

Lions, Tigers & Monsters, Oh My!

Day 3: Monsters in Love

Teacher/Parent Background:

Lions, tigers and monsters? Yes, you read that correctly; monsters! By creating a unique monster, students will apply their understanding of the needs of living things and their roles in their environments. All animals and plants (including monsters!) have adaptations that help them survive, grow and behave in their environments. Scientists define survival as not only the ability to live and grow but also to successfully reproduce.

Overview:

In this activity, students will create their monster's mate to develop an understanding of genotypes and phenotypes.

Related Standards:

- Construct an explanation of how genetic variations occur in offspring through the inheritance of traits or through mutations.

Key Terms:

- Species: a group of organisms with similar characteristics that allow them to reproduce.
- Trait: a distinct characteristic of an organism.
- Gene: the basic physical and functional unit of heredity made up of DNA.
- Allele: different versions of a gene.
- Genotype: the exact genetic information carried by a single individual.
- Dominant Trait: an allele that is always expressed.
- Recessive Trait: an allele that is only expressed if there is no different allele present.

Materials List:

- Pen/pencil
- Internet access
- Possible visual representation resources:
 - Colored pencils/crayons/markers
- *Student Resources - Pages 3-4*
 - *My Monster & It's Mate*

- Computer/phone with audio - *optional for Extensions*

Activity Description:

1. Give students this [Introduction to Genetics](#) to either review or use as reference when completing the student resources.

Closure:

Discuss the following with students:

- Describe the relationship between the monster's genotypes and their phenotypes.

Extensions:

STEAM Activity! Watch the science music video and have students come up with their own song using the vocab terms in this lesson. - [Girl, your phenotype is showing.](#)

Student Resources

My Monster & It's Mate

Even monsters can fall in love. In this activity you are going to build a mate for your monster!

1. Determine the dominant and recessive traits of four key physical characteristics of your monster and then assign them a random letter. A capital letter will signify the dominant trait and a lowercase letter will signify the recessive trait. Reference the example below:

Dominant Trait	Assigned Letter	Recessive Trait	Assigned Letter
One Eye	E	Two Eyes	e
Two Horns	H	One Horn	h
Yellow Horns	Y	Orange Horns	y
Sharp Teeth	T	Round Teeth	t

If my monster is the monster on the right than his genotype is as follows:

ee, Hh*, YY*, tt

*There are 2 ways for a dominant trait to be expressed, you may randomly choose your monster's genotype if a dominant trait is expressed.



2. Draw a picture of your monster from day 2, below.

Picture of Your Monster

Dominant Trait	Assigned Letter	Recessive Trait	Assigned Letter

Your monster's genotypes:

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- Now build your monster's mate! You can make the monster's mate look however you'd like, as long as it has the four characteristics from your table above. In my example from #1, my monster's mate must have 1 or 2 horn(s), orange or green horn(s), 1 or 2 eye(s), and round or sharp teeth. Here is my example mate and it's genotypes:



Ee, Hh, yy, TT

- Draw a picture of what you want your monster's mate to look like below.

Picture of Monster Mate

Mate's Genotypes (using the chart from #2 above):

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