

Four Genetic Traits in Corn Worksheet

Table 1: Genotype

Ovule Genetic Traits



Height	Leaf Color	Seed color	Seed texture
Tall stalk	Green leaves	Yellow seed (kernel)	Smooth seed (kernel)
Short stalk	White leaves (albinism)	White seed (kernel)	Wrinkled seed (kernel)

Table 2: Genotype

Pollen Genetic Traits



Height	Leaf Color	Seed color	Seed texture
Tall stalk	Green leaves	Yellow seed (kernel)	Smooth seed (kernel)
Short stalk	White leaves (albinism)	White seed (kernel)	Wrinkled seed (kernel)

Table 3: Phenotype

New Corn Plant (Offspring) Appearance



Height	Leaf Color	Seed color	Seed texture
Tall stalk	Green leaves	Yellow seed (kernel)	Smooth seed (kernel)
Short stalk	White leaves (albinism)	White seed (kernel)	Wrinkled seed (kernel)

Check for Understanding

1. What do the paper clips in the activity represent?
2. What are the male and female reproductive structures of a corn plant?
Male: _____ Female: _____
3. What dominant trait(s), if any, will you see in the new corn plant? Use your phenotype card and Table 3 for guidance.
4. What recessive trait(s), if any, will you see in the new corn plant? Use your phenotype card and Table 3 for guidance.
5. What dominant trait(s), if any, will you find in your new corn plant’s DNA? Use Tables 1 and 2 for guidance.
6. What recessive trait(s), if any, will you find in your new corn plant’s DNA? Use Tables 1 and 2 for guidance.

Think About It

	Dominant traits	Recessive traits
Height	Jumbo purple paper clip = Tall stalk	Regular purple paper clip = Short stalk
Leaf color	Green paper clip = Green leaves	Silver paper clip = White leaves (albinism)
Seed color	Yellow paper clip = Yellow seed	White paper clip = White seed
Seed texture	Red paper clip = Smooth seed	Twisted red paper clip = Wrinkled seed

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D + R = D

R + D = D

R + R = R

1. A group’s trait chain contains a jumbo purple, green, white, and twisted red clip. Could a corn plant with this genotype ever produce offspring that has short stalks? Why or why not?
2. Could a corn plant with this genotype ever produce offspring that will grow ears with white kernels? Why or why not?
3. What is meant by the phrase, “The genotype drives the phenotype.”?