Snack & Maths

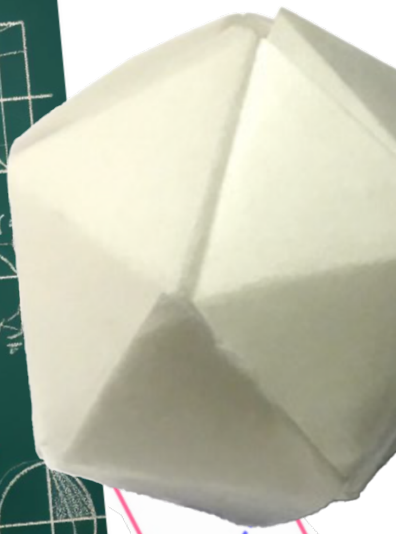
Activity Book #1: Games, Recipes, and Cut-out Templates"

Use the excuse of a snack to talk a bit about math.

Who is this notebook intended for?

For everyone: parents, educators, cooks, middle schoolers, high schoolers, adults, art and culture enthusiasts, libraries, girls, boys, the curious, and Montessori fans. The goal is to indulge in both the mind and the kitchen, while showcasing the beauty of math through culinary art.

From a motivated middle school level to a **bachelor's** level



On the menu, among other things:
Spirals on fruits and vegetables
Cheese that's halfway between the 2nd and 3rd dimensions
Surprising curves with donuts
Have fun with mandarin peelings
Plans to cut pizzas
The recipe for Voronoi toast
Onigiris in origami
A geometry demonstration
Always different cookies
An illusion of calissons
Braided wraps

Snack & Maths

Activity Book – #1

Eva Corot

Hugo Duminil-Copin, mathematician and Fields Medalist 2022 (it's somewhat the equivalent of the Nobel Prize but for mathematics), wrote the following preface:

> *'Mathematics are too abstract!'*
>
> *How many times have I heard this phrase? Yet, passionate about mathematics (which, according to popular cliché, means mainly numbers), I stopped counting a long time ago. For years, I tried to answer this objection, to find a way around it. But I must admit: I was wrong to believe I had tried everything.*
>
> *'Mathematics are too abstract!'*
>
> *This is a ready-made idea that the ingenuity of Eva Corot has shattered to pieces.*
>
> *Our Math-pâtissière invites us to see, feel, and taste mathematics. In her world, geodesics take shape through sugar paste and donuts. Tiling patterns, some of which were discovered just before the creation of this book, turn into cookies you can bite into. And Voronoi tessellations, which I sometimes study in my work as a mathematician, are drawn before our eyes with the help of a clever cracker.*
>
> *After hearing comments about my field for so long, I sometimes feel that mathematicians are seen as beings apart. Strange brains, capable of thinking in incongruous dimensions or imagining complex surfaces without ever seeing them. This mathematical world would be reserved for an elite, trapped in a purely cerebral universe.*
>
> *Yet, I don't recognize myself in this cold and disembodied vision of mathematics. To me, they are made of images and movements. All my senses engage when I seek to understand or create a mathematical idea. It is a profoundly vivid experience, almost*

tactile. And here lies the frustration: conveying this feeling to someone who associates mathematics with mental arithmetic is often an impossible mission. The true beauty of mathematics requires us to surrender to them, to dive into their world and poetry. It is only by doing so that we can truly feel them, live them fully.

Eva Corot manages to bypass this obstacle with brilliance. She performs a real tour de force by materializing mathematics. Thanks to her, her classmates and professors were able to literally 'touch' a vast variety of complex ideas. Her project combines two universal activities—mathematics and cooking—to create a unique experience.

This book is a delicious and scholarly invitation to explore mathematics in a new light. It offers a concrete approach to sometimes difficult concepts, and, along the way, shows that mathematics is not limited to mental arithmetic. But even more, it makes us rediscover the pleasure of learning, without pressure or laborious demonstrations. One simply strolls through, between appetizing creations and fascinating ideas.

Take the time to savor this journey where taste buds and neurons are set in motion. Here, the English expression 'food for thought' takes on its full meaning, both metaphorically and literally.

With a clear love for mathematics and cooking, and a touch of humor, Eva Corot delivers a work that is as delicious as it is inspiring.

Enjoy your reading, and bon appétit!

Hugo Duminil-Copin

Preface translated from French, written for the full French edition.

The goal is to provide a culinary foundation to approach science, to share around a convivial moment. Some recipes are original, others are inspired by existing problems, which are detailed (the full book will be published, translated from the French *Goûter-Maths* book).

