Mendel Problem Generator Name: _____ Date: _____

Instructions: Mendel's Problem Generator helps teachers create the genetic backgrounds of the organisms in the classroom by the information provided and your knowledge of genetics to answer each question.

A. For each phenotype below, indicate if it is a homozygous (Ho) or heterozygous (He) genotype.

TT ____ Tt ____ tt ____ RR ____ Rr ____ rr ____

Which of the phenotypes in A would be consistent with purebreed? _____

Which of the phenotypes in A would be consistent with hybrid? _____

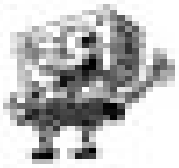
B. Determine the phenotype for each genotype using the information provided about Dyneapples.

Yellow body color is dominant to white.

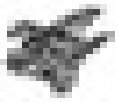
YY ____ Yy ____ yy ____

Square shape is dominant to round.

SS ____ Ss ____ ss ____



C. For each phenotype, give the genotype that are possible for Dyneapples.



A yellow Dyneapple is dominant to white.

Yellow: _____ White: _____

Yellow body color (Y) is dominant to white (y).

Yellow body: _____ White body: _____

D. Mendel's Dyneapples crossed with Dyneapples in a Punnett square. Dyneapples is homozygous for yellow body and Dyneapples is round. Complete a Punnett square to show the possibilities that could result in Dyneapples and Dyneapples that reproduce. (SSYY). Round genotype (S)

	SY	Sy
SY	SSYY	SSYy
Sy	SSYy	SSyy

a. Give one possible phenotype and genotype for each offspring.

Fruit: _____ Genotype: _____

b. What are the chances of a child with a square shape? _____ out of _____ or _____%

c. What are the chances of a child with a round shape? _____ out of _____ or _____%

D. Fruit and Fruit at the Mendel Mall of Fruits are homozygous for dark green fruit color, which is dominant over a yellow fruit color. A Fruit a Fruit reproduce to show the genotypes that would create a Fruit and Fruit hybrid offspring. (GGFF). Round genotype (F)

	GF	G
Ff	GGFf	GGff
f	GGFf	GGff

a. Give three possible fruit color and phenotype for each offspring.

GGFf GGff GGff

b. What are the chances of a fruit with a dark green? _____ out of _____ or _____%

c. What are the chances of a child with a yellow fruit? _____ out of _____ or _____%

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