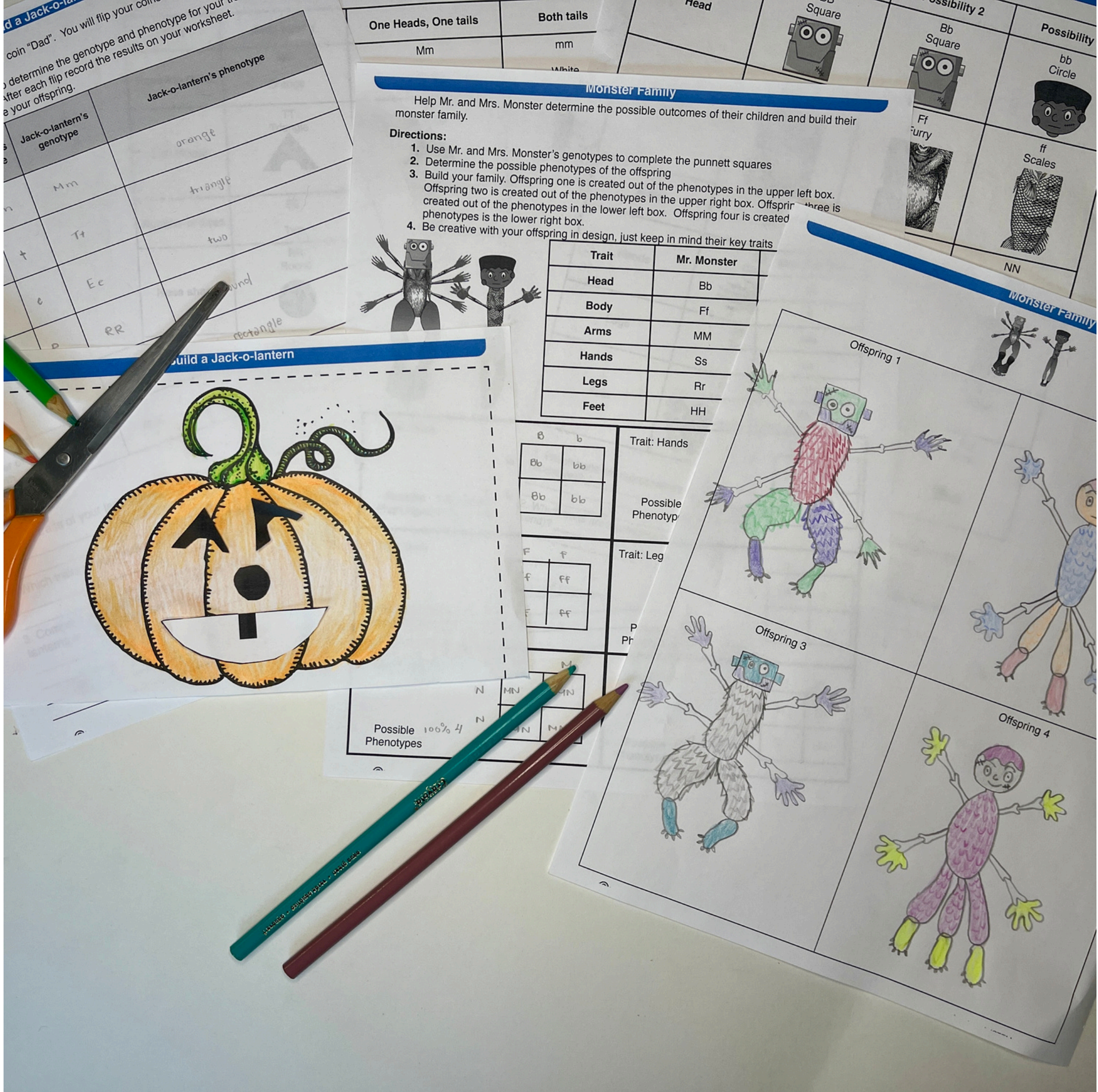


# Fun and Engaging Genetic Activities your students will love










Scroll through to learn more



# DO ANY OF THESE SEEM FAMILIAR?

**Build a Jack-o-lantern**

Jack-o-lantern Genotype and Phenotype possibilities

Trait	Both Heads	One Heads, One tails	Both tails
Pumpkin Color	MM Orange	Mm Orange	mm White
Eye Shape	TT Triangle 	Tt Triangle 	tt circle 
Number of Eyes	EE Two	Ee Two	ee Two
Nose shape	RR Round 	Rr Round 	rr Round 
Shape of teeth	SS Rectangle 	Ss Rectangle 	ss Rectangle 

**Jack-o-lantern extension activity**

Help Mr. and Mrs. Jack-o-lantern determine the possible outcomes of their children and build a jack-o-lantern family.