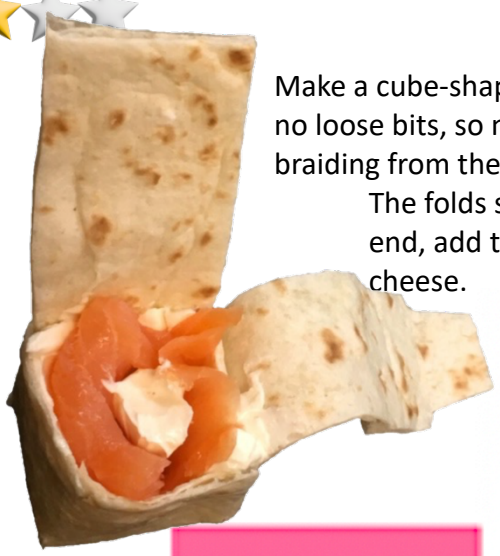
This book is the first collection of talks that started in high school during math class breaks and have since been presented on various occasions for outreach over the past three years. Following the same principle, upcoming books are coming. (To be notified of their release, send an email to eva@corot.top)

For more info, go to corot.top/snack-and-maths

We're counting on you to cook a mathematical dish, whether it's inspired by this book or not. **Send us a photo**, it would make us so happy, or **share it** on social media with the *hashtag*

#SnackAndMaths

The braided cube



Make a cube-shaped sandwich that stands on its own and has no loose bits, so no crumbs. Cut out the template and start braiding from the bottom.

The folds should always go in the same direction. At the end, add the filling, such as smoked salmon with cream cheese. Finish by tucking the flap inside.

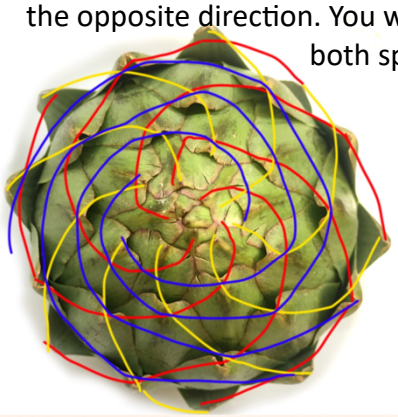
End of the braid

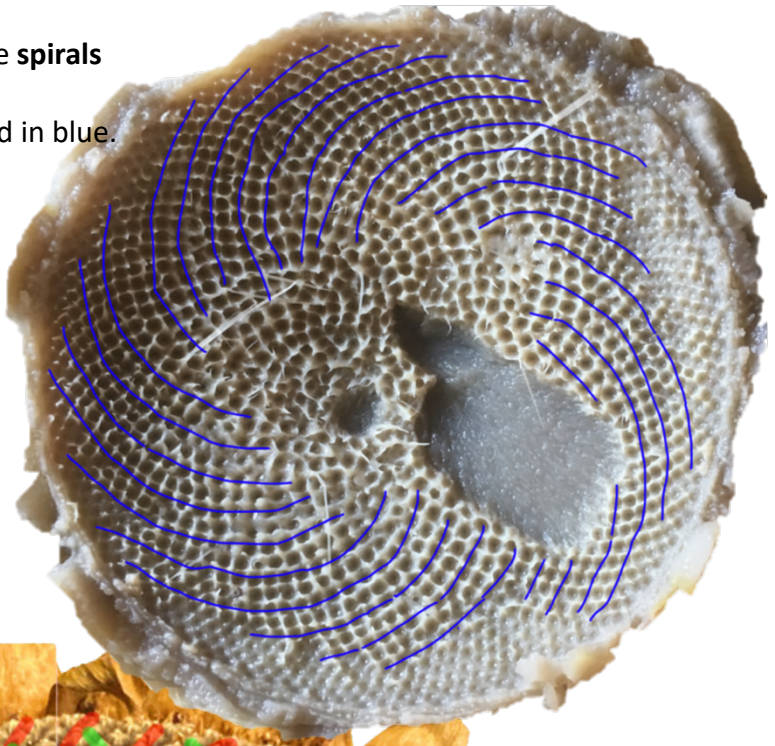
You can cut out 2 from a large circle.

You can also make it from a sheet of Nori (the square seaweed used for sushi). Tip: Let the sheet soften by leaving it in the air for a few days. Once folded, microwave the cube for about 5 seconds, keeping a close eye on the time, to make it crispy again.

Start of the braid

The **artichoke** can count even further. You can count the **spirals** on its leaves, but also on the artichoke heart.
On the right, the spirals in one direction are represented in blue. Count them. Then, with a pen, mark the spirals in the opposite direction. You will be amazed to find that both spiral numbers also follow the Fibonacci sequence.





Number of spirals on the artichoke:

…… and ……

Let's see what happens with sunflower seeds.
Count the two sets of spirals.

Number of spirals:

……
and

……

Have you created recipes with mathematical references?

Whether they are original or inspired by models, perfectly executed or more exploratory, send us photos of your creations at eva@corot.top

Or use the hashtag to share your creations on social media.

#SnackAndMaths

Please add 5 stars on Amazon if you want to share your enthusiasm, if you enjoyed this workbook, or if you learned something from it, so that others can benefit as well. This also helps Amazon know that you like smart books.

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Author: Eva Corot

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