girl scouts of michigan shore to shore



Girl Scout Bake & Build

Let's Earn the 2026 Girl Scout Bake & Build Patch!

Whether you're a decorating pro or a first-time baker, test out your skills to create something unique and fun. The Girl Scout Bake and Build Challenge can be completed **at your own pace** during the month of December.

Discover the science of baking and the wonder of engineering as you design and build your gingerbread structure. Use the following steps to help guide you.

Get creative:
Use white paper to draw your gingerbread structure. The plans may Include your edible materials, structure design, and decorative ideas.

Show the math:
Use your drafted design to create a template of your gingerbread structure. Ask yourself how tall, wide, and long your pieces must be. Use the grid paper to help your template stay to scale.

Bring it to life:
Now it's time to execute your idea! Ready, set, bake! Participants may also use graham crackers if gingerbread dough is not available.



Girl Scouts must register to reserve their patch while supplies last.

Patches will be distributed in January 2027.

Share Your Bake & Build Story Here





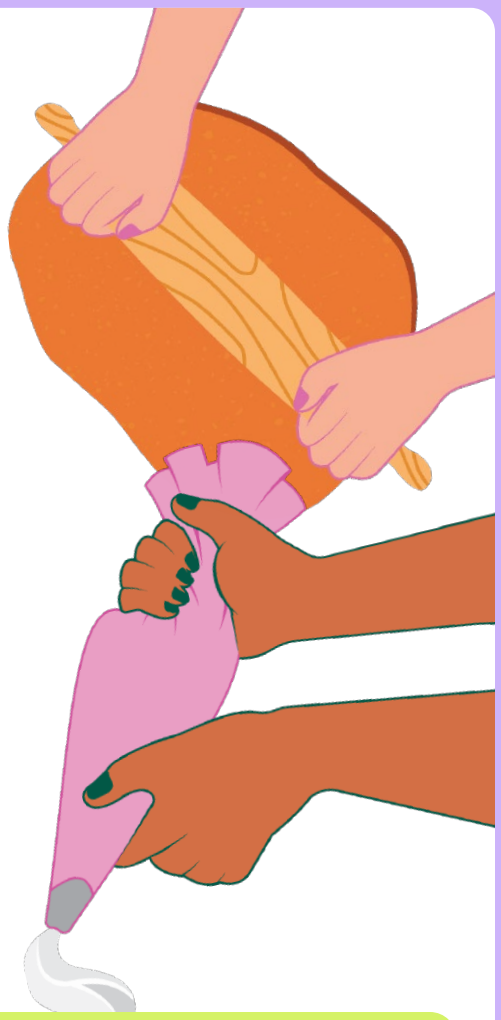


The Science of Baking

Gingerbread Dough: When building a gingerbread house, it should be sturdy and demonstrate elasticity, which is the measure of its ability to resist cracking or bending. Because the gingerbread walls will be under stress from the roof, candies, and icing, dough that is tough, springy, and with decreased moisture is ideal.

This can be achieved by using flour with high protein content that contains gluten when creating your gingerbread house dough. Flour has gluten and proteins to create a springy dough that gives the elasticity to help keep the dough stronger and more resistant to weight as you build. A recipe is included with this packet to help you get started in your baking journey.

Icing: Icing is the "glue" that holds the entire structure together. The icing should be strong enough to keep the pieces together, like cement when you build a house. What helps make the "glue" in the icing is from the proteins in egg whites, which helps create a stiff icing. When beaten, (or mixed long and fast) the egg's proteins change from a liquid to stiff peaks. Icing with stiff peaks is when you scoop icing from the bowl, it keeps its shape instead of dripping off your spoon.



Architectural Design and Engineering

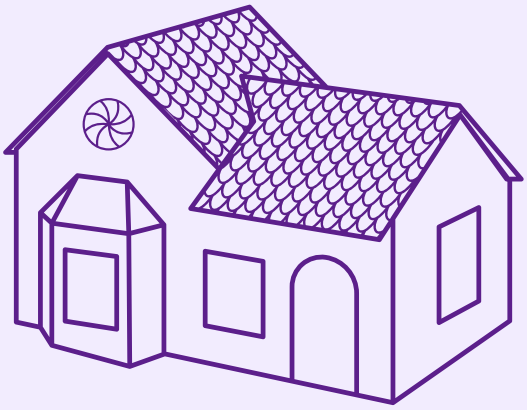
Gingerbread House Design: When creating your gingerbread house, think how the structure will stand, and what stress/ weight your house will endure as you create your design. Consider the forces on the roof such as the sloping, friction, and gravity. To avoid collapse, it is best to spread out the icing and candies, and to use materials with a variety of weight such as marshmallows, pretzels, gumdrops, peppermints, etc.



