

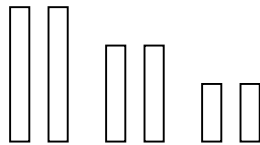
Reebop Baby Lab

Purpose: *You will be simulating fertilization for sexual reproduction. Variation is high during this process so your zygote (fertilized egg) will have many possible genotypes.*

Hypothesis: _____

Procedure:

1. You will work in pairs. One person is mom; one person is dad. You should have 2 envelopes, one labeled male and one labeled female.
2. You and your partner should take out the paper strips (chromosomes) and turn them over so the letters aren't showing. Pair them according to length. You will have 8 pairs. (Remember a girl has XX and a boy has XY!)



3. When all of the chromosomes are paired, each person should pick one chromosome of each length and put it into a beaker. This beaker is your "Baby". Put the left over "chromosomes" back in the male and female envelope (this is **Meiosis!**)
4. Now find out what your baby looks like. Turn over the chromosomes and decode the genes using the "Key to Reebop traits" (you will need to complete the genotypes before you use it). Write your answers on the data table.

	Genotype	Phenotype
Antenna		
Nose		
Eyes		
Humps		
Tail		
Legs		
Segments		

Is your Reebop Baby a male or female? How can you tell?

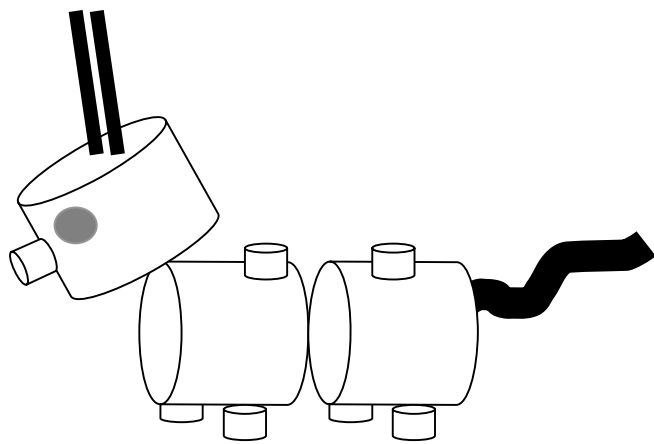
5. Place all paper strips from your baby (chromosomes) back in the correct envelope. Go to the supply table at the front of the room to get your supplies.
6. Construct your baby. Draw a picture of your baby in the box on the back of this paper.
7. Draw a picture of another baby at your table in the other box. Write 3 sentences (under the picture) describing how it is similar and/or different from your baby.
8. Label a 1/2 sheet of paper with your names and you baby's name. Place the baby on the paper and put it in the "nursery".

Key to Reebop Traits

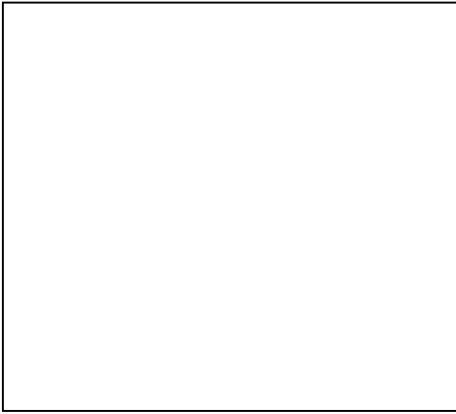
Genotype	Phenotype	Alleles	Supply
Antennae	(A = dominant allele)		
___ =	one antennae	(Homozygous D)	toothpick
___ =	two antenna	(Heterozygous)	
___ =	three antenna	(Homozygous R)	
Tail	(T = dominant allele)		
___ =	straight tail	(Homozygous D)	pipe cleaner
___ =	straight tail	(Heterozygous)	
___ =	curly tail	(Homozygous R)	
Segments	(S = dominant allele)		
___ =	two body segments	(Homozygous D)	large marshmallow
___ =	two body segments	(Heterozygous)	
___ =	three body segments	(Homozygous R)	
Nose	(N = dominant allele)		
___ =	green nose	(Homozygous D)	small marshmallow
___ =	pink nose	(Heterozygous)	
___ =	yellow nose	(Homozygous R)	
Legs	(L = dominant allele)		
___ =	yellow legs	(Homozygous D)	push pins
___ =	green legs	(Heterozygous)	
___ =	orange legs	(Homozygous R)	
Humps	(H = dominant allele)		
___ =	2 pink humps	(Homozygous D)	small marshmallow
___ =	2 pink humps	(Heterozygous)	
___ =	1 yellow hump	(Homozygous R)	
Eyes	(E = dominant allele)		
___ =	two eyes	(Homozygous D)	thumbtack
___ =	three eyes	(Heterozygous)	
___ =	one eye	(Homozygous R)	

Use extra toothpicks as tendons and ligaments to connect your baby's body parts.

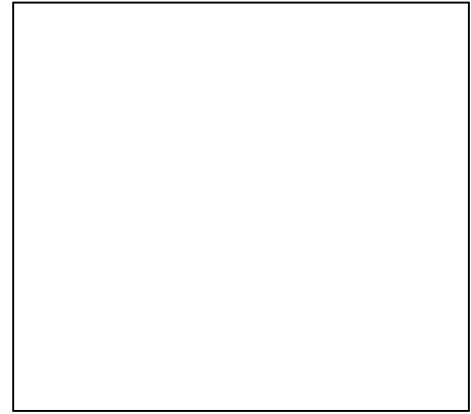
I have a combination of Homozygous D, Heterozygous, and Homozygous R Alleles!



Your baby



Another baby



Conclusions/Questions:

Use the "Key to Reebop traits" to help you answer these questions.

1. What are the phenotypes for these genes?
a. Aa *b. EE* *c. ll* *d. Nn*

2. Which of these traits are due to hybrid (heterozygous) genes? _____
3 antenna *3 eyes curly tail*
3. What is the recessive trait for tail shape (2 small letters)? _____
4. What is the dominant trait for body segments (2 large letters)? _____
5. Make a Punnett square. Cross a green-nosed female with a pink-nosed male.

6. Make a Punnett square. Cross a 3-eyed creature with a 1 eyed creature.

7. What percent of #6 are hybrids?

_____ ƒ

_____ 2

_____ 3

_____ 5

_____ 7

_____ 7

_____ 8

_____ 9

_____ 1

_____ 1

_____ H

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