

## GIuten-Free Flour 101

Baking is a science. Unlike traditional wheat-based flours, gluten-free flours typically require additional ingredients that contribute to successful binding, texture, and structure (due to the absence of gluten). Each flour has a different flavor, texture, and nutritional attributes.

## USE THIS GUIDE TO EXPERIMENT WITH A FEW OF THE MOST POPULAR OPTIONS. YOU MIGHT FIND A NEW FAVORITE!

## What Is Gluten?

Gluten is a type of protein found in some grains that provides structure in baked goods. The most common gluten-containing grains include wheat, barley, and rye. It's also found In relatives of wheat like spelt and kamut.


## Frequently Asked Questions

Can I just substitute a gluten-free flour for all-purpose in my favorite recipes?
It might be tempting to sub a gluten-free flour for all-purpose 1:1 and hope for the best! However there's a good chance it might not turn out quite right. Some baked goods are more forgiving than others. Use the chart on page 5 to determine if and when you need to alter amount and/or add ingredients like starches or binders.

## How will gluten-free flour affect the baking time?

Most gluten-free baked goods will require a longer baking time to prevent a gummy, mushy texture. The reason? More liquid. The "toothpick test" isn't the best indicator of doneness so make sure your oven is calibrated properly and use the time instead.

## What about store-bought gluten-free flour?

Some popular flour companies now make 1:1 gluten-free baking flour blends that already have a proper mix of flours and starches (like xanthan gum). It's a great option in a pinch because you can use as a 1:1 replacement for all-purpose flour and it mimics results of all-purpose flour. Just note that these are typically rice-based, so they aren't as nutritionally dense as some of the other options mentioned on the following pages. They can also be expensive.

## Popular Gluten-Free Flours

## Rice Flour

Light, mild and easy to digest. Often used to make noodles in Asian cuisines. It's also rich in carbohydrates and low in fat. A common ingredient In store-bought flour blends because it's texture is most similar to all-purpose.


## Millet Flour

Has a mild, sweet flavor and a cake-like crumb. It works great in muffins and quick-breads. It's also a very nutritious whole grain.

## Buckwheat Flour

Despite what the name suggests, buckwheat Is naturally glutenfree. It's often used to make noodles (soba), pancakes and Russian blini. This flour adds a beautiful deep brown color to baked goods and has a nutty flavor.


## Almond Flour

This may be the most versatile of the bunch. Almond flour has a high fat content which equates to moisture, tenderness and rich flavor. It can produce a "heavy" final product at times which might not rise as easily as traditional wheat flour baked goods.

## OTHER

Coconut Flour - has a sweet coconut flavor and is very high in fiber. Note that it is also highly absorbent, so you'll only need a small amount ( $1 / 3$ or $1 / 4$ as much) and you'll likely need to combine it with another flour for structure.
Oat Flour - made from milled oats. Remember that oats need to be certified gluten-free as they are often cross-contaminated.
Cassava Flour - rich in carbohydrates and high in fiber. This flour is similar to wheat, so works well in a variety of baked goods.

## Binders \& Starches

## WHY USE BINDERS AND STARCHES?

In baking, gluten allows dough to come together and become elastic (think pizza dough!). When working with gluten-free flours, you'll need to add an extra ingredient that does its job. This is where binders (like gums) and starches come in. In baking, these ingredients help hold everything together. They also add much-needed moisture and a more pleasant texture. Too much can lead to a gummy final product so it's important to use the correct amount. See below for a description of some of the more popular options available.

## Arrowroot Powder

Flavorless. Similar to corn starch and a great substitute for those who avoid corn. Use it to thicken sauces or pie filling. Sub 2 tsp for every 1 Tbsp of corn starch.

## Guar Gum

Adds structure or "glue" to baked goods as a way to prevent a crumbly texture. It has $8 x$ the thickening power of corn starch!

## Potato Starch

Similar texture to corn starch and tapioca starch but derived from white potatoes. Helps bind recipes together and keep baked goods tender.

## Xanthan Gum

Similarly to guar gum, xanthan gum helps prevent crumbling in baked goods by providing structure and
strengthening elastic networks. It's corn-based.

## Tapioca Starch

Also known as tapioca flour and is used as a thickening agent. It also provides "chew" and elasticity. It can contribute to browning.

