

Halloween Science Lab Journal

Printable lab sheets and data tables for 16 Halloween science experiments, from kindergarten to high school. Print the pages you need, one per student or group.

Page	Sheet	Best for
2	Mad Scientist Lab Sheet	Any experiment, grades 3-8
3	Little Scientist Sheet	Any experiment, grades K-2
4	Puking Pumpkin	Grades K-5
5	Pumpkin Elephant Toothpaste	Grades 3-8
6	Dissolving Candy Corn	Grades K-5
7	Cabbage Potion Color Chart	Grades 3-8
8	Glow Stick Race	Grades 3-12
9	Candy Chromatography	Grades 3-12
10	Spooky Lava Lamp	Grades K-8
11	Sink or Float Pumpkins	Grades K-5
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14	Pumpkin Catapult Test	Grades 3-12
15	Safety Checklist for Adults	All grades

Predict first

Students write or circle a prediction before anything starts, so the result means something.

Change one thing

Each data sheet changes one variable and keeps the rest the same.

Measure, then explain

Tables and graph grids come before the "why" question.

Adults handle the risky parts

Safety notes sit on the sheets that need them.

Free from gauravtiwari.org. Share it with your class or homeschool group.

Mad Scientist Lab Sheet

Grades 3-8

Use this sheet for any experiment. Fill in the prediction before you start.

Name _____

Date _____

My question What do you want to find out?

My prediction I think... because...

Materials What I used

The one thing I changed and the things I kept the same

What I did Number your steps

What I observed Measurements, colors, sounds, smells

What I learned Was my prediction right? What would I test next?

Little Scientist Sheet

Grades K-2

Circle your guess, draw what happened, then tell a grown-up why you think it happened.

Name _____

Date _____

My experiment is called

I think it will... Circle one or more

fizz

bubble

float

sink

change color

grow

Before Draw it

After Draw it

It happened because

Puking Pumpkin

Grades K-5

Keep the vinegar and soap the same in every cup. Change only the baking soda, then measure how high the foam climbs.

Name _____ Date _____

Safety: wear safety glasses, work on a tray and don't eat anything you used.

My prediction Will more baking soda make more foam? How much more?

Baking soda	Vinegar	Foam height (mm)	What I saw
1/8 teaspoon	10 mL		
1/4 teaspoon	10 mL		
1/2 teaspoon	10 mL		

Bar graph One bar per cup



Which gas made the foam? What did the soap do?

Pumpkin Elephant Toothpaste

Grades 3-8

Use the same bottle, peroxide and soap each time. Change only the amount of yeast, then measure the foam after 30 seconds.

Name _____ Date _____

Safety: use 3% household hydrogen peroxide only, an adult pours it, and everyone wears safety glasses.

My prediction What will happen with more yeast?

Yeast	Peroxide	Foam height at 30 s (cm)	Warm or cool?
1/2 tablespoon	1/2 cup		
1 tablespoon	1/2 cup		
2 tablespoons	1/2 cup		
No yeast (control)	1/2 cup		

What did the yeast do? Was it used up?

Dissolving Candy Corn

Grades K-5

Drop 1 candy corn into each cup at the same moment. Check every 5 minutes and write what you see.

Name _____ Date _____

My prediction Which liquid will dissolve the candy corn fastest? Which will barely touch it?

Cup (1/3 cup each)	5 min	10 min	20 min	30 min	Stripes gone at
Ice water					
Room-temperature water					
Hot tap water					
White vinegar					
Vegetable oil					

Which liquid won? Why did the oil act so differently?

Make it fair What did you keep the same in every cup?

Cabbage Potion Color Chart

Grades 3-8

Add a few drops of each test liquid to 1 tablespoon of purple cabbage juice. Use a fresh cup every time.

Name _____

Date _____

Safety: never use bleach, wear safety glasses and gloves and don't drink any of the potions.

Color scale Pink and red mean acid, purple means neutral, green and yellow mean base



Strong acid

Neutral

Strong base

Test liquid	My guess	Color I saw	Acid, neutral or base?
Lemon juice			
Vinegar			
Milk			
Baking soda + water			
Clear soda			
My choice:			
My choice:			

Which liquid surprised you? Why?

Glow Stick Race

Grades 3-12

Soak 3 identical glow sticks for a few minutes, then snap them at the same moment.
Compare brightness in a dark room.

Name _____ Date _____

Safety: use hot tap water only, never boiling water, and never cut a glow stick open.

My prediction Which glow stick will shine brightest? Which will last longest?

