

Amoeba Sisters Video Guide – Dihybrid Punnett Squares

- A monohybrid cross involves _____ pair of alleles.
 - Mono = _____
- A dihybrid cross involves the cross of _____ pairs of alleles
 - Di = _____

Example problem:

- The dominant allele “S” represents cats that _____ sinks.
- The recessive allele “s” represents cats that _____ sinks.
- The dominant allele “H” represents cats that _____ hair
- The recessive allele “h” represents cats that _____ have hair.
- The genotype for a cat that is heterozygous for hair and likes sinks would have the genotype _____
- We want to cross that with a cat that is hairless and does NOT like sinks. Its genotype would be _____.
- Gametes are _____ and _____ cells and contain half the _____ material
- Mendel’s _____ of _____ states that the gametes carry only one allele for a gene.
- Mendel’s _____ of _____ assortment states that genes are not linked and offspring can only inherit _____ allele for each gene.

Follow along to work the dihybrid cross example: HhSs x hhss

Step 1: Draw a 16-box Punnett Square

Step 2: Use the foil Method to determine the gamete combinations from the parents HhSs

F =

O =

I =

L =

Write across the top of the box
Hhss

F =

O =

I =

L =

Write along the side of the box

Step 3: Combine the gametes to see what the off spring could inherit (Fill in all the boxes)

Genotypic Ratio

HhSS = _____% (4/16)

Hhss = _____% (4/16)

hhSs = _____% (4/16)

hhss = _____% (4/16)

Phenotypic Ratio

Hair & likes sinks _____% (4/16)

Hair & doesn't like sinks _____% (4/16)

Hairless & likes sinks _____% (4/16)

Hairless & Doesn't like sinks _____% (4/16)