

Biology

Design a species project

**DUE TUESDAY, APRIL 25th BY END OF THE HOUR**

*For each day it is late = 5% off final grade*

Objective:

In this project, you are going to design your own imaginary species, and create traits for the species that follow genetic rules you have already studied.

Requirements:

1. The create should have at least **FIVE** genetic traits from the following list. You are free to create whatever traits you like (such as hair color, size, shape, or other features)
  - a. 2 single-allele traits (i.e. tall (TT or Tt) and short (tt))
  - b. 1 codominant trait (or incomplete dominance)
  - c. 1 multiple allele trait
  - d. 1 sex linked trait
2. Sketch each of the the traits from the list, listing genotypes and phenotypes for each sketch. Partial sketches are fine in some cases
3. Sketch two examples of your creature - one male and one female. The two examples must have different genotypes. Each sketch should have the genotype listed for all traits
4. Pick one of your single allele traits and create a sample pedigree for your creature. The pedigree should include at least four generations
5. Show a dihybrid cross (using your 2 single allele traits from #4). List the phenotypic ratios
6. Create 5 practice problems using any of the traits. These should be word problems. Do not just write Aa x Aa

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Design a species project - Rubric

	<b>Unsatisfactory (3 points)</b>	<b>Satisfactory (4 points)</b>	<b>Excellent (5 points)</b>	<b>Total</b>
<b>Traits and pictures</b>	Some do not follow genetics “rules”, pictures not clear	Follows genetics “rules”, pictures are small or lacking in creativity or effort	Follows genetics “rules”, pictures are drawn large and clearly. Colored. Creative	
<b>Creature examples</b>	Genotype doesn’t follow phenotype, pictures not included or unclear	Genotype follows phenotype, all traits included, pictures somewhat unclear or not neat	Genotype follows phenotype, pictures drawn clearly, neatly and creatively, and colored	
<b>Pedigree</b>	Less than 4 generations are shown, significant mistakes in genotypes	4 generations shown, minor mistakes in genotypes	4 generations shown, no mistakes	
<b>Dihybrid cross</b>	Punnett square not set up correctly, phenotypic ratios not given or incorrect	Punnett square set up correctly, minor errors in counting and ratios	Square set up correctly, phenotypic ratios given correctly	
<b>Practice problems</b>	Less than 5 problems given, more than 1 is impossible to solve	5 problems given, somewhat unclear or unsolvable	All 5 problems are written well and can be solved	

Additional comments:

Overall grade: \_\_\_\_\_/25 = \_\_\_\_\_%