## DIY Gluten-Free Flour Blends

If you want to give gluten-free baking a try and prefer to experiment with your own flour blends, start with one of these! Option one is rice-based and will yield results most similar to all-purpose (wheat) flour. Option two is oat-based, which is a high-fiber choice. Option three is made with almond flour to create a dense, moist and ultra satisfying final product.

## Rice Flour Blend

- $11 / 2$ cups brown rice flour
- 1/4 cup white rice flour
- 1/4 cup tapioca flour
- $1 / 2$ cup potato starch
- 1 tsp xanthan gum


Whisk all ingredients in a large bowl, then transfer to an airtight container for storing.

## Oat Flour Blend

- $11 / 2$ cup [certified gluten-free] oat flour
- $1 / 2$ cup tapioca flour
- 1 tsp xanthan gum


Whisk all ingredients in a large bowl, then transfer to an airtight container for storing.

## Almond Flour Blend

- $21 / 2$ cups blanched almond flour
- $21 / 4$ cups buckwheat flour
- $13 / 4$ cup potato starch
- 3/4 cup arrowroot powder


Whisk all ingredients in a large bowl, then transfer to an airtight container for storing.

## Gluten-Free Recipes

## Zucchini Buckwheat Muffins

## Prep Time: 15 minutes Total Time: 30 minutes Yield: 12 servings

## Ingredients

- 2 Tbsp chia seeds
- $1 / 2$ cup buckwheat flour
- 1/2 cup brown rice flour
- 1/2 cup arrowroot starch
- 2 tsp cinnamon
- $1 / 2$ tsp nutmeg
- 2 tsp baking soda
- $1 / 2$ tsp salt
- 1 cup zucchini, grated
- 1 banana, mashed
- 1/4 cup coconut oil, melted
- 2 tsp vanilla extract
- 3 Tbsp coconut sugar (optional topping)


## Instructions

## Prep

1. Stir together chia seeds and 6 Tbsp of water. Let stand 15 minutes to gel.
2. Grease muffin tin.
3. Preheat oven to $350^{\circ} \mathrm{F}$.
4. Grate zucchini with a fine grater and remove moisture by squeezing in paper towels.
5. Mash banana until smooth.

## Make

1. In a large bowl, whisk flour through salt.
2. In a small bowl, mix zucchini through vanilla. Add chia seed "gel" and mix well.
3. Add wet ingredients to dry and stir until combined.
4. Divide batter between 12 muffin cups and sprinkle with sugar if desired. Bake 15-20 minutes or until muffins spring back when touched. Let stand two minutes, then move to cooling rack.

## Mocha Chip Scones

## Prep Time: 15 minutes Total Time: 30 minutes Yield: 8 servings

## Ingredients

- 1 cup almond flour, blanched
- 3/4 cup cassava flour
- 1/3 cup coconut flour
- 1 1/2 tsp baking powder
- $1 / 2$ tsp baking soda
- 1/3 cup maple syrup
- $1 / 4$ tsp salt
- 1/4 cup coconut oil, melted
- 1/2 cup brewed coffee, room temp
- 1 large egg, room temp
- 1/4 cup mini chocolate chips


## Instructions

## Prep

1. Preheat oven to $375^{\circ} \mathrm{F}$.
2. Line baking sheet with parchment paper.

## Make

1. Whisk together flours, baking powder, and baking soda.
2. In a separate bowl, whisk together maple syrup, melted coconut oil, and room temperature coffee and eggs.
3. Add wet ingredients to dry and stir in chips. Mix to incorporate.
4. Pressed dough into circle on parchment-lined baking sheet, about $1 / 4$ " thick. Using sharp knife, cut into 8 equal wedges.
5. Bake for 10-12 minutes until tops just start to brown. Remove from oven, separate scones, and return to oven for 2 more minutes. Cool on wire rack.

## Let's Connect

## I Would Love to Hear from You!



Visit me at: Nutrition for Body and Soul


Homeschooling Dietitian Mom Blog


## TpT Store

## Follow me on: $\bar{\square} \rho$

Deborah Hanyon Homeschooling Dietitian Mom
You are permitted to copy these items to use for personal or school use only. You are not permitted to sell or distribute these items as your own.
(c) 2024 All Rights Reserved - Deborah Hanyon