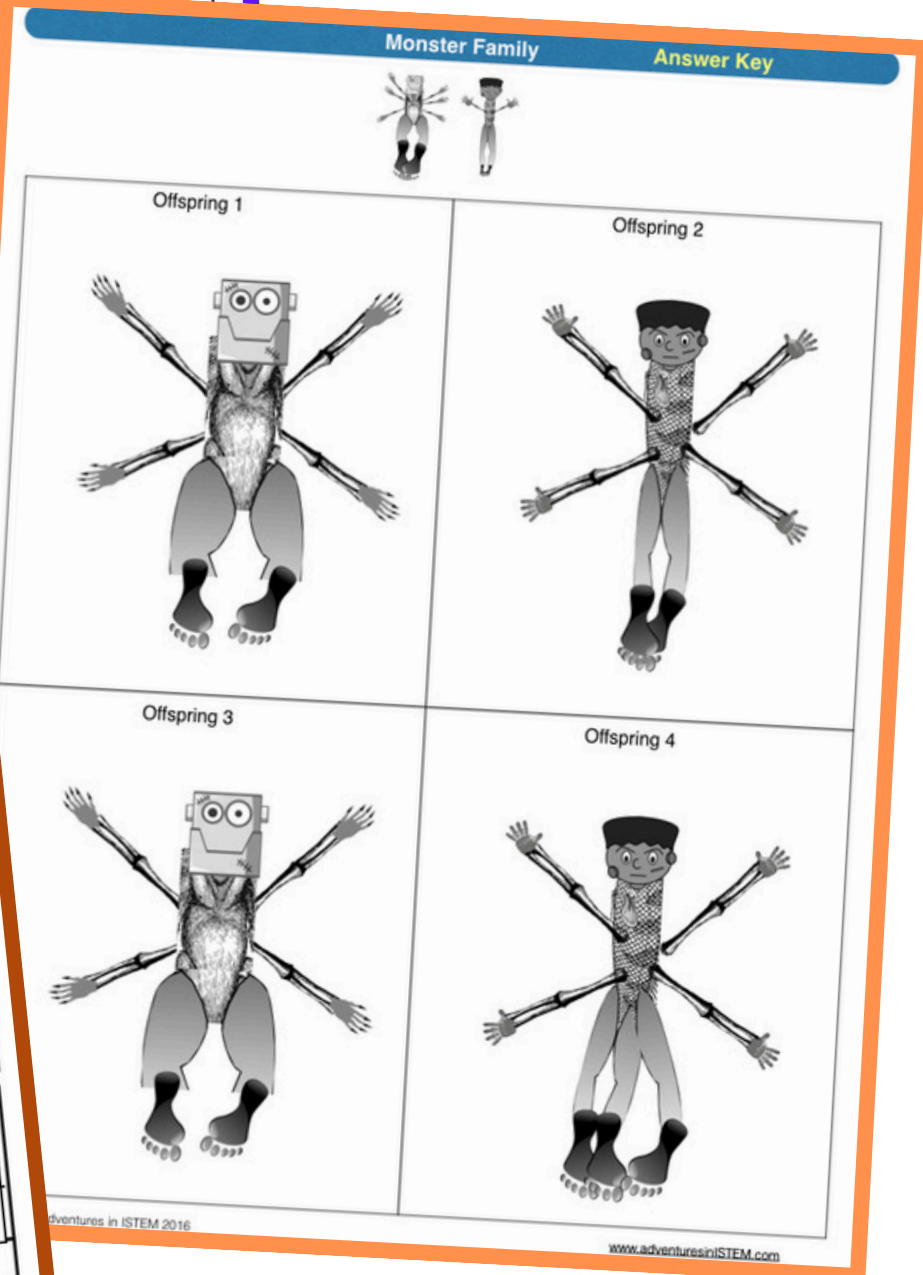
**Directions:**

- Partner up and decide which jack-o-lantern will be the dad and which one will be the mom
- Record the traits of your jack-o-lantern and your partners jack-o-lantern in the box
- Use the parents genotypes to complete the punnett squares
- Determine the possible phenotypes of the offspring
- Build your family. Offspring one is created out of the phenotypes in the upper left box. Offspring two is created out of the phenotypes in the upper right box. Offspring three is created out of the phenotypes in the lower left box. Offspring four is created out of the phenotypes in the lower right box.