How to Make a Blueprint

A blueprint is a drawing that shows a building plan. The drawing includes the materials you would use, and the design choices you create for your build. Additionally, a blueprint also includes the measurements, decoration, and supplies used to ensure all directions are followed.

Step 1: Draft Your Concept





Note while these gingerbread house drafts incorporate candy, we recommend that you label the supplies and materials you will use to help clarify your plans.

When creating a plan for your building, it is best to have a draft of what you want your build to look like then, make changes and adaptations to your final blueprint. Pictured above are examples of drafted blueprints of two gingerbread houses.

Both houses are different in design and viewpoint but they provide an idea of the direction of where each builder wants to go.

Step 2: Create Your Blueprint

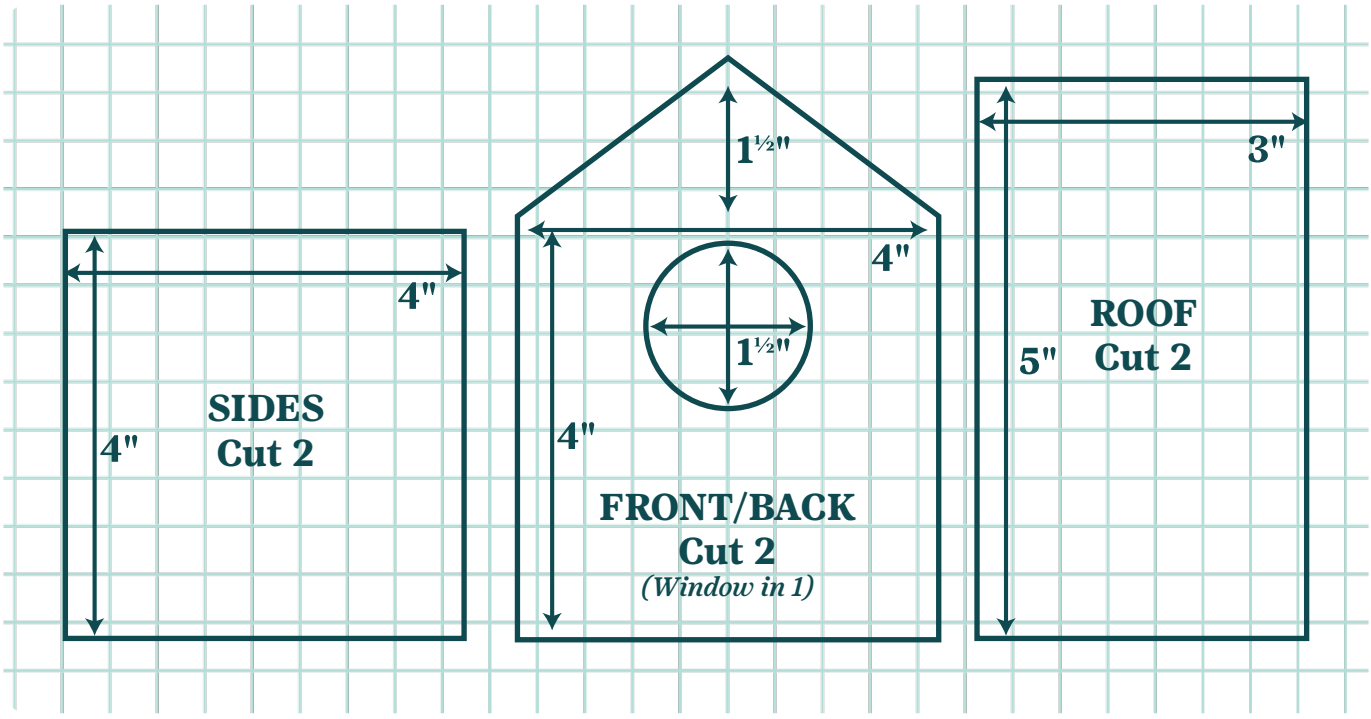
Finalize your drafted build to scale by creating a blueprint. A template will provide accurate measurements of your blueprint as you cutout the pieces of your dough or graham crackers.

Graham crackers can be much more fragile so consider the size of your build in your blueprint.

