

Genetic Breeding Experiment: A Report on a Practical Investigation.

Aim: To examine the role of dominant and recessive genotypes in creating phenotypes.

Hypothesis: Student creates this part. (you are speculating about how genes will be transferred and observable as phenotypes)

Equipment: Body parts sheet, genes cards, scissors, glue stick, mounting sheet.

Procedure:

1. Select the gene cards for the female genotype and make four, face down piles of two cards – one pile for each phenotype.
2. Repeat for the male.
3. Shuffle each pile so that you don't know which the top card is.
4. Select the top card from each pile and place the female and male genes for each phenotype together – this is the new genotype of your offspring so write it down carefully.
5. Create your offspring (label it 1st generation)
6. Choose another person in the class who has a creature of the opposite sex. (Yes it has to be the opposite sex, haven't you been listening?)
7. Use the two 1st generation (offspring) as parents and mate them as you did for the parents – piles of gene cards, random selection, placing female genes with male genes, recording genotype.
8. Make the 2nd generation creature.
9. Add your offspring to the class family tree.

Results: Take a photo of the family tree (or get a friend to do it for you). Tally up the prevalence of the phenotypes in generations 1 and 2 – here's a table that might help you.

	Female	Male	Stumpy legs	Dainty legs	Angry eyes	Vacant eyes	Tentacles	Bulgy arms
1 st								
2 nd								

Conclusion: Describe what your information tells you about how dominant and recessive traits are passed through a breeding population.

Discussion: Use the idea of dominant and recessive characteristics to explain phenomena such as phenotypes skipping a generation or sometimes disappearing all together.

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