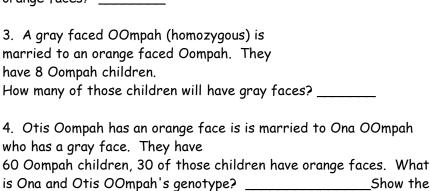
OOMPA LOOMPA GENETICS

- 1. OOmpas generally have gray faces, which is caused by a dominant gene. The recessive condition results in an orange face. Develop a "key" to show the possible genotypes and phenotypes for the OOmpah's face colors.
- 2. Two heterozygous OOmpahs are crossed. What proportion of the offspring will have orange faces? _____
- 3. A gray faced OOmpah (homozygous) is have 8 Oompah children.



5. Odie Oompah has a gray face, in fact everyone in Odie's
family has a gray face, and the family likes to brag that
they are a "pure" line. Much to his family's horror, he
married Ondi Oomah, who *gasp* has an orange face.
What will be the <u>phenotypes</u> of their children?

6. Ona Oompah (from #4) divorces Otis and marries Otto. Otto has an orange face.

What are the <u>genotypes</u> of the children? _____

What is the probability that Ona and Otto's children will have an orange face? _____

- 7. OOmpahs can have red, blue, or purple hair. The allele that controls this trait is INCOMPLETELY DOMINANT, where purple hair is caused by the heterozygous condition. Show a "key" for the genotypes and phenotypes of hair color.
- 8. Orville Oompah has purple hair and is married to Opal Oompah who brags that she has the bluest blue hair in the valley. How many of Opal's children will be able to brag about their blue hair also. _____ How many will take after their father? _____

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KEY	,		66
	= gray fa	ice	
	= gray fa	ce	
	= orange	face	
			TO THOU
to Ona	OOmpah		
ange f	aces. What		

KEY

= blue

= purple

Name

Incomplete Dominance

cross.

Out of 16 children, how many of each type would you expect?

	9. One of Opal's children is born with shocking red hair. Is Orville Oompah the father of this child?
	But wait, Opal swears that she has been faithful, she claims
	the hospital goofed and got her baby mixed with
	someone else's. Is Opal the mother of the red haired child?
	10. Oles Osmark had red being and remained Oliver Osmark who had
	10. Olga Oompah has red hair and marries Oliver Oompah who has
	blue hair. They have 32 children. What is the color of these
	children's hair?
	11. Olivia Oompah is married to Odo Oompah. Both of them have
	purple hair. They have 100 children. What is the hair color of their
	children and in what proportion?
	Red Blue Purple
	12. In the land of OOmpah, blue hair is highly valued. Blue haired
	OOmpahs get special benefits. Oscar Oompah has purple hair but
	he wants a wife that will give him children with blue hair.
	What color hair should he look for in a wife?
	If he can't find this type of Oompah what should be his second
	choice?
$\lceil \rceil$	13. Ophelia Oompah is not married but she wants to have children.
	She goes to a fertility clinic where she is fertilized by an
	anonymous sperm donor. Ophelia has red hair. 5 months later, a
	litter of oompahs is born, of the eight babies in the litter, 4 of
	them have red hair, and 4 of them have purple hair. What color
	hair did the babies' father have? (Show the
	cross)
	14. On helicon managed the managed consolidation. This time also have
	14. Ophelia repeats the process a year later. This time she has a
	litter of 5 oompahs, all of which have purple hair. What was the father's hair color in this case?
	(Show the cross)
	(Onlow the Gloss)
	15. A homozygous gray faced, blue haired oompah named Ortimer
	marries an orange faced (homozygous) red haired oompah named
	Odette. GGBB x ggRR What will Ortimer and Odette's children
	look like?
	16. Two oompahs, both heterozygous for both traits are married.