

Teacher's Hair Colors

Instructions: Solve the two questions below and use a Punnett square to demonstrate how you arrived at your answers.

Question 1: Harry has dark hair like his father, but his mom had red hair. Using the genotypes of rr (red hair), Rr (dark/brown hair), RR (dark/brown hair), what possible genotypes does each of the Potters have?

The phenotypes of the Potters are:

James Potter (dad)—dark/brown hair→ Rr or RR

Lily Potter (mom)—red hair→ rr

Harry Potter—dark/brown hair→ Rr

- In this situation, the only possible genotype for Harry's dark hair is Rr .*

	r	r		r	r
R	Rr	Rr	R	Rr	Rr
r	rr	rr	R	Rr	Rr

Question 2: Harry marries Ginny who has red hair. What are possible genotypes of their children's hair colors?

Given Harry and Ginny's genotypes, Rr and rr , we can fill in the Punnett Square for their children's genotypes.

- Their children have a 50% chance of being either red-or dark-haired.*

	r	r
R	Rr	Rr
r	rr	rr