Trait	Dad Jack-o-lantern genotype / phenotype	Mom Jack-o-lantern genotype / phenotype
Pumpkin Color		
Eye Shape		
Number of Eyes		
Nose shape		
Shape of teeth		
Number of teeth		

Trait: Pumpkin Color	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					Trait: Nose Shape	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
Possible Phenotypes		Possible Phenotypes									
Trait: Eye Shape	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					Trait: Shape of teeth	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
Possible Phenotypes		Possible Phenotypes									
Trait: Number of teeth	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>										

**Monster Family Answer Key**



Offspring 1: Robot-like monster (Square head, 4 arms, Rectangular nose)

Offspring 2: Human-like monster (Round head, 4 arms, Round nose)

Offspring 3: Robot-like monster (Square head, 4 arms, Rectangular nose)

Offspring 4: Human-like monster (Round head, 4 arms, Round nose)

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Students are checked out and don't want to do any work



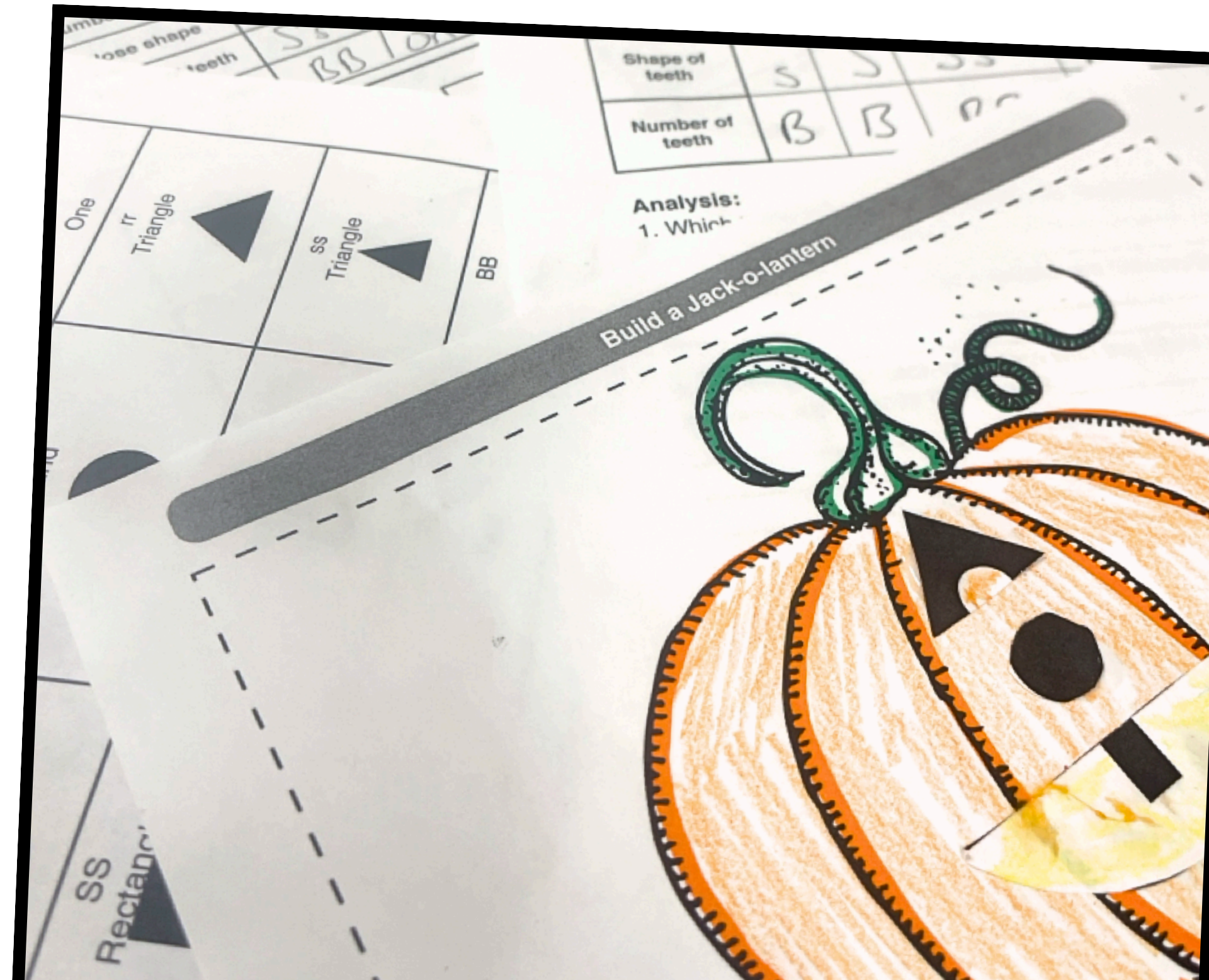
Your feeling burnt out and just need an easy engaging activity



