



AGE : 10 - 12

Nutritional Science

Project number: KA201-050529

Activity n°2

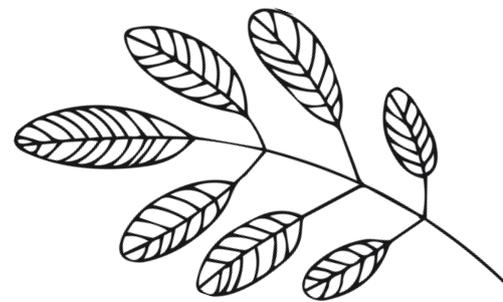
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AGE : 10 - 12

Educator's guide





Introduction

Many young people are addicted to junk food and unhealthy food, manipulated by commercials and by the supermarket chains. In this challenge the youngsters learn to critically analyse what they eat every day. Then they gather their own food and create the most nutritious and beautiful meals and cool street food.

Calendar

The activity can be carried out throughout the school year. Yet harvest time September - December would be best. Then they can visit a permaculture farm or a farmers' market and pick some fresh and healthy produce.

Duration

Total: 16 hours

1 field trip - 4 hours

2 x 2 hours desk research, laboratory work, classroom work, cooking

4 hours project presentations, evaluation and awards

Gamification method(s)

Preparation:

Online Survey (using Google) at the school (parents and teachers can be included).
What is your favourite food?

Students are divided in teams of 2 - 3.

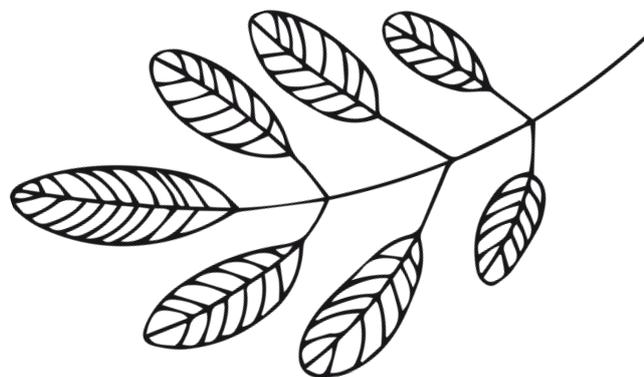
The teacher, responsible for cooking classes, and a team of students go shopping for the favourite junk food. Alternatively, the students or teacher could bring empty packages of junk food.

Back at school, the student teams analyse food labels and find out about the impact on health and complete a chart.

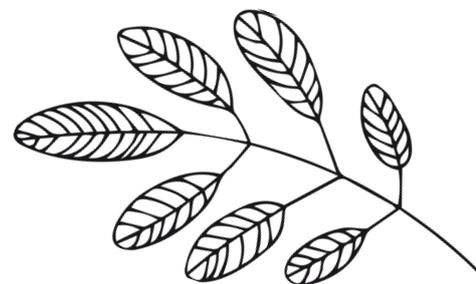
The students write a letter to the supermarket chain and the minister of health about the health hazards of food sold in supermarkets.

Field trip: A teacher and the students visit a Permaculture farm/garden. They interview the farmer about what is healthy food and pick some food to take home. The student teams prepare a short presentation about junk food vs. healthy food. Creative work in the school kitchen: The students prepare healthy cool supper food. Evaluation and awards: The students make short presentations about their findings and pitch their food creations.

Teachers (parents) and students get 10 sticky dots and distribute them to the teams. The three winning teams get packs with seed to plant healthy food. The three winners receive an award - entrance ticket to a local museum.



Preparation



Assisting the students to set up a short Google Survey about what students love to eat - this could be done in an IT class or social science class.

The person in charge of cooking goes shopping for junk food with a group of students: This could be Nutella, a chocolate bar, a pizza, an energy drink, sausage, processed cheese, ketchup,

One field trip to a farmer, who can provide insight into healthy superfood, needs to be coordinated.

The teacher helps to connect the students to the policy makers to send a letter about the food issues.

Challenges that will lead to the completion of the main task:

We make small teams - 2 or 3 people.

Survey/research: 2 - hours

We develop questions for a survey and use Google survey form. We invite our classmates, the school students, the teachers and parents to participate.