The grid provided on the next page in this packet measures 0.5" per square. Using that printout or your own grid paper, draw and measure the pieces you need for your gingerbread build.

The length, width, and height measurements are up to your preferences. When you create your template, label the measurements in inches. For more fun, use a cup to incorporate curves and circles into your design.

Here is an example of a blueprint:



Once you have your gingerbread design complete, start creating your build referencing both the final blueprint and your template to see how your plans come to life. Take a moment and reflect on your design and answer the questions below.

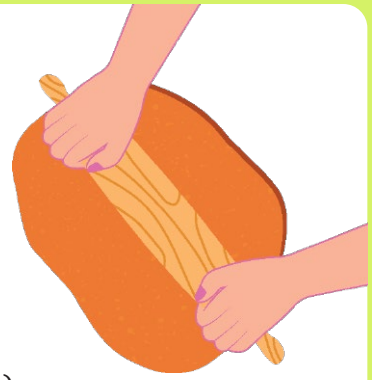
What changes did you make towards your design as you progressed through your blueprint process?

Were there pieces you had to redesign or needed to be simplify?

Gingerbread House Recipe

Prep Time: 2 hrs | **Cook Time:** 15 mins | **Drying Time:** 60 mins | **Total Time:** 3 hrs 15 mins

Dough Ingredients



- 3 cups all-purpose flour, plus more for rolling the dough.
- ¼ teaspoon baking powder
- 2 teaspoons ground ginger
- 2 teaspoons ground cinnamon
- ½ teaspoon ground cloves or allspice
- ¼ teaspoon salt
- 6 Tablespoons unsalted butter, softened at room temperature.
- ¾ cups packed light or dark brown sugar.
- 1 large egg, at room temperature
- ½ cup molasses (we recommend dark molasses but not blackstrap)
- 1 tablespoon water
- Assorted candies (for decorating!)

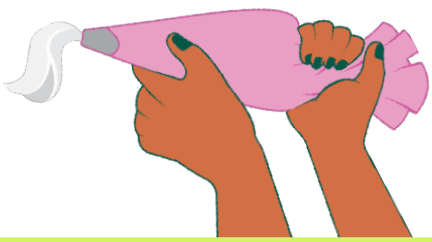
Ingredients yield 1-2 small gingerbread houses

Royal Icing Ingredients

- 3 cups powdered sugar.
- 2 large egg whites
- 1 teaspoon lemon juice
- ⅛ teaspoon cream of tartar

Icing Tip: When piping your icing you can use a plastic sandwich bag with a small hole cut in one of the bottom corners if a traditional piping bag is not available.

Just remember to close tightly and give a few twists at the top to avoid a mess!



Helpful Tip

Don't have time to bake and assemble a gingerbread house all in one day? We've got you covered!

Cooled gingerbread house pieces can be made up to 1 week in advance, just cover tightly and store at room temperature or in the refrigerator.

Note

Recipes shown here are suggestions. Feel free to research alternative ingredients and craft your own recipe to build with!

Baking Instructions

For the Gingerbread dough:

1. Whisk the flour, baking soda, ginger, cinnamon, allspice, and salt together in a large bowl. Set aside.

2. In a large bowl using a handheld mixer or stand mixer, beat the butter, and brown sugar together on medium speed until completely smooth and creamy, about 2 minutes. Beat in the egg, molasses, and water on high speed. Scrape down the sides of the bowl and beat again as needed to combine. On low speed, slowly mix the dry ingredients into the wet ingredients until combined. Cookie dough will be very thick.

3. Divide cookie dough in half, flatten into discs (about 4-5 inches in diameter), and wrap each tightly in plastic wrap. Chill in the refrigerator for 2 hours or up to 3 days.

4. Preheat oven to 350°F. Line 1-2 large baking sheets with parchment paper or silicone baking mats.

5. Cut into shapes: Remove each disc from the refrigerator and roll each out in between two pieces of parchment paper. Roll out about 1/4 inch thick. If using a template for your gingerbread house, lightly flour the underside of the templates to prevent sticking. Using a pizza cutter or small knife, carefully cut your gingerbread house pieces. Be mindful of how many pieces you need for each shape. Re-roll dough scraps so you have enough dough for the whole house. Use any extra dough to create fun shapes using cookie cutters.

6. Carefully arrange gingerbread house shapes onto prepared baking sheets, about 3 inches apart. If they lost some of their shape transferring to the baking sheet, straighten out the edges.

