

GENETIC INHERITANCE

HOW TRAITS ARE PASSED FROM PARENTS TO OFFSPRING

THE BASICS

We inherit traits from our parents through genes. Genes come in pairs—one from each parent.

KEY TERMS

- A** **DOMINANT**
Shows up in the appearance.
- a** **RECESSIVE**
Can be hidden if a dominant trait is present.
- Aa** **HETEROZYGOUS**
Two different genes.
- AA** **HOMOZYGOUS DOMINANT**
Two dominant genes.
- aa** **HOMOZYGOUS RECESSIVE**
Two recessive genes.



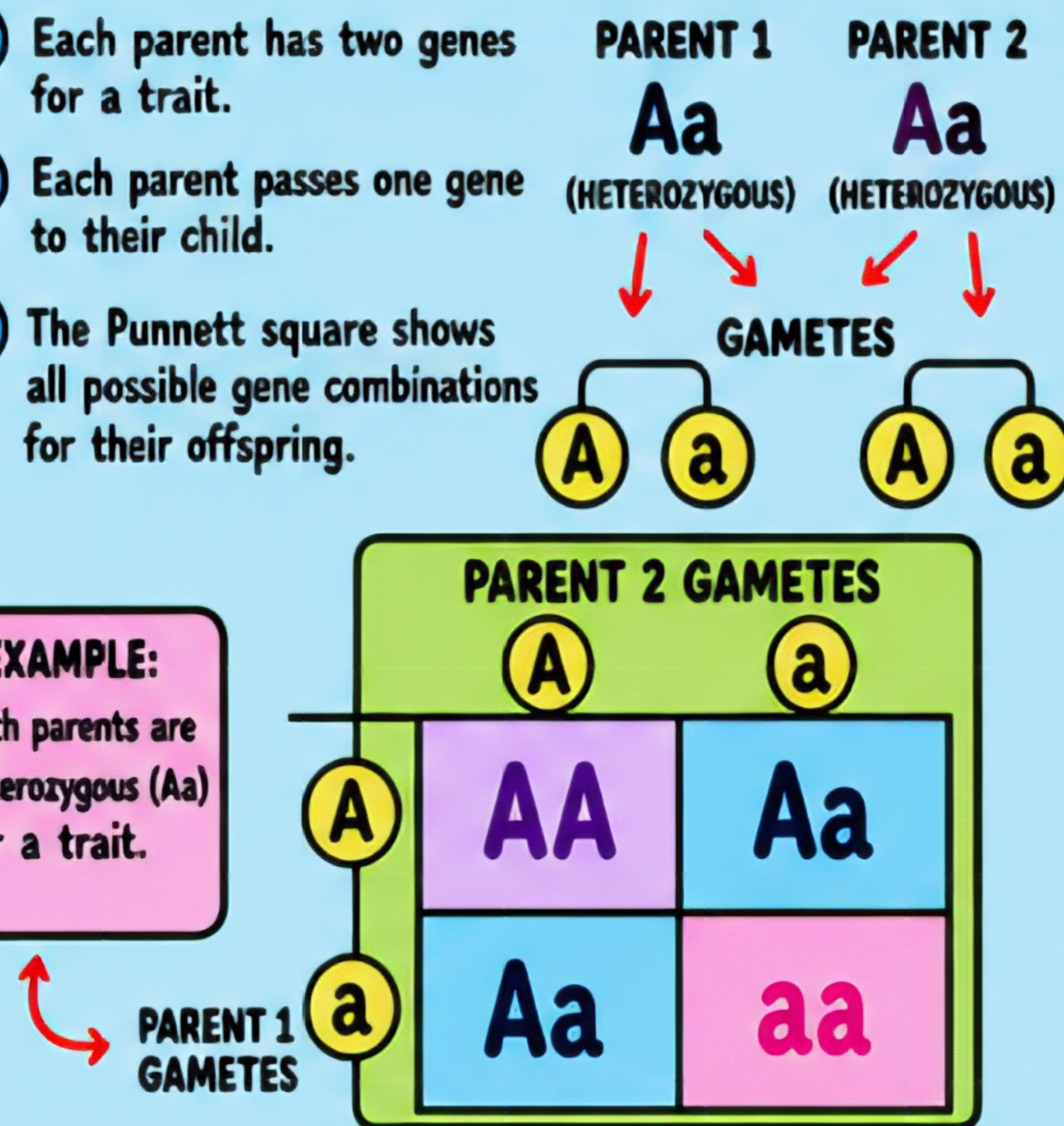
KEY TAKEAWAYS

- Traits are controlled by genes inherited from both parents.
- Punnett squares help predict the chances of different traits.
- Dominant traits are more likely to show, but recessive traits can still be passed on.