Shopping: We make a shopping list for junk food/processed food: 1 item for each team member. The teacher does the shopping with one team. Alternatively, empty packages or food labels could be provided by the teachers.

Research - 4 hours

Analysing labels with food ingredients, nutrients, health and global impact (see worksheets)

Excursion - 4 hours

Equipment: Strong shoes, if it is wet boots, a glass jar and rubber gloves.

Tips for successful facilitation, supervision and organizing:

Cooperation is recommended with biology, chemistry, cooking, social/political studies. It could be useful to invite an expert with expertise in healthy food.

Debriefing outcomes & obtained competences:

The 10 - 12 years old pupils learn how to analyse and understand food labels. They get some insight how the food industry is connected. They develop critical thinking and democratic participatory skills. They become creative to design healthy super foods.

Moment of formal education (optional)

Formal STEM education in biology/chemistry occurs when analysing the food labels and preparing healthy superfood, understanding the connection to a healthy lifestyle. Awareness of what is in the food is very important for public health.

Impact on external stakeholders

Permaculture gardeners, health policy makers, local groceries and supermarkets. **The local media should be informed and invited to the final presentation** or could join the field trip to a permaculture garden.



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Students' worksheet



Introduction

Do you like junk food? We all do, it is in our genes. So let's find out why we like it, what is in the food, what it does to our health and how we can design cool and tasty superfood.

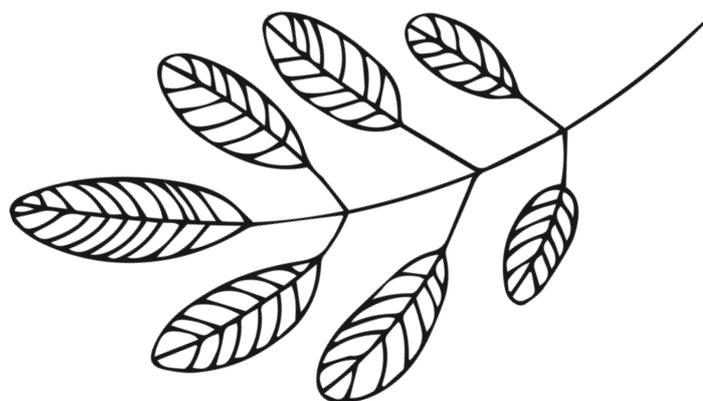
Related STE(A)M theory:

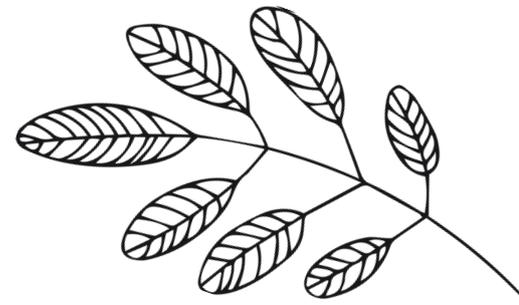
Sciences: Nutrition, Chemistry/Biology, Agriculture, Food Science, Health Arts, cooking: Designing cool healthy food

Key enabling technologies: language skills, digital skills, critical thinking, policy making

Key words

Junk food, healthy food, vegan and vegetarian food, nutritional declaration, ingredients, saturated fat, trans fat, unsaturated fat, Omega 3, cholesterol, sodium, carbohydrates, fiber, sugars, protein, vitamins, minerals, obesity, diabetes, hypertension, allergies, heart diseases





General aim

We want to explore everything about the food we eat and what it does with our body. We analyse food labels and get to know everything about nutrients, vitamins, minerals, food chemicals, health issues. We understand how the global food industry is connected and inform the supermarkets and politicians about the situation. We visit a permaculture garden and learn about superfood. Then we prepare the coolest streetfood. We taste it and pitch our findings.

Educational Objective(s)

- Understand the politics of the global food industry
- Analyse and interpret food labels and declarations
- Remember the ingredients
- Understand the need of nutrients for the soil to grow fruit, grain and vegetables
- Analyse the impact of food ingredients on health - positive and negative
- Learn the impact on food on health problems
- Understand the benefit of local and healthy food
- Create and design super cool and healthy food
- Learn how to take action and influence policy makers
- Evaluate and reflect what you have learned

Suggested Environmental Context

One half-day excursion to permaculture or organic farms, where they learn about healthy nutritious and organic food.

Necessary