You want something that is fun for the days before and after Halloween

# LOOK NO FURTHER

These two activities will keep students engaged in learning the **week before and after Halloween.**



# Resource *includes*



✓ 2 Different activities

✓ Teacher guide with directions and suggested materials

✓ Student handout for each activity

✓ answer key

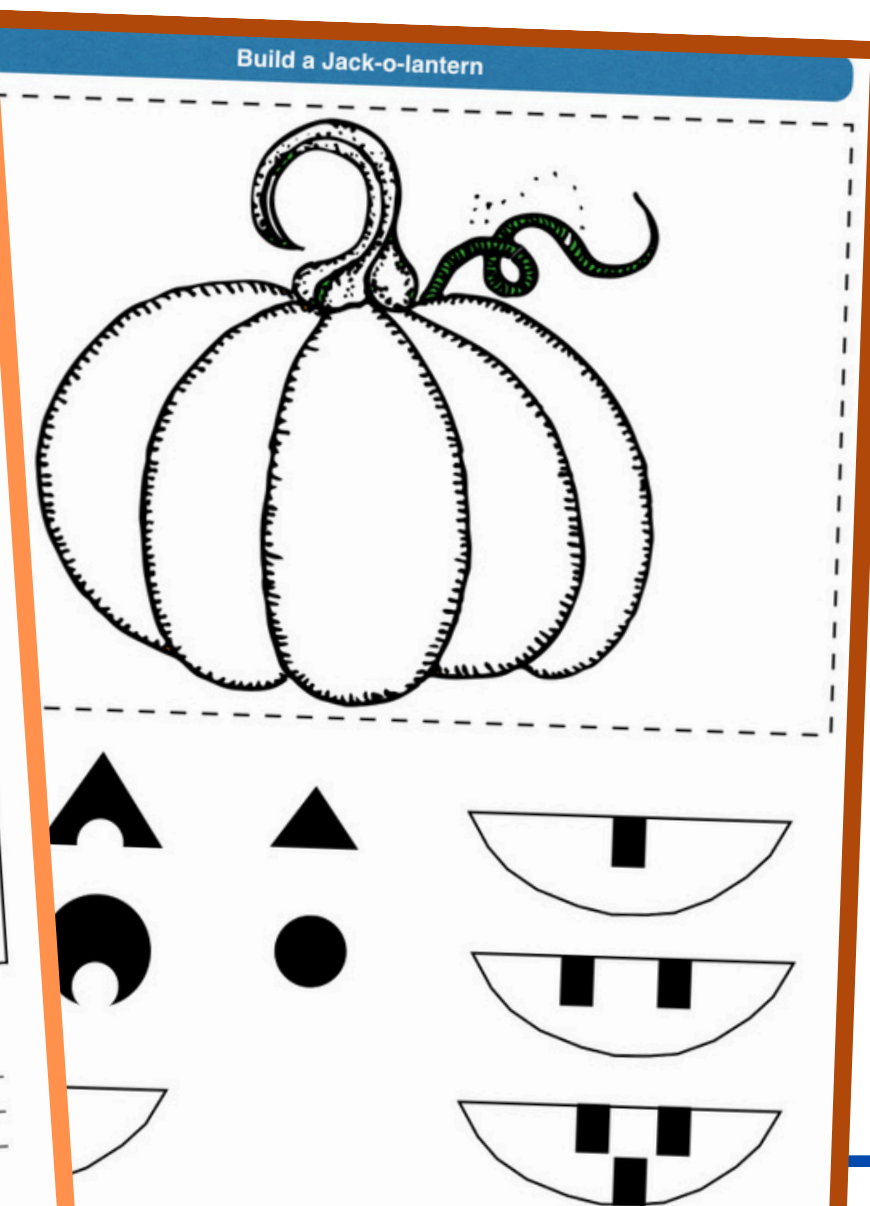
# PUMPKIN GENETICS

## phenotypes and genotypes

Build a Jack-o-lantern

Jack-o-lantern Genotype and Phenotype possibilities

Trait	Both Heads	One Heads, One tails	Both tails
Pumpkin Color	MM Orange	Mm Orange	mm White
Eye Shape	TT Triangle	Tt Triangle	tt circle
Number of Eyes	EE Two	Ee Two	ee One
Nose shape	RR Round	Rr Round	rr Triangle
Shape of teeth	SS Rectangle	Ss Rectangle	ss Triangle
Number of teeth	DD Three	DB Two	BB One



