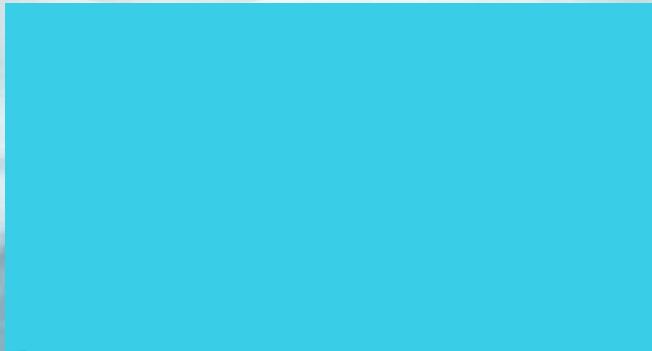




Beaker babies

Creating zygotes in the classroom



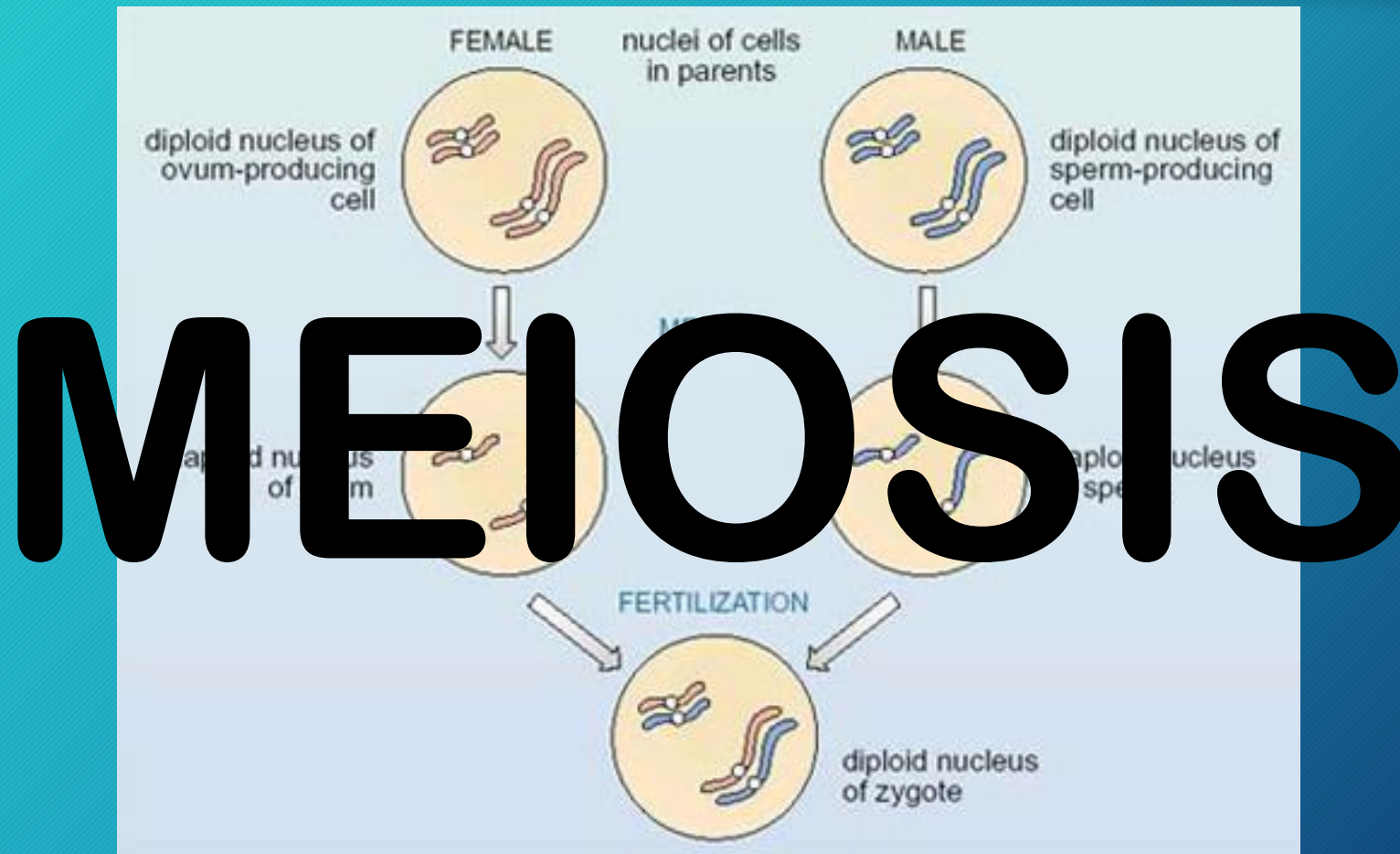
Purpose of activity

- In this activity, you will practice the basic mechanisms by which characteristics are passed from one generation to another. (Meiosis + fertilization)
- You will take on the role of parents (P) who have children (F_1), who, in turn, have children (F_2) of their own- the grandchildren of the family.