7. Bake house pieces for about 18-20 minutes or until edges are lightly browned. For small pieces bake in a separate cookie sheet for 12-13 minutes or until edges are lightly browned. Remove from the oven and allow shapes to cool completely on a flat surface. A flat surface is KEY for cooling—the gingerbread house edges very slightly curl up otherwise.

For the Royal Icing:

1. Combine the powdered sugar, egg whites, lemon juice, and cream of tartar in a large bowl. Using either a stand mixer or a hand mixer, whisk together. Start on a low speed working up to high speed until the icing is stiff but still pipeable.

2. Place in a piping bag or sandwich bag with a corner cut off to decorate your house.

3. Additional icing can be kept in a covered bowl until ready to use.

Building Instructions

1. Pick and line a base: Pick a solid base for your gingerbread house - either a flat cookie sheet, or a thick, sturdy piece of cardboard. If you want, line the base with aluminum foil or wax paper.

2. Mortar the sides of the house with royal icing: Pipe a thick line of icing along the edge of one of the side pieces. Press the iced side piece against the edge of either the front or back pieces.

Hold in place for a few minutes until the icing is partially set. Repeat with the other side piece. Prop up with cans if necessary.

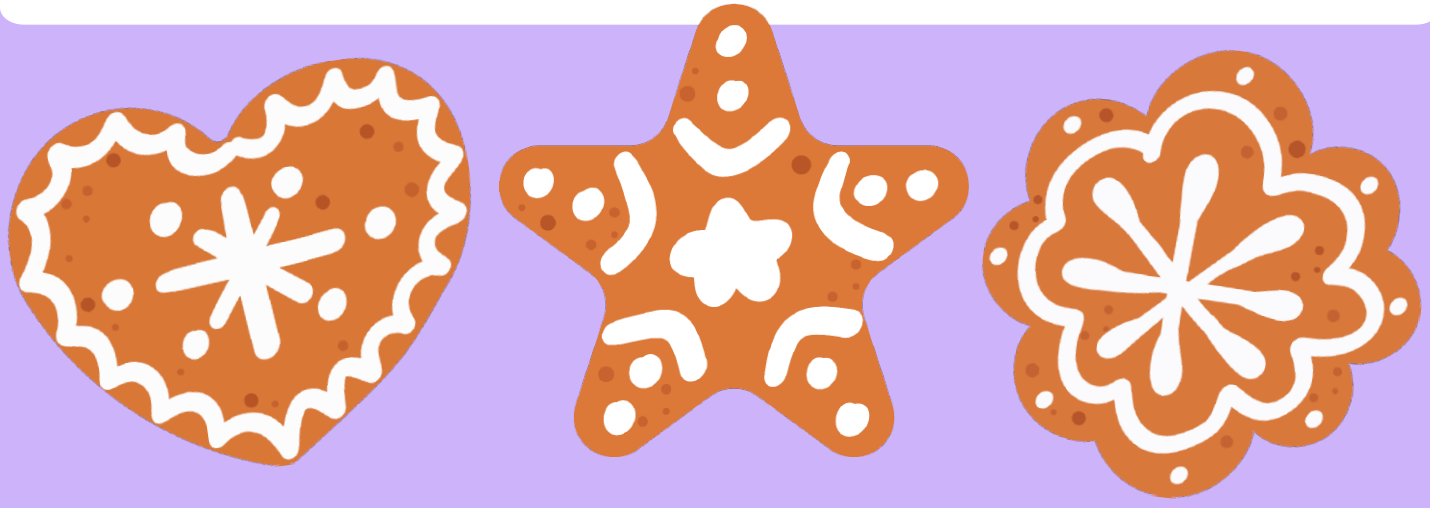
Pipe icing along the seams, inside and outside of the house, to fill in any gaps and to add extra stability. Pipe icing along the edges of the house where it meets the base.
Let set for **at least an hour** before attempting to add the roof pieces.

3. Mortar in the roof with royal icing: Once the royal icing has dried enough so that the base structure is solid, you can go to work on the roof. Pipe icing all along the top edges of the structure, front and back and two sides.

Gently hold the roof pieces in place for a few minutes until they are set enough so they don't slide off when you remove your hands.

Pipe remaining seams of the house with extra icing. Let the house stand for **at least an hour**, and preferably 8 hours before decorating.

4. Decorate the house: Decorate your gingerbread house with piped royal icing and candies such as red hots, gum drops, candy canes, chocolate truffles, or whatever you like.





Follow us!

@gsmists | #gsmists

girl scouts
of michigan
shore to shore