# What Are *students* Doing?

flipping coins to identify genotypes

using genotypes to identify phenotypes

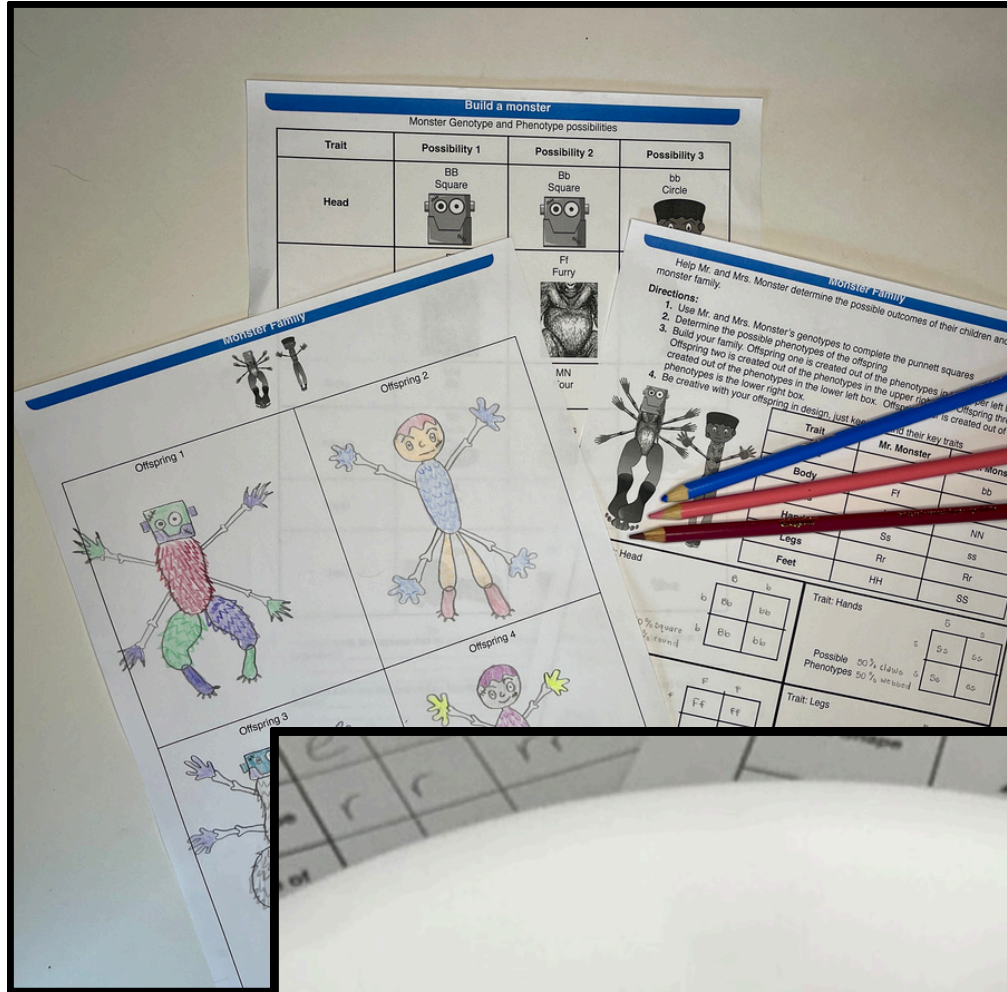
Using the phenotypes to decorate real jack-o-lantern cookies

1. Which traits are represented by complete dominance (One trait is dominant and the other is recessive)?

represented by incomplete dominance (both traits are dominant and



# FALL GENETICS



## Check out what teachers just like you have said about this product:



"I did this project with my students on Halloween since we were in class. I shortened it quite a bit so that we could get through it in one day, but if we had the time I would have loved for them to do the entire thing. It probably would've taken us the full 2 days if not 3 to complete entirely. My students really liked creating their own monsters!" - Samantha.