How you are graded

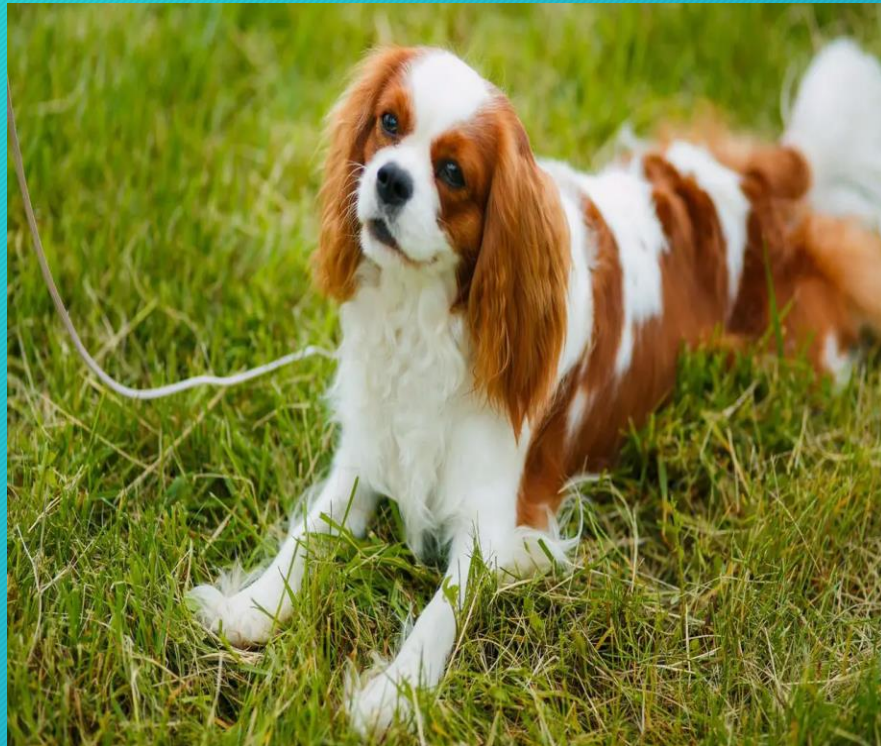
Item	Value
Data table 1	5 Points
Data Table 2	5 Points
Data Table 3	5 Points
Data Table 4	5 Points
<p>Birth Announcement and Picture</p> <ul style="list-style-type: none">• Family Members• Baby's Full Name• Baby's Birth Date• Weight and Length• Picture of offspring• List of all 20 inherited traits	30 Points (5 pts per bullet point)
Total for assignment	/50 points

What is the process called to make gametes?

