Mendelian Genetics, Ch. 11 Sections 1 and 2, Pgs. 262-269

Objectives: Students will
A) Summarize Mendel's experimental techniques
B) Identify the P, F_1 and F_2 generations
C) List Mendel's three laws
D) Define Mendel's Law of Dominance
E) Compare dominant to recessive alleles
F) Compare homozygous to heterozygous genotypes
G) Compare genotype and phenotype

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A) Summarize Mendel's experimental techniques

Why peas, *Pisum sativum*?

- **Easy to grow in _____**
- **Produce _____ of offspring**
- **Produce_____(_____ _____) plants when they _____**
- **Can be artificially _____**
- **Many _____ known.**

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A) Summarize Mendel's experimental techniques

How Mendel Began?

1. Produced _____ strains through _____ for several generations
2. Pure =_____, same _____ for trait

Controlled experiment?

1. **Removed _____ = prevent _____ pollination**
2. **_____ flowers using a _____**
3. **He traced traits through the _____**

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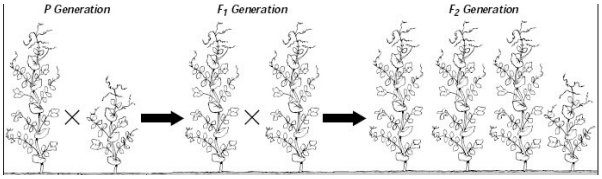
A) Summarize Mendel's experimental techniques
B) Identify the P, F_1 and F_2 generations

- **Parental P Generation = _____ parents.**
- **F_1 generation = the _____offspring from _____ generation. (1st filial generation)**
- **F_2 generation = the _____ generation offspring from _____ generation. (2nd filial generation)**



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C) List Mendel's three laws

Mendel's Laws

1.
2.
3.

Obj. D) Define Mendel's Law of Dominance

Law of _____

In a cross of parents that are ____ (_____) for contrasting traits, only _____ form of the _____ will appear in the _____ generation.

All the offspring will be _____ and express only the _____.

_____yields all _____ (_____ seeds)

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Obj. E) Compare dominant to recessive alleles

R

Vocabulary Term	Link Word	Reminds me of	Because
Dominant Allele			
Recessive Allele			

r

Obj. E) Compare dominant to recessive alleles

Vocabulary Term	Link Word	Reminds me of	Because
Dominant Trait			
Recessive Trait			

Obj. F) Compare homozygous to heterozygous genotypes

•Understanding Check: For each of the following identify the official name of the genotype. Explain why. Refer to the prefix. (Write this list with your answers on the side of the slide on your notes page).

- 1. Tt
- 2. rr
- 3. Aa
- 4. GG
- 5. II
- 6. ee
- 7. Ww
- 8. Pp

Obj. E) Compare dominant to recessive alleles

Eight Pea Plant Traits

_____ ***shape*** --- _____ **(R) or** _____ **(r)**
_____***Color*** **----** _____ **(Y) or** _____ **(y)**
_____ ***Shape*** **--- Smooth (S) or wrinkled (s)**
_____***Color*** **--- Green (G) or Yellow (g)**
_____ ***Color*** **---Gray (G) or White (g)**
_____ ***position***---**Axial (A) or Terminal (a)**
_____***Height*** **---** _____ **(T) or** _____ **(t)**
_____***color*** **--- Purple (P) or white (p)**

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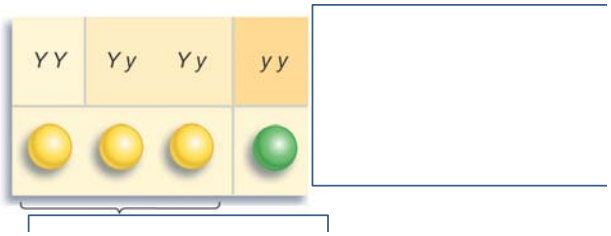
Obj. G) Compare genotype and phenotype

Vocabulary Term	Link Word	Reminds me of	Because
Phenotype			



Obj. F) Compare homozygous to heterozygous genotypes

Vocabulary Term	Link Word	Reminds me of	Because
Genotype			
Homozygous			
Heterozygous			

Understanding Check – Make sure you complete these for binder checks

1. How did Mendel prevent the pea plants from self-pollinating?
2. Define phenotype.
3. Use the letter b to write the genotype of a homozygous recessive individual and a heterozygous individual.
4. If a pea plant posesses the following genotype of Tt, what type of height will it have?

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