

# Green Genes: a DNA Curriculum

## Massachusetts 4-H Program

### Activity #6: I've Got a Pedigree/Family Tree!- Challenge

The Chinster is an imaginary breed of pet that is a cross between a Chinchilla and a hamster. It is larger than a hamster making it easier to carry and its fur is much thicker and softer than a hamster. (Chinchillas are a type of animals that are raised much like a rabbit and have very soft fur. Though many are used commercially some people use them as pets.) In this activity, Chinsters can have white, silver, black and gold fur. Golden Chinsters are the rarest and the ones most sought after and you would like to start raising them to sell.

White –F

Gold –g

Black - B

Where Black and White are Dominant to Gold and co-dominant with each other

White –FF or Fg

Gold -gg

Black – BB or Bg

Silver – FB

If you don't have any gold Chinsters to start with, what would increase your chances in having some offspring that are gold. Use your knowledge of Punnet Squares and Family trees to devise a plan and figure it out. How many crosses would you estimate you would need to make? How many generations? Research the work Gregor Mendel did with pea plants.

Feel free to refer to the other activities for some ideas.

Alleles		