

Choose your own Genetics Activity

- a. Create a Pedigree
Create 3 pedigrees for your family that includes at least 3 generations or 25 total people. The pedigrees must each illustrate a different genetic trait. Make a key that indicates the meaning of squares and circles as well as any shading you do. Also, the pedigree should show genotypes beneath each family member. You may not use eye or hair color as the trait that you trace.
- b. Writing Punnett Squares
Write a story problem that requires a monohybrid punnett square to solve. Include the solution to the problem. Then write a story problem that requires a dihybrid punnett square to solve and include the solution to the problem.
- c. Draw Meiosis
Using a drawing, compare and contrast mitosis and meiosis as those processes relate to the production of new cells and to passing on genetic information.
- d. Make a collage
Using pictures from magazine and the internet, create a collage that illustrates how genetic engineering techniques provide great potential and responsibility. Write a paragraph on the back explaining your picture choices.
- e. Design a cartoon
Draw a cartoon illustrating one of the following concepts: silent mutation, stem cell research, homologous chromosomes, or genetic variation. The cartoon does not have to be funny. It must accurately represent an explanation for the concept that you choose.
- f. Research
Research recombinant DNA technology. Explain how recombinant DNA technology allows scientists to analyze the structure and function of genes. Paper must be a minimum of 1 page, typed, double spaced and include all reference material (where you found your information)
- g. Creative writing
Suppose you were a geneticist with the most advanced technology at your fingertips. Describe one way in which you would use genetic engineering techniques to improve the world around you. Why would you choose to make this improvement? Explain how you would do it. Must be at least 1 page, typed, double spaced. Include an illustration if possible.
- h. Write a children's book
Write a children's book explaining Mendel's laws of segregation and independent assortment as well as the principle of dominance. Remember, it is a children's book. It should be simple to understand and include illustrations. Be sure the explanations are accurate.