“Essential Tips and Techniques in Baking and Pastry Making for Beginners”
Importance Notes on Pastry and Baking Tips for Beginners

Understanding of Ingredients

Understanding Basic Baking Principles

What is Formulation and How it works?

Technical Aspect (Method, Technical Terms, Equipment)

Trouble Shooting
WHEAT FLOUR IS the most important ingredient in the bakeshop. It provides bulk and structure to most of the baker’s products, including breads, cakes, cookies, and pastries.
Importance Notes on Pastry and Baking Tips for Beginners

Understanding of Ingredients - Sugar

SUGARS OR SWEETENING agents have the following purposes in baking:

### They add sweetness and flavour.
### They create tenderness and fineness of texture, partly by weakening the gluten structure.
### They give crust colour.
### They increase keeping qualities by retaining moisture.
### They act as creaming agents with fats and as foaming agents with eggs.
### They provide food for yeast.

Isomalt
Importance Notes on Pastry and Baking Tips for Beginners

Understanding of Ingredients - Fat

THE MAJOR FUNCTIONS of fats in baked items are:

1) To add moistness and richness.
2) To increase keeping quality.
3) To add flavour.
4) To assist in leavening when used as a creaming agent, or to give flakiness to puff pastry, pie dough, and similar products.

Many fats are available to the baker. Each has distinctive properties that make it suitable for different purposes. Among the properties a baker must consider when selecting a fat for a specific use are its melting point, its softness or hardness at different temperatures, its flavour, and its ability to form emulsions.
Eggs perform the following functions in baking:

1. **Structure.**

Like gluten protein, egg protein coagulates to give structure to baked products.

This is especially important in high-ratio cakes, in which the high content of sugar and fat weakens the gluten.

If used in large quantities, eggs make baked products more tough or chewy unless balanced by fat and sugar, which are tenderizers.
Importance Notes on Pastry and Baking Tips for Beginners

Understanding of Ingredients - Eggs

2. **Emulsifying of fats and liquids.** Egg yolks contain natural emulsifiers that help produce smooth batters. This action contributes to volume and to texture.

3. **Leavening.** Beaten eggs incorporate air in tiny cells, or bubbles. In a batter, this trapped air expands when heated and aids in leavening.

4. **Shortening action.** The fat in egg yolks acts as a shortening. This is an important function in products that are low in other fats.
Importance Notes on Pastry and Baking Tips for Beginners

Understanding of Ingredients - Eggs

5. Moisture.
   Eggs are mostly water. This moisture must be calculated as part of the total liquid in a formula. If yolks are substituted for whole eggs, for example, or if dried eggs are used, adjust the liquid in the formula to allow for the different moisture content of these products.

6. Flavour.

7. Nutritional value.

8. Color.
   Yolks impart a yellow color to doughs and batters. Also, when baked in doughs, eggs brown easily and contribute to crust color.
Importance Notes on Pastry and Baking Tips for Beginners

Understanding of Ingredients – Leavening Agents

Chemical

Yeast

Steam
### Essential Basic Pastries Dough in Pastry Kitchen

#### Short Pastries

- **Pâte Brisée** *(Short crust Pastry)*
  - **Broken**
  - The most basic dough
  - Common ingredients: butter, flour, salt and cold water

- **Pâte Sucrée** *(Sugar crust Pastry)*
  - **Sweet**
  - Similar to pâte brisée except with confectioners sugar.

- **Pâte Sablée** *(Short bread Pastry)*
  - **Sandy**
  - Rich in flavor, with higher sugar ratio suitable for dessert, fruit tart and biscuits.

Examples:
- Quiche Lorraine
- Apple Pie
- Shortbread
- Tartlet
Pâte brisée (short crust) (pronounced pot bree ZAY), which literally means “broken dough,” is mixed using the same method as mealy pie dough—the fat is first combined with the flour.

In classical pastry, this is known as *sablage* (sah BLAHZH) or the *sanding method or rubbing method*.

The fat and flour are mixed until the mixture resembles coarse meal or sand. Coating the flour with fat protects it from absorbing water, and therefore limits gluten development. This results in tender pastry.

