

Build-a-Spud Workshop

Goals: In this experiment, you will build an imaginary creature called a spudoodle. The traits of your organism will be determined by the gene your spudoodle inherits from its parents.

Your teacher has printed alleles for each trait on paper of two different colors. One color for the mother's alleles, and one color for the father's alleles. Each trait is in a separate container.

1. From each container, you will draw 2 alleles of each color for a total of 4 pieces of paper. This shows what genotypes both the parents have.
2. On each of the Punnett squares, write the alleles from each parent, placing the father's across the top of the square, and the mother's down the left. Complete the square, showing 4 possible genotypes of the children. These are not definite - they represent the percentage chance of a child being born with these particular genotypes.
3. Roll dice for numbers 1-4 to determine which of the 4 genotypes will be your Baby Spudoodle. Count from the left to right, going across, 1-2-3-4, to see which genotype your Baby Spudoodle will have. Do this for each trait. Fives and sixes will not count, and you should do those over.
Circle the genotype your Baby Spudoodle will have for that trait.
4. On your Report Sheet, write the genotype and the phenotype beside each trait.
5. Build your Baby Spudoodle according to the Genotype Key.
6. Give him or her a name! =)

Build-a-Spud Workshop Genotype Key

	<u>Genotype</u>	<u>Phenotype</u>
Gender	XY XX	Male Female (make a pink bow with a pipe cleaner)
Hair	HH or Hh hh	Has lots of hair (20 toothpicks) Mohawk (8 toothpicks)
Tongue	AA or Aa aa	Medium tongue (nickel) Small tongue (penny or dime) (make a starter slot with a butter knife)
Ears	EE or Ee ee	Medium ears (popcorn or cottonballs on toothpicks) Small Ears (erasers on toothpicks)
Eyes	BB or Bb bb	Big Eyes (glue on w/ super glue) One big eye, one small eye (glue on w/ super glue)
Nose	NN or Nn nn	Two nostrils (push pins) One nostril (push pin)
Spine	DD or Dd dd	5 Green dorsal spines (green marshmallows) 5 Pink dorsal spines (pink marshmallows) (use half-toothpicks)
Tail	RR or Rr rr	Curly tail (pipe cleaner) Long slightly bent tail (pipe cleaner)
Feet	GG or Gg gg	2 Large feet (orange peanut candies stuck in w/ toothpicks) 3 Medium feet (large paper-clips) (Prop the feet like a tri-pod)

Name: _____

Build-a-Spud Workshop Report Sheet

Hair:	Mouth:	Ears:	Eyes:
Nose:	Spine:	Tail:	Legs:

List Genotypes and Phenotypes for each trait:

Gender	_____	_____	
Hair	_____	_____	Mouth _____
Ears	_____	_____	Eyes _____
Spine	_____	_____	Tail _____
Legs	_____	_____	Nose _____

Name your Baby Spudoodle: _____