

MONOHYBRID CROSS
SCENARIO # 1

Guinea pigs can have dark fur (D) or white fur (d). Assume that two guinea pigs that are heterozygous (hybrid) for fur color are crossed.

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SCENARIO # 2

Albinism is a condition that results when an animal does not have the pigment melanin. The gene for albinism is recessive (a). Cross an albino female rabbit (a) with a normal male rabbit, whose father was an albino.

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SCENARIO # 3

Humans have earlobes of two shapes: attached or free. Free earlobes (F) are dominant over attached earlobes (f). Cross two parents that are heterozygous for free earlobes.

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SCENARIO # 4

Guinea pigs have coats that are either rough or smooth. Rough coats (R) are dominant over smooth coats. Assume that a homozygous rough coat guinea pig crosses with a homozygous smooth coat guinea pig. Make the cross.

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SCENARIO # 5

Mary's father is heterozygous dominant for freckles. Mary's mother is homozygous for no freckles. Make the cross and determine the chances of Mary having freckles.

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SCENARIO # 6

Reynaldo has short eyelashes. His father is heterozygous for long eyelashes and his mother is homozygous for short eyelashes. What was the possibility of Reynaldo being born with short eyelashes?

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SCENARIO # 7

Yvette has very light colored eyebrows (E^hE^h). Her mother has medium colored eyebrows (E^HE^h) and so does her father (E^HE^h). Eyebrow color is an example of incomplete dominance – neither trait is expressed over the other. What would be the possibility of Yvette having a sibling that has dark eyebrows?

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SCENARIO # 8

Manx cats have no tails. Some cats have long tails and some cats have short tails. This combination shows that tail length has no dominant trait. Symbolize a manx cat as T^NT^N and a long tail cat as T^LT^L . Cross these two cats to determine the genotype of short tail cats.