Brightness (0 to 5)	5 min	30 min	1 hour	3 hours	Next morning
Ice water					
Room temperature					
Hot tap water					

Graph it Time on the bottom, brightness up the side, one line per glow stick



What does temperature do to the reaction?

Candy Chromatography

Grades 3-12

Dab candy color on a pencil line 1 inch from the bottom of a paper towel strip, then hang it so it just touches salt water.

Name _____ Date _____

My prediction Which candy colors are hiding more than one dye?

Candy color	Bands I saw	Dye distance (cm)	Water distance (cm)	Rf = dye / water
Red				
Orange				
Yellow				
Green				
Blue				
Brown				

Which colors split into 2 dyes? Why do some dyes travel farther?

Spooky Lava Lamp

Grades K-8

Set up 2 identical bottles, one warmed and one chilled. Drop in a quarter tablet and start the timer when it reaches the water.

Name _____

Date _____

Safety: an adult handles the tablets, which contain aspirin. Keep the bottles uncapped while they fizz.

My prediction Will the warm or the cold bottle bubble faster?

Bottle	Water temperature	Seconds until tablet is gone	Blobs in 30 seconds
Warm			
Cold			

Why did the blobs rise and then sink again?

Sink or Float Pumpkins

Grades K-5

Guess first, then gently place each item in a big tub of water.

Name _____

Date _____

Item	My guess (sink or float)	What happened	Was I right?
Mini pumpkin			
Big pumpkin			
Gourd			
Pumpkin seeds			
Piece of pumpkin rind			
Apple			
My choice:			

Grades 3-5: find the density Density = mass (g) / water pushed aside (mL)

Item	Mass (g)	Water pushed aside (mL)	Density (g/mL)
1			
2			

Did size decide it? What else matters?

Mummified Apple

Grades 3-8

Cover equal apple slices with different drying powders. Weigh each slice at the start and again after 7 days.

Name _____

Date _____

Safety: an adult cuts the apples. Keep the control cup covered and throw everything away at the end. Don't eat the slices.

My prediction Which powder will dry the apple the most?

Cup	Start mass (g)	Day 7 mass (g)	Mass lost (%)
Table salt			
Baking soda			
Epsom salt			
Salt + baking soda			
Nothing (control)			

Percent lost = (start - day 7) / start x 100. Which powder won?

Ghost Balloon Fermentation

Grades 3-8

Draw ghost faces on 4 white balloons. Give each bottle a different amount of sugar, add the yeast and warm water, then stretch a balloon over each neck.

Name _____ Date _____

Safety: balloons are a choking risk for children under 8, so an adult handles them.

My prediction Which ghost will grow biggest? Will the no-sugar ghost grow at all?

Sugar	Balloon around at 15 min (cm)	At 30 min (cm)	At 45 min (cm)
None			
1 tablespoon			
2 tablespoons			
3 tablespoons			

Which gas filled the balloons? Where did it come from?

Pumpkin Catapult Test

Grades 3-12

Build a craft stick catapult and launch a cotton ball "ghost" 5 times for each setting. Soft ghosts only.

Name

Date

The one thing I changed Example: how far I push the arm down, or where the stack of sticks sits

Setting	Launch 1	Launch 2	Launch 3	Launch 4	Launch 5	Average (cm)
A						
B						
C						

Graph the averages

Which setting launched farthest? Where did the energy come from?

Safety Checklist for Adults

All grades

Read this before the first experiment. Tick each line when it is done.

Name _____

Date _____

- ☐ Safety glasses for everyone near fizzing, foaming or splashing experiments.
- ☐ Hydrogen peroxide is 3% household strength, in its original bottle. Never 6% hair bleach or 35% "food grade".
- ☐ Effervescent tablets are aspirin medicine. An adult handles them and keeps them out of reach.
- ☐ Balloons are handled by an adult for children under 8, and popped pieces are picked up right away.
- ☐ No hard or sticky candy in the mouths of children under 4.
- ☐ Allergies checked. Candy corn contains sesame oil, gelatin and honey.
- ☐ Glow sticks stay closed. Nobody cuts one open.
- ☐ Nobody looks into a UV black light or shines it on skin.
- ☐ Hot tap water only, never boiling water.
- ☐ Cutting is done by an adult.
- ☐ Oobleck goes in the trash, never down the drain.
- ☐ Dry ice, if you use it at all, stays an adult-only demo in an open, ventilated room, never in a sealed container and never in a drink.
- ☐ Nothing used in an experiment gets eaten.