

LEGEND

- direction
- research topic
- conclusion and discussion
- experiments
- safety
- additional information

Hey, cake fans!

How do you bake a **great cake**?

What happens if you leave out an **important ingredient**?

START

Miks pannakse koogi sisse **muna, jahu** või **küpsetuspulbrit**?

NB! Safety precautions!

Be sure to use **oven gloves**! Let the cakes **cool** before tasting.

Leavening agents (e.g. yeast or baking powder) create **air or gas bubbles** in the dough, making the cake **lighter** and **fluffier**.



Eggs contain all vitamins (except vitamin C) and a lot of protein, which makes them one of the best and nutritious foods.



RECIPE A

4 tbsps FLOUR
½ tsp BAKING POWDER
2 tbsps SUGAR
1 EGG
2 tbsps OIL
0,3 dl MILK

1. Beat the eggs with sugar.
2. Add milk and oil.
3. Gradually add flour and baking powder.
4. Pour the mix into cake tins.

DESCRIPTION OF THE EXPERIMENT

Split into **4 smaller teams** (A, B, C, D). Each team uses a different recipe to bake a **cake**.

RECIPE C

4 tbsps FLOUR
½ tsp BAKING POWDER
2 tbsps SUGAR
2 tbsps OIL
0,3 dl MILK

1. Mix together flour, sugar and baking powder.
2. Add milk and oil.
3. Pour the mix into cake tins.

What will cake A be like?

And cake B?

RECIPE B

4 tbsps FLOUR
2 tbsps SUGAR
1 EGG
2 tbsps OIL
0,3 dl MILK

1. Beat the eggs with sugar.
2. Add milk and oil.
3. Gradually add flour.
4. Pour the mix into cake tins.

RECIPE D

½ tsp BAKING POWDER
2 tbsps SUGAR
1 EGG
2 tbsps OIL
0,3 dl MILK

1. Beat the eggs with sugar.
2. Add milk and oil.
3. Gradually add baking powder.
4. Pour the mix into cake tins.

What will cake C be like?

Cake D?

When you fry or bake food at **high temperatures**, they develop a distinct golden crust.



This is caused by **reactions** between certain **amino acids** and **sugars** – the **Maillard reactions**.

FINIŠ

What are the **roles of ingredients**?

Share your cake with all the **other teams**.

Compare different cakes: appearance, smell, consistency and taste

Let every team **rate the cakes on a scale from 1 to 5**

When you use **wheat flour** in a cake, its **baking characteristics** are determined by the amount of **gluten** (a type of protein). Combined with water, it becomes strong and sticky and helps to **„bind“** the cake.

Flour is made by grinding raw grains.

In Estonia, **wheat, rye, oat** and **barley** flour are most commonly used.



KITCHEN CHEMISTRY

How to bake a great cake?
Do you know why we put eggs, flour or baking powder in a cake?

Why do we put **eggs**, **flour** or **baking powder** in a cake?

.....
.....

How do we find it out?

.....
.....

4 DIFFERENT CAKES

A

An ordinary recipe with all ingredients.

B

The missing ingredient:

C

The missing ingredient:

D

The missing ingredient:

Try to guess what the different cakes will be like:

A

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B

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.....
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C

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D

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		TASTE AND RATE			
		A	B	C	D
Rate each cake on a scale from 1 to 5 1 – worst 5 – best					
APPEARANCE					
RISING (fluffiness)					
SMELL					
CONSISTENCY					
TASTE					
TOTAL					

Which cake was your team's favourite? ● A ● B ● C ● D

Without the leavening agent, the cake is... (describe)

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Without eggs, the cake cake is... (describe)

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Without flour, the cake cake is... (describe)

.....

Why do we put the following ingredients in cake?

...eggs

...flour

...baking powder

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