

— Creating New Animation Characters —

Purpose

To use the principles of genetics to create a series of new characters for an animated movie

Materials and Equipment

2 coins per group of two students

Procedure

1. You are a genetics consultant who has been approached by a movie studio. The studio is developing a new animated science fiction movie about two aliens. The movie's producer wants his alien stars to have a scientific genetic basis. He would like you to provide some background information to his screenwriters and help create the aliens.

The producer has prepared a table of genotypes and phenotypes for various traits he would like you to use.

Genetic Basis of Aliens

Trait	Phenotype	Genotype	Type of Inheritance
Hair type	curly hair	CC, Cc	complete dominance
	no hair	cc	
Nose colour	green	GG, Gg	complete dominance
	red	gg	
Lip colour	pink	PP	incomplete dominance
	orange	PY (incomplete)	
	yellow	YY	
Antenna type	one brown antenna	BB	codominance
	one brown and one purple antenna	BP (codominance)	
	one purple antenna	PP	
Body colour	yellow	WW	incomplete dominance
	green	WN (incomplete)	
	blue	NN	
Eye shape (sex linked)	pop-out eye	$X^E X^E$, $X^E X^e$, $X^E Y$	complete dominance sex linked
	flat eye	$X^e X^e$, $X^e Y$	