Pâte brisée is usually used for large tarts and savoury pie.
# Essential Basic Pastries Dough in Pastry Kitchen

## Pâte Brisée

For large-quantity measurements, see page 732.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>U.S.</th>
<th>Metric</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pastry flour</td>
<td>12 oz</td>
<td>400 g</td>
<td>100</td>
</tr>
<tr>
<td>Salt</td>
<td>0.3 oz (1½ tsp)</td>
<td>10 g</td>
<td>2.5</td>
</tr>
<tr>
<td>Sugar</td>
<td>0.3 oz (1½ tsp)</td>
<td>10 g</td>
<td>2.5</td>
</tr>
<tr>
<td>Butter, chilled</td>
<td>6 oz</td>
<td>200 g</td>
<td>50</td>
</tr>
<tr>
<td>Eggs</td>
<td>4 oz</td>
<td>130 g</td>
<td>33</td>
</tr>
<tr>
<td>Water</td>
<td>0.6 oz (4 tsp)</td>
<td>20 g</td>
<td>10</td>
</tr>
<tr>
<td>Vanilla extract</td>
<td>4 drops</td>
<td>4 drops</td>
<td></td>
</tr>
<tr>
<td>Lemon zest, grated</td>
<td>0.12 oz (1½ tsp)</td>
<td>4 g</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total weight:** 1 lb 7 oz 774 g 199 %

**PROCEDURE**

1. Sift the flour, salt, and sugar into a round-bottomed bowl.
2. Cut the butter into small cubes. Rub it into the flour, using the fingertips, until the mixture looks like fine bread crumbs. Make a well in the center.
3. Mix the eggs, water, vanilla, and lemon zest. Pour the mixture into the well in the flour. Mix to form a soft dough.
4. Turn out the dough onto a lightly floured work surface. Knead gently just until smooth and well mixed.
5. Wrap in plastic film and chill for at least 30 minutes before use.
Pâte sucrée (soo CRAY) means “sugared dough.” It is similar to pâte brisée but has a much higher sugar content. The high content of sugar acts as a tenderizer, so the dough is fragile and more difficult to handle than pâte brisée.

It is used primarily for small items such as tartlets and petits fours. Pâte sucrée can be mixed either by the sablage method or the creaming method.

The creaming method, in which the fat and sugar are mixed first, is also used for cookies, cakes, and muffins. In fact, both pâte sucrée and, especially, pâte sablée can be used to make plain cookies.
## Pâte Sucrée

For large-quantity measurements, see page 732.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>U.S.</th>
<th>Metric</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butter, softened</td>
<td>6.5 oz</td>
<td>216 g</td>
<td>54</td>
</tr>
<tr>
<td>Confectioners’ sugar</td>
<td>4 oz</td>
<td>132 g</td>
<td>33</td>
</tr>
<tr>
<td>Salt</td>
<td>0.06 oz (¼ tsp)</td>
<td>2 g</td>
<td>0.5</td>
</tr>
<tr>
<td>Lemon zest, grated</td>
<td>0.06 oz (½ tsp)</td>
<td>2 g</td>
<td>0.5</td>
</tr>
<tr>
<td>Vanilla extract</td>
<td>4 drops</td>
<td>4 drops</td>
<td></td>
</tr>
<tr>
<td>Eggs, beaten</td>
<td>3 oz</td>
<td>100 g</td>
<td>25</td>
</tr>
<tr>
<td>Pastry flour</td>
<td>12 oz</td>
<td>400 g</td>
<td>100</td>
</tr>
</tbody>
</table>

**Total weight:** 1 lb 9 oz 852 g 213 %

### PROCEDURE

1. Cream together the butter, confectioners’ sugar, salt, lemon zest, and vanilla until the mixture is smooth and pale.
2. Add the eggs a little at a time and beat well between each addition.
3. Add the flour. With a plastic scraper, carefully blend into a soft dough.
4. Wrap in plastic film and flatten out. Chill until firm before use.
Pâte sablée (sah BLAY) contains even more fat than pâte sucrée and less egg and other moisturizers. Some formulas also contain more sugar as well.