"Enjoy using this activity with my students" - Blazing science

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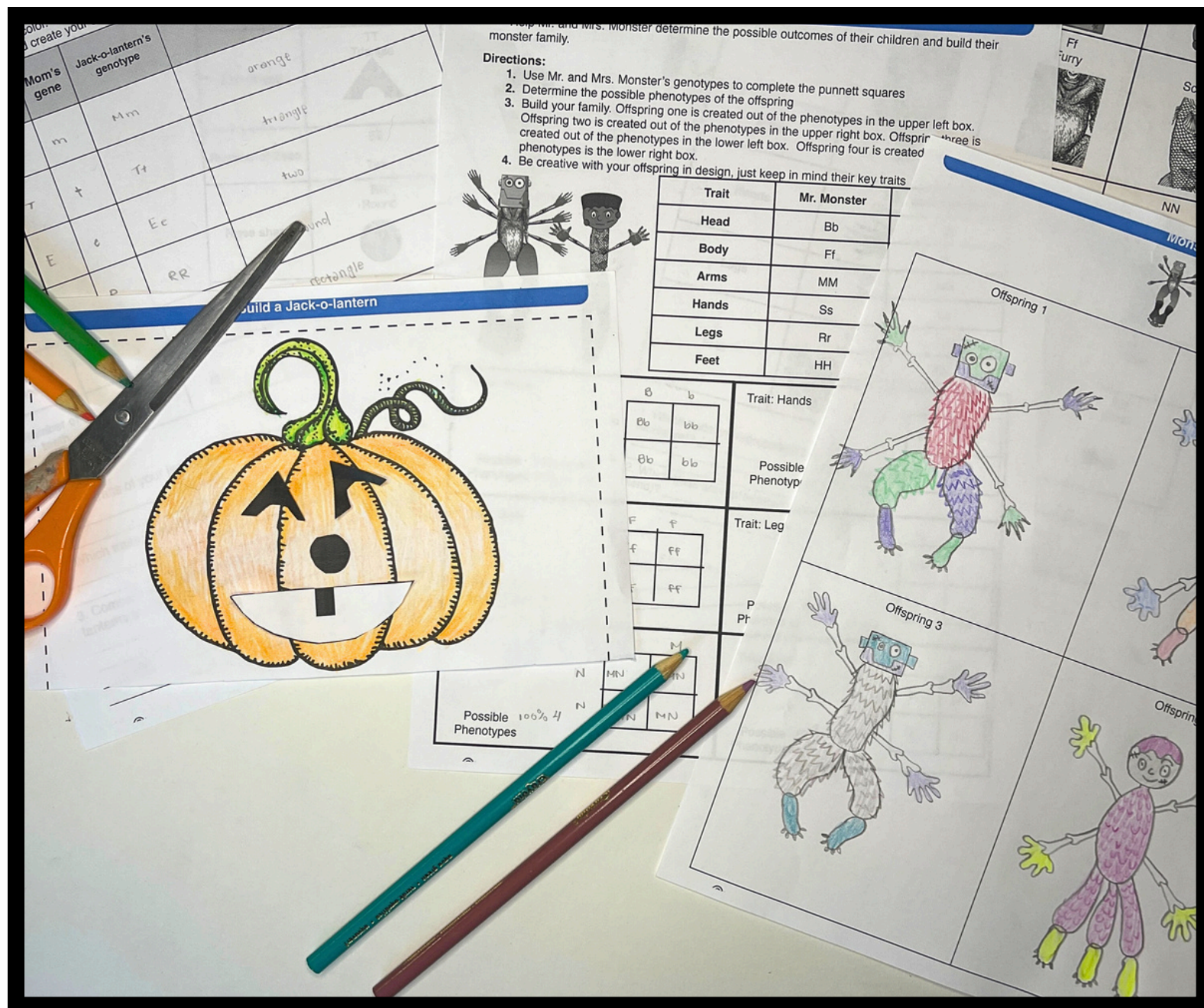
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# Adventures in ISTEM

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