



Create an Alien Genetics Activity

Purpose: The purpose of this activity is to reinforce the concepts of genotypes and phenotypes and combine that knowledge with some creativity to create an alien with the unique set of traits you determine during the activity.

Directions:

1. Flip a coin to determine the combination of alleles your alien has for each trait. *A head represents a dominant allele, and a tail represents a recessive allele.* Write “H” or “T” (for head or tail) in the “Flip 1” and “Flip 2” columns on the attached chart.
2. The combination of your two flips determines your genotype. Using the letters assigned to each trait (found in the table below) write your alien’s genotype on the attached chart.
3. Use the information found in the table below to determine your alien’s phenotype for each trait and record on the attached chart. *Note: Skin Color and Limb Length exhibit Incomplete Dominance!*
4. Use the information provided in the “Notes” section of the table to determine how the traits should look and draw a simple sketch of each trait in the space provided on the attached chart.

Trait	Dominant	Recessive	Notes
Skin Color	Blue (B)	Yellow (b)	Incomplete Dominance: <ul style="list-style-type: none"> • Homozygous Dominant = Blue • Homozygous Recessive = Yellow • Heterozygous = Green
Limb Length	Longer Legs (L)	Longer Arms (l)	Incomplete Dominance: <ul style="list-style-type: none"> • Homozygous Dom = Longer Legs • Homozygous Rec = Longer Arms • Heterozygous = Arms/Legs Same Length
Antennae Shape	Circle (C')	Square (c)	Refers to the shape at the end of the antenna stalk.
# of Antennae	Three (T)	One (t)	Antennae are found on top of the alien’s head.
Antennae Length	Short (S')	Long (s)	Short antennae are shorter than the height of the alien’s head; long antennae are longer than the height of the alien’s head.
Number of Eyes	Two (T)	One (t)	Alien eyes are found above the nose, similar to humans.
Eye Color	Red (R)	Blue (r)	Alien eyes are one solid color.
Head Shape	Diamond (D)	Oval (d)	Head shape can be either wider than tall, or taller than wide, regardless of whether the shape is diamond or oval.
Body Shape	With Torso (W')	Without Torso (w)	Aliens with a torso have their limbs attached to the torso with a head on top. Aliens with no torso have their limbs attached to their head.
Furriness	Furry Body (F)	Furless body (f)	Furry aliens have fur covering their entire body, except their head. Furless aliens still have fur on their arms and legs.
Fur Color	Purple (P')	Orange (p)	Alien fur is uniform in color.

Name: _____

Hour: ____

Create an Alien Genetics Activity - Chart

Trait	Flip 1	Flip 2	Genotype	Phenotype	Sketch
Skin Color					
Limb Length					
Antennae Shape					
# of Antennae					
Antennae Length					
Number of Eyes					
Eye Color					
Head Shape					
Body Shape					
Furriness					
Fur Color					

Name: _____

Hour: _____

Create an Alien Genetics Activity - Drawing

Instructions for your alien drawing:

- Your alien drawing must include all traits from the chart.
- Label each trait on your drawing, specifying the phenotype (ex. "Blue Skin Color").
- Draw any additional traits you would like to add that aren't in the chart.
- Give your alien a name.

My Alien's Name Is _____