It is an extremely tender and crumbly dough that is generally used for cookies but can also be used for small tarts and other pastries.

The crumbly, “sandy” texture of the baked dough gives the pastry its name (sable means “sand” in French). Pâte sablée can be mixed using the sablage method, but today it is perhaps more common to use the creaming method, as in a typical cookie dough.
### PÂTE SABLÉE

For large-quantity measurements, see page 732.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>U.S.</th>
<th>Metric</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butter, softened</td>
<td>6 oz</td>
<td>150 g</td>
<td>67</td>
</tr>
<tr>
<td>Confectioners' sugar</td>
<td>3 oz</td>
<td>75 g</td>
<td>33</td>
</tr>
<tr>
<td>Salt</td>
<td>0.03 oz (¼ tsp)</td>
<td>0.7 g</td>
<td>0.3</td>
</tr>
<tr>
<td>Lemon zest, grated</td>
<td>0.04 oz (⅛ tsp)</td>
<td>1 g</td>
<td>0.5</td>
</tr>
<tr>
<td>Vanilla extract</td>
<td>2 drops</td>
<td>2 drops</td>
<td></td>
</tr>
<tr>
<td>Eggs, beaten</td>
<td>1 oz</td>
<td>25 g</td>
<td>11</td>
</tr>
<tr>
<td>Pastry flour</td>
<td>9 oz</td>
<td>225 g</td>
<td>100</td>
</tr>
</tbody>
</table>

**Total weight:** 1 lb 3 oz 475 g 211%

### VARIATION

**CHOCOLATE PÂTE SABLÉE**

For large-quantity measurements, see page 732.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>U.S.</th>
<th>Metric</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butter</td>
<td>6 oz</td>
<td>150 g</td>
<td>86</td>
</tr>
<tr>
<td>Confectioners' sugar</td>
<td>3 oz</td>
<td>75 g</td>
<td>43</td>
</tr>
<tr>
<td>Grated orange zest</td>
<td>0.08 oz (1 tsp)</td>
<td>2 g</td>
<td>0.2</td>
</tr>
<tr>
<td>Eggs, beaten</td>
<td>2 oz</td>
<td>50 g</td>
<td>28</td>
</tr>
<tr>
<td>Pastry flour</td>
<td>7 oz</td>
<td>175 g</td>
<td>100</td>
</tr>
<tr>
<td>Cocoa powder</td>
<td>1 oz</td>
<td>30 g</td>
<td>17</td>
</tr>
</tbody>
</table>

Substitute the above ingredients and follow the basic procedure. Sift the flour with the cocoa.

### PROCEDURE

1. Cream together the butter, confectioners’ sugar, lemon zest, and vanilla until the mixture is smooth and pale.
2. Add the eggs a little at a time and beat well between each addition.
3. Add the flour. With a plastic scraper, carefully blend into a soft dough.
4. Wrap in plastic film and flatten out. Chill until firm before use.
Fault, causes and troubleshooting

- Tall and flaky!
- Where’s the rest?
- Shrinking
- Soggy Bottom
- Stuck to the Mold
- Runny Pie
ÉCLAIRS AND CREAM puffs are made from a dough called éclair paste, or choux paste.

The French name pâte à choux (pronounced pot a SHOO) means “cabbage paste,” referring to the resemblance of cream puffs to little cabbages.

Unlike puff pastry, éclair paste is extremely easy to make. The dough itself can be prepared in just a few minutes. This is fortunate, because for best baking results the dough should not be prepared more than 1 hour ahead of time.
Pâte à Choux

Proper baking temperatures are important. Start at a high temperature (425°F/220°C) for the first 15 minutes to develop steam. Then reduce the heat to 375°F (190°C) to finish baking and set the structure.

The products must be firm and dry before being removed from the oven. If they are removed too soon or cooled too quickly, they may collapse. Some bakers like to leave them in a turned-off oven with the door ajar.