HOW PUNNETT SQUARES WORK

- 1 Each parent has two genes for a trait.
- 2 Each parent passes one gene to their child.
- 3 The Punnett square shows all possible gene combinations for their offspring.

EXAMPLE:
Both parents are heterozygous (Aa) for a trait.



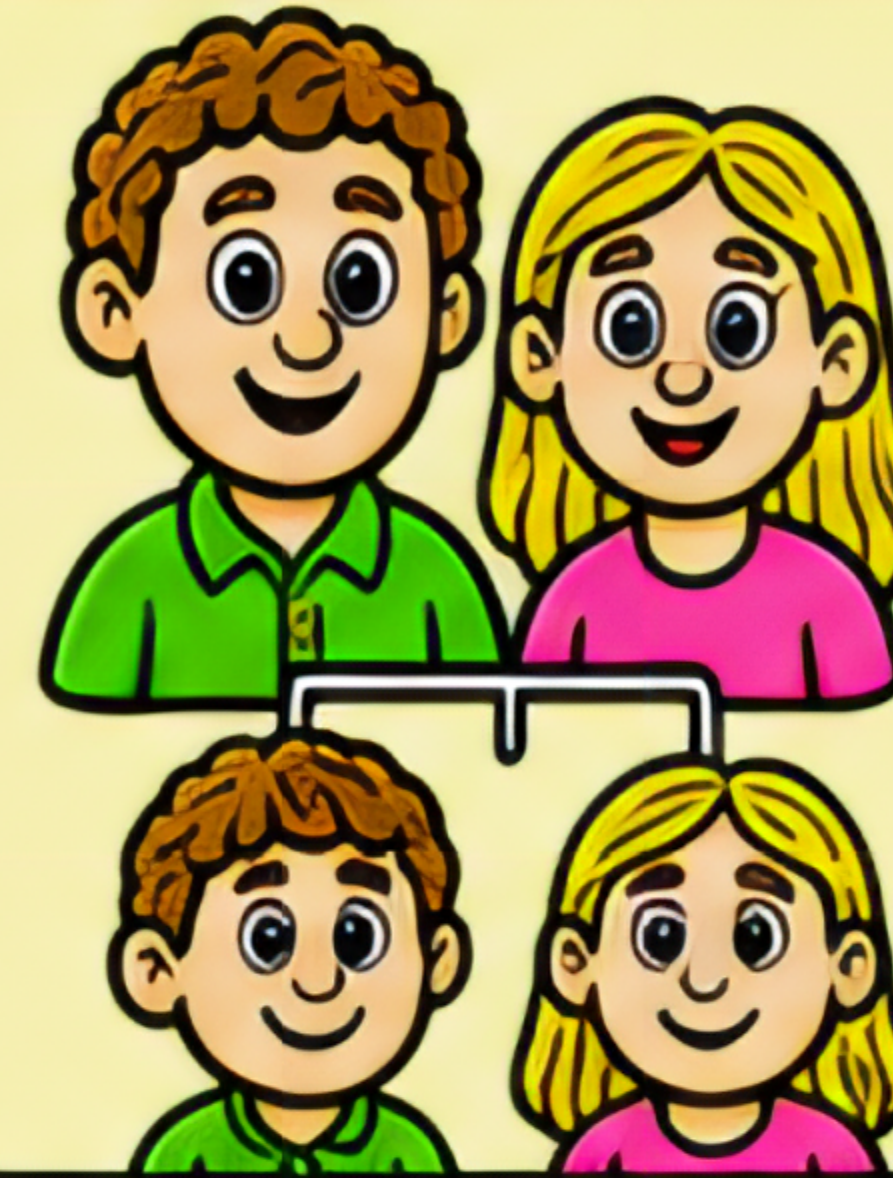
POSSIBLE GENOTYPES:

1 AA : 2 Aa : 1 aa

POSSIBLE PHENOTYPES (if A is dominant):

3 Dominant : 1 Recessive

EXAMPLES OF INHERITED TRAITS

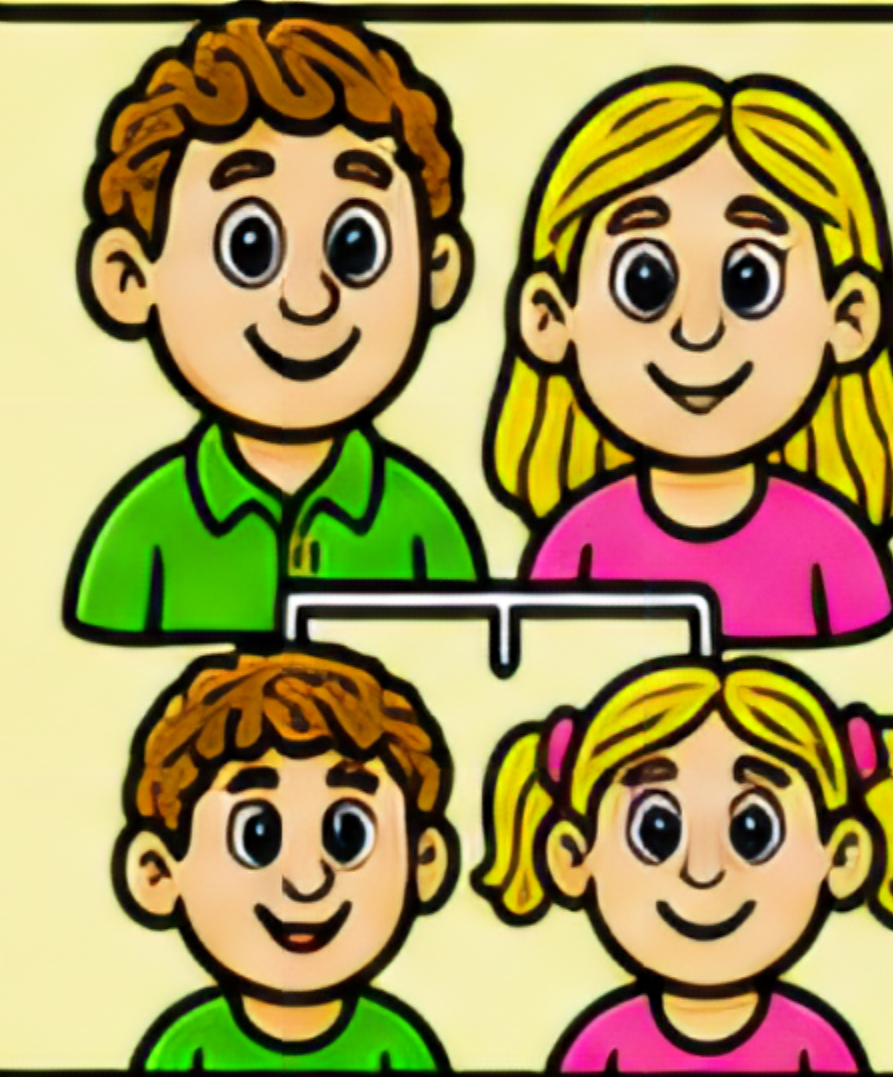


EAR LOBES

	P Ee	P Ee
E	EE	Ee
e	Ee	ee

RESULTS

3 Free (Attached)
: 1 Attached



DIMPLES

	P Dd	P Dd
D	DD	Dd
d	Dd	dd

RESULTS

3 With Dimples
: 1 No Dimples



TONGUE ROLLING

	P Rr	P Rr
R	RR	Rr
r	Rr	rr

RESULTS

3 Can Roll
: 1 Cannot Roll



REMEMBER...



Every child gets one gene from mom and one from dad—making them **unique!**