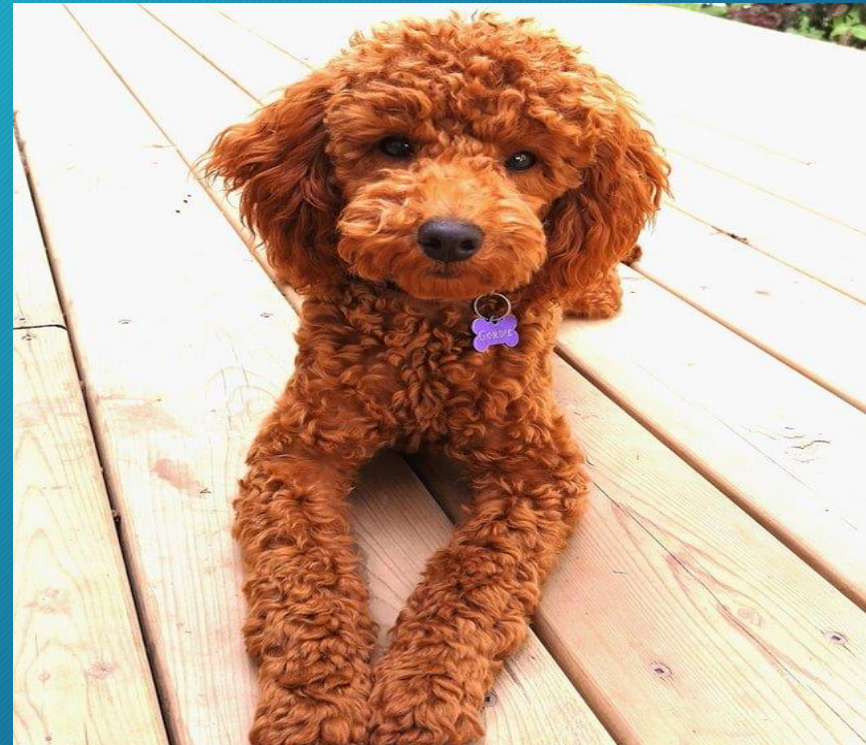


Creating a zygote involves the mating between a female and a male

Sophie's Mom = Cavalier King Charles



Sophie's Dad = Mini Poodle



Mr. and Mrs. Marshall are happy to announce the arrival of their Cavoodle- Sophie Mae

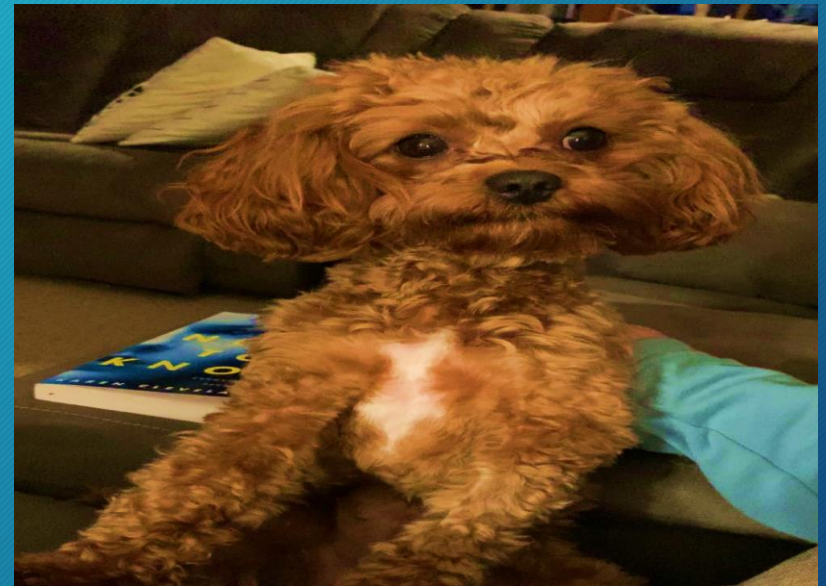
Born: November 26, 2021

Birth Weight: 1 lb.

Current Weight: 7.2 lbs.

Height: Short

Sophie inherited the curly hair from her Dad but the white patch from her Mom



ANNOUNCING THE ADOPTION OF




Sophie Mae

PROUD DOG PARENTS

Born Nov. 26 , 2021 Current Weight 5.2 lbs

Today you will determine your own genotypes and phenotypes.

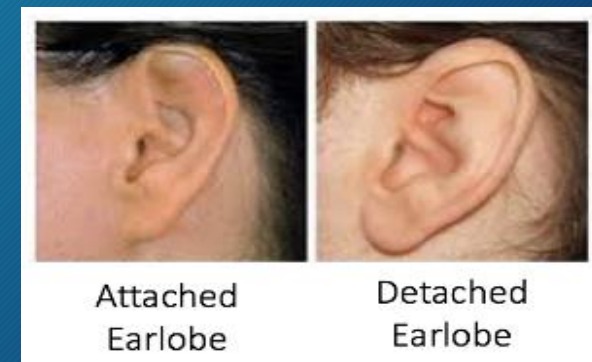
- Genotype: Genetic Makeup of an individual
- Phenotype: Observable physical traits
- Please open the Beaker Babies Document on teams

Genotype	Phenotype
BB Homozygous dominant	
Bb Heterozygous	
bb Homozygous recessive	

Beaker Babies - filling in your Genotype

Data
Table 1
5 Points

- Please determine your genotype and phenotype.
- Record your results in Data Table 1
- If you cannot determine if you are heterozygous or homozygous for a dominant trait, guess based on your parent's phenotype.



