



INTERACTIVE LIVE MODELING

Punnett Square Practice Deck

Vibrant interactive slides for step-by-step complete dominance,
incomplete dominance, codominance, and sex-linked trait genetic
modeling!



Inheritance Modes Overview

Review the four genetic models before starting your interactive practice boards.



Complete

Dominant allele fully masks the recessive allele. Simple dominant/recessive expressivity.

Ex: $Aa \times aa$



Incomplete

Neither allele is fully dominant! Heterozygotes express a blended, intermediate phenotype.

Ex: $RW \times WW$



Codominant

Both alleles are equally expressed at the same time. Produces spots, patches, or mixtures.

Ex: $SD \times DD$



Sex-Linked

Traits located on the sex chromosomes (usually X). Watch how traits pass to sons vs daughters!

Ex: $X^BX^b \times X^BY$

PRACTICE 1

PRACTICE 2

PRACTICE 3

PRACTICE 4

PRACTICE 5



Complete Dominance

 $Aa \times aa$ 

Directions:

Identify gametes for Parent 1 (Aa) and Parent 2 (aa). Fill the top & left headers, solve the grid, then write down ratios below.

Genotype Ratio:

Phenotype Ratio:

×	P1	P1
P2	--	--
P2	--	--

PRACTICE 1

PRACTICE 2

PRACTICE 3

PRACTICE 4

PRACTICE 5

Complete Dominance

 $Bb \times Bb$

? Directions:

Model a classic heterozygous monohybrid cross. Fill the gametes and grid, then observe the typical F1 generation ratios.

Genotype Ratio:

Phenotype Ratio:

×	P1	P1
P2	--	--
P2	--	--

PRACTICE 1

PRACTICE 2

PRACTICE 3

PRACTICE 4

PRACTICE 5

🔥 Incomplete Dominance (Pink × White)

 $RW \times WW$

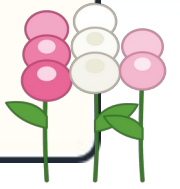
? Snapdragons:

Red (RR) and White (WW) blend to form Pink (RW). Fill in the cross between Pink (RW) and White (WW) parents.

Genotype Ratio:

Phenotype Ratio:

×	P1	P1
P2	--	--
P2	--	--



PRACTICE 1

PRACTICE 2

PRACTICE 3

PRACTICE 4

PRACTICE 5

☐ Codominance (Spotted × Solid Dots)

SD × DD



Erminette Pattern:

Both alleles are fully expressed at once! S is solid, D is dotted.
Predict offspring of Spotted (SD) and Dotted (DD).

Genotype Ratio:

Phenotype Ratio:

×	P1	P1
P2	--	--
P2	--	--



PRACTICE 1

PRACTICE 2

PRACTICE 3

PRACTICE 4

PRACTICE 5

Sex-Linked Trait

$$X^B X^b \times X^b Y$$

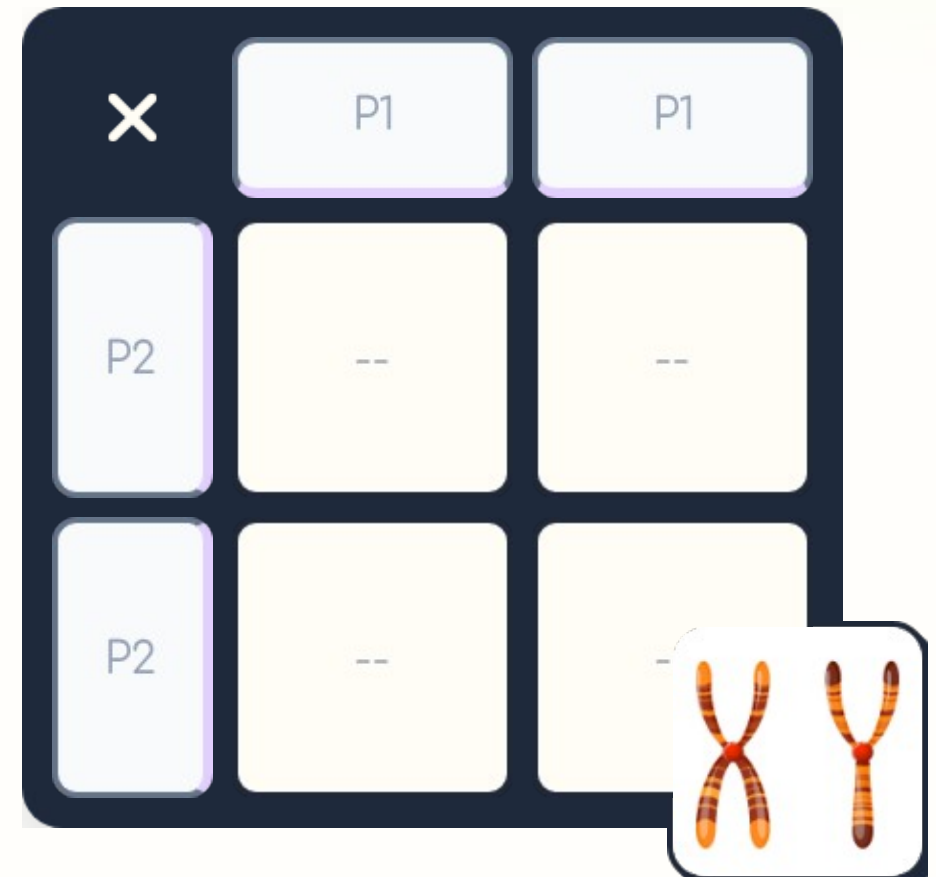


Chromosomes:

Track carrier mothers ($X^B X^b$) and affected males ($X^b Y$).
Analyze specific ratios for female vs. male offspring!

Genotype Ratio:

Daughters vs Sons:





Excellent Modeling!

Students can now check their genotype & phenotype ratios. If you have any remaining questions about complete dominance, blending, codominance, or sex-linked traits, let's discuss!

Let's review the final answers as a class.

Loved This Freebie?

Ready for the full version?

Genetics Quest: The Punnett Square Challenge

More from Sweitzer Science:

Pigeonetics • [Build Your Own Organism](#) • [Mutt Mixer](#)

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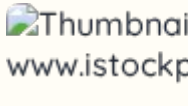
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Loved this freebie?

You've got the blank boards — here's where the practice goes next.

STEP 1 · THE CHALLENGE

Punnett Square Challenge

The answer-key version of this deck — 7 real-world genetics problems (guinea pigs, blood types, color-blindness) across all four inheritance patterns, each with a fully worked Punnett square.

\$4.00 · Grades 6–12 · 14 slides



SCAN TO OPEN

STEP 2 · THE FULL UNIT

Genetics Punnett Activities

The whole genetics unit — Punnett practice, blood types, a Monster Maker breeding project & a 4-chamber pedigree escape room. Print + self-grading digital + editable PowerPoint.

\$8.50 · Grades 7–12 · 47 pages



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