

Next Generation Robots Student Guide

Traits for Next Generation Robots to Inherit

Sphero Glow:



Blue (g)
Recessive



Green (G)
Dominant

Sphero Power:



High Power - 75%
Power (p)
Recessive

Slow - 25%
Power (P)
Dominant

Sphero Turn Direction:



Right (d)
Recessive









Left (D)
Dominant

Punnet Square How-To

Each parent will have two alleles for each trait, one from each of their parents.

Use the **Parent #1** and **Parent #2** boxes to describe which alleles each parent has inherited from their parents, and then complete the square to determine the probability of a particular trait being expressed (phenotype) in the next generation.

Example:

Parent #1	Parent #2
Glow: Gg (Heterozygous dominant, green glow phenotype) 	Glow: GG (Homozygous dominant, green glow phenotype) 
Power: ss (Homozygous recessive, high power phenotype) 	Power: SS (Homozygous dominant, low power phenotype) 
Turn Direction: dd (Homozygous recessive, right turn direction phenotype) 	Turn Direction: dd (Homozygous recessive, right turn direction phenotype) 

Punnet Square for Sphero Glow:

Parent #1 →

Parent #2 ↓

	G	g
G	GG	Gg
G	GG	Gg

50% Green Glow 50% Green Glow