



Minds in Motion

Activity Rundown:

Halloween is set to look a little different this year but that doesn't mean we still can't make it messy and fun! Every year many of us carve pumpkins into Jack-o-lanterns to put on our front step. Once Halloween has passed many of us throw out these Jack-o-lanterns but this year I would encourage you to try something new with these pumpkins! This Halloween we will transform our Jack-o-lanterns into erupting Ghost lanterns!



You will need:

- Pumpkin (white or orange)
- Baking Soda
- Vinegar
- Dish Soap
- Plastic Containers
- Baster
- Measuring cups
- Towels
- Glitter
- Food coloring

Let's do it!

- 1) The first step in creating our erupting ghost pumpkin is very similar to that of our Jack-o-lantern! Have an adult cut a hole out of the top of the pumpkin and this will allow you to dispose of all the "guts" that are inside it! This will give you room to work with when it's time to create your concoction! (You may also keep all the guts inside for extra mess)



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- 2) For step 2 please have an adult present again or have them do this step for you. You and the adult will carve out your desired design on the front of the ghost pumpkin. Draw out your design with a marker on the front of the pumpkin. This will ensure your design comes out close to how you planned it.
- 3) Once your Ghost pumpkin has been cleaned and carved out we can now begin with the experiment!
- 4) First, begin by preparing your ingredients listed in the “materials” section that will be used in your pumpkin. Take a small bowl or container and pour a $\frac{1}{2}$ cup of vinegar (or a full cup if you want to get really messy)
- 5) Next you will add two tablespoons of baking soda inside your pumpkin.
- 6) This will be followed by Glitter and food coloring. To create a foaming effect you can also add dish soap to your concoction!
- 7) Finally, you will place a towel underneath your pumpkin and add in your vinegar!
- 8) Watch as your pumpkin begins to foam and spew from all directions!
- 9) Now it is important to understand the spooky science behind our experiment! What happened inside your ghost pumpkin is called a chemical reaction. This is a result of mixing an Acid with a base!
- 10) Can you identify which chemical is our base and which is our acid?
- 11) **Answer:** Vinegar = Acid & Baking Soda = Base
- 12) These two chemicals when combined create a gas called carbon dioxide. The product of these two chemicals is sodium acetate!
- 13) Be sure to try this chemical reaction with dish soap and without so you can get a better close up of the chemicals reacting to each other.
- 14) We hope you enjoyed this spooky STEM science experiment!





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Resources:

- 1) <https://littlebinsforlittlehands.com/halloween-ghost-pumpkin-science-activity/>

Reach out!

We would love to hear from you about all the amazing STEM projects you are doing at home! Show us your finished products on any of the following social media platforms by tagging us or by using the following hashtags. We hope these projects have brought some excitement to your day during these difficult times.

Let us know how we did! Please [click here](#) to fill out a short survey on how well we did and what you would like to see more of in the future. Thank you!

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