Beaker Babies - filling in your Gametes

Data
Table 2
5 points

- Please copy and paste your genotype into data table 2
- Flip a coin to determine your gamete. The coin represents genetic chance that occurs during meiosis.
- If you flip a HEADS = first allele
- If you flip a TAILS = second allele

Traits	Your Genotype	Your Gamete
A. Gender	XX	X
B. Hair Color	Bb	b
C. Eye color	EE	E
D. Height	Hh	H

Find your “mate”

- Congratulations on your new arrival! You and your partner will be welcoming a new addition to your family any moment now. Instead of conceiving in the usual manner, you will be tossing coins to determine the characteristics of your child.

Beaker Babies - Create the F₁ offspring

Data
Table 3
5 Points

- Combine your gamete with your mate's gamete to determine your child's genotypes and phenotypes
- NAME YOUR ZYGOTE!

Traits	Your Gamete	Mate's Gamete	Child's Genotype	Child's Phenotype
A. Gender	X	X	XX	GIRL
B. Hair Color	b	B	Bb	BROWN
C. Eye color	E	E	EE	HAZEL
D. Height	H	h	Hh	MEDIUM

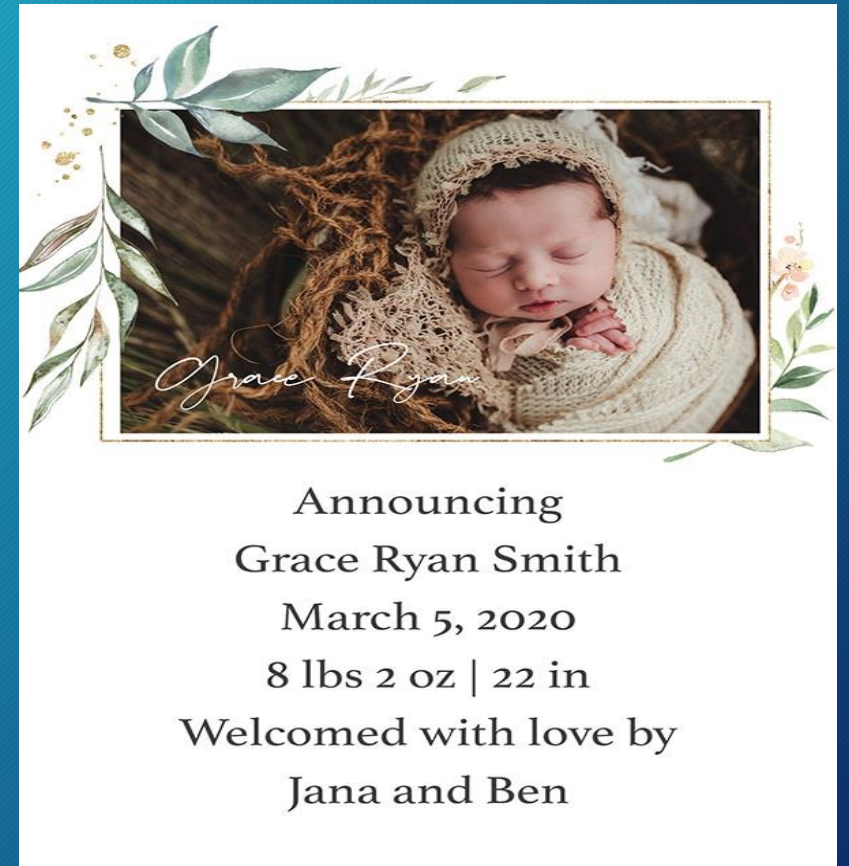
Beaker Babies - Create the F₂ Offspring

- Follow the same procedure as before to determine the child's gametes. Combine those gametes with a child from another group to create Grandbabies (F₂ Generation)
- Name your Grandbaby

Birth Announcement- please visit class website for resource links

30
Points

- Please use a technology resource to create a photo birth announcement of either the F_1 or F_2 offspring.
 - Resources include: Toddler dress up app, canva.com, birthannouncement app



What To Include In Your Birth Announcement

30
Points

A birth announcement is used to tell those that are close to you that your child is born. When you are creating a birth announcement, include all of the details that you would want to know about someone else's child. Normally you include

- Family Members
- Baby's Full Name
- Baby's Birth Date
- Weight and Length
- Picture of offspring
- List of all 20 inherited traits