gene is expressed is when both genes are recessive.

◆ The genes that are present for a trait is called the genotype.

◆ Capital letters are used to represent a dominant gene, and lowercase letters are used to represent a recessive gene.

◆ So, if we use the letter C to represent flower color:

<b>Ge not ype</b>	<b>Ph en ot yp e</b>
CC	Bl ue Fl ow ers
Cc	Bl ue Fl ow ers
cc	Re d Fl ow ers

◆ The genotype could be CC, Cc, or cc. The letters simply label the genes. The phenotype tells what trait is expressed by the genes. In this case, the phenotype is Blue.

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

- ◆ Some traits are determined by one gene, but many are determined by many different genes.
- ◆ Plants and animals have thousands of genes.