However, if the oven must be heated again for other products, this may not be the best idea. It may be better to bake the products thoroughly, remove them carefully from the oven, and let them cool slowly in a warm place.
# Essential Basic Pastries Dough in Pastry Kitchen

## Éclair Paste or Pâte à Choux

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>U.S.</th>
<th>Metric</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water, milk, or half water,</td>
<td>1 lb</td>
<td>560 g</td>
<td>150%</td>
</tr>
<tr>
<td>half milk</td>
<td>2 oz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butter or regular shortening</td>
<td>9 oz</td>
<td>280 g</td>
<td>75%</td>
</tr>
<tr>
<td>Salt</td>
<td>0.18 oz (1 tsp)</td>
<td>5 g</td>
<td>1.5%</td>
</tr>
<tr>
<td>Bread flour</td>
<td>12 oz</td>
<td>375 g</td>
<td>100%</td>
</tr>
<tr>
<td>Eggs</td>
<td>1 lb 4 oz</td>
<td>625 g</td>
<td>167%</td>
</tr>
</tbody>
</table>

**Total weight:** 3 lb 11 oz 1845 g 493%

Note: If a sweeter product is desired, add ½ oz (15 g) sugar in step 1.

## Procedure

1. Combine the liquid, butter, and salt in a heavy saucepan or kettle. Bring the mixture to a full, rolling boil.

2. Add the flour all at once. Stir quickly.

3. Over moderate heat, stir vigorously until the dough forms a ball and pulls away from the sides of the pan.

4. Transfer the dough to the bowl of a mixer. Or, if you wish to mix it by hand, you can leave it in the saucepan.

5. With the paddle attachment, mix at low speed until the dough has cooled slightly. It should be 110°F–140°F (43°C–60°C), which is still very warm but not too hot to touch.

6. At medium speed, beat in the eggs a little at a time. Add no more than one-quarter of the eggs at once, and wait until they are completely absorbed before adding more. Do not add all the eggs before checking the texture. The paste should be smooth and moist but firm enough to hold its shape. If the paste reaches this texture before all the eggs are added, stop adding eggs. The paste is now ready for use.
Essential Basic Pastries Dough in Pastry Kitchen

Pâte à Choux
Fault, causes and troubleshooting

**PERFECTLY HOLLOW**
Salting the eggs before incorporating them into the dough makes a strong puff that inflates well.

**POORLY INFLATED**
Mixing salt directly into the dough makes for a weaker puff that doesn’t inflate well.

_Dense_  
_Collapse Cream Puff_  
_Runny_
Essential Basic Pastries Dough in Pastry Kitchen

LAMINATED DOUGH

LAMINATED OR ROLLED-IN doughs contain many layers of fat sandwiched between layers of dough.

Puff Pastry is a rolled in dough without yeast.

In the classic pastry shop, there are two basic rolled-in yeast doughs:

1. Croissant dough (also called Danish pastry dough, croissant-style) resembles a puff pastry with the addition of yeast. It is based on a dough made of milk, flour, a little sugar, and, of course, yeast. The rolled-in butter gives the dough its flaky texture.

2. Danish dough, brioche-style, is a richer dough containing eggs, although it is not as rich in eggs as regular brioche. This dough is also called brioche feuilletée, or flaky brioche.
## ORDINARY PUFF PASTRY

For large-quantity measurements, see page 733.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>U.S.</th>
<th>Metric</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread flour</td>
<td>12 oz</td>
<td>375 g</td>
<td>75</td>
</tr>
<tr>
<td>Cake flour</td>
<td>4 oz</td>
<td>125 g</td>
<td>25</td>
</tr>
<tr>
<td>Butter, softened</td>
<td>2 oz</td>
<td>60 g</td>
<td>12.5</td>
</tr>
<tr>
<td>Salt</td>
<td>0.25 oz</td>
<td>8 g</td>
<td>1.5</td>
</tr>
<tr>
<td>Water, cold</td>
<td>9 oz</td>
<td>282 g</td>
<td>56</td>
</tr>
</tbody>
</table>

**Butter**

1 lb

**Bread flour (see Note)**

2 oz

**Total weight:**

2 lb 13 oz

1410 g

282%

**Note:** The purpose of the second quantity of bread flour is to absorb some of the moisture of the butter and help make the dough more manageable. Omit this flour if shop temperature is cool or if puff paste shortening is used instead of butter.

**VARIATION**

The butter for rolling in may be reduced to 75% or even to as little as 50%. If the butter is reduced, you should also reduce the last quantity of flour (for mixing with the butter) in the same proportion, so it is one-eighth the weight of the butter.

**PROCEDURE**

**MIXING**

1. Place the first quantities of flour and butter in a mixing bowl. With the paddle attachment, mix at low speed until well blended.

2. Dissolve the salt in the cold water.

3. Add the salted water to the flour mixture and mix at low speed until a soft dough is formed. Do not overmix.

4. Remove the dough from the mixer and let it rest in the refrigerator or retarder for 20 minutes.

5. Blend the last quantities of butter and flour at low speed in the mixer until the mixture is the same consistency as the dough, neither too soft nor too hard.

6. Roll the butter into the dough following the procedure shown on pages 320–321. Give the dough 4 four-folds or 5 three-folds.
Essential Basic Pastries Dough in Pastry Kitchen

LAMINATED DOUGH

Figure 1. Puff pastry dough with layers of dough and margarine.

(Pre)dough → Sheeting → Folding

Dough

Margarine
Essential Basic Pastries Dough in Pastry Kitchen

LAMINATED DOUGH

- Pin Wheel
- Vol-au-vent
- Apple pie
- Croissant
- Turnover
- Cream Horn
- Mini Quiche
- Apple Tartlet
Fault, causes and troubleshooting

<table>
<thead>
<tr>
<th>PUFF PASTRY FAULTS AND THEIR CAUSES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FAULTS</strong></td>
</tr>
<tr>
<td>Shrinkage during baking</td>
</tr>
<tr>
<td>Poor lift or rising</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Uneven lift or irregular shapes</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Fat running out during baking (Note: Some fat running out is normal, but it should not be excessive.)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Pastries made from strudel dough or phyllo doughs are even flakier than puff pastries. Unlike puff pastries, these desserts start out with paper-thin layers of dough that are brushed with fat and then stacked or rolled up to make many-layered creations.

**Strudel** is an Eastern European pastry that begins as a soft dough made of strong flour, eggs, and water. After the dough is mixed well to develop the gluten, it is stretched by hand into a very thin, transparent sheet. This is a skilled operation that takes practice to do well.

Phyllo dough (pronounced FEE-lo and sometimes spelled “filo” or “fillo”) is a Greek version of this type of paper-thin dough.

Although not exactly the same as strudel dough, it is interchangeable with strudel dough for most of our purposes. Because it is available commercially, phyllo dough is widely used today for strudel-making. In fact, commercial phyllo is often labelled “phyllo/strudel dough.”
## STRUDEL DOUGH

**Yield:** enough for 4 sheets, each about 3 x 4 ft (1 x 1.2 m)

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>U.S.</th>
<th>Metric</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bread flour</td>
<td>2 lb</td>
<td>900 g</td>
<td>100</td>
</tr>
<tr>
<td>Water</td>
<td>1 lb 2 oz</td>
<td>500 g</td>
<td>56</td>
</tr>
<tr>
<td>Salt</td>
<td>0.5 oz</td>
<td>15 g</td>
<td>1.5</td>
</tr>
<tr>
<td>Eggs</td>
<td>5 oz (3 eggs)</td>
<td>140 g (3 eggs)</td>
<td>15</td>
</tr>
<tr>
<td>Vegetable oil</td>
<td>2 oz</td>
<td>55 g</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total weight:** 3 lb 9 oz 1610 g 178 %

### PROCEDURE

#### MIXING

1. Mix all ingredients into a smooth dough. To develop the gluten well, mix at moderate speed for about 10 minutes. The dough will be very soft.

2. Divide the dough into 4 equal parts. Flatten each piece into a rectangle. Place the 4 pieces of dough on an oiled sheet pan. Oil the top of the dough lightly and cover it with plastic film.

3. Let the dough rest at least 1 hour at room temperature, or longer in the retarder.
Essential Basic Pastries Dough in Pastry Kitchen

STRUDEL AND PHYLLO

Baklava
Apple Strudel
Spanakopita
Phyllo Meat Pie
Mussel Baklava
Milk Pie
Borek