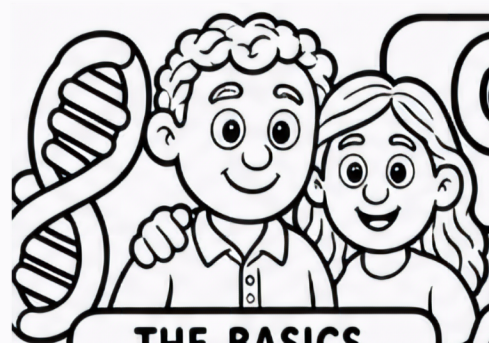
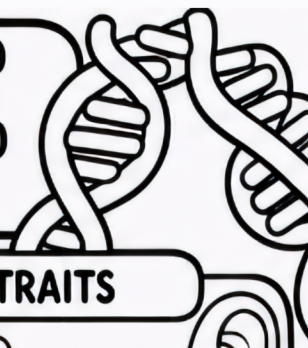




GENETIC INHERITANCE

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.



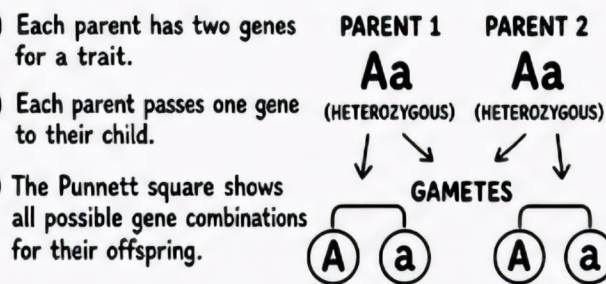
KEY TAKEAWAYS

- 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.

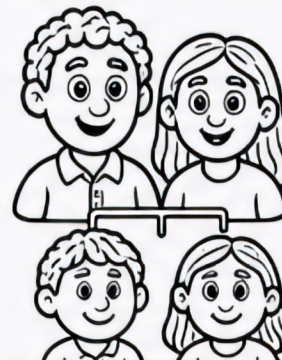
EXAMPLE:
Both parents are heterozygous (Aa) for a trait.



		PARENT 2 GAMETES	
		A	a
PARENT 1 GAMETES	A	AA	Aa
	a	Aa	aa

POSSIBLE GENOTYPES:
1 AA : 2 Aa : 1 aa
POSSIBLE PHENOTYPES (if A is dominant):
3 Dominant : 1 Recessive

EXAMPLES OF INHERITED TRAITS

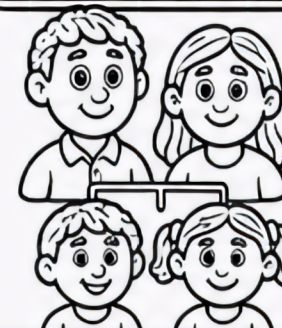


EAR LOBES

P	Ee	P	Ee
	E	e	
E	EE	Ee	
e	Ee	ee	

RESULTS

3 Free (Attached)
: 1 Attached

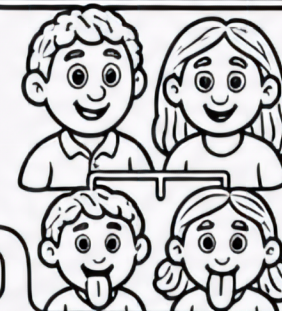


DIMPLES

P	Dd	P	Dd
	D	d	
D	DD	Dd	
d	Dd	dd	

RESULTS

3 With Dimples
: 1 No Dimples



TONGUE ROLLING

P	Rr	P	Rr
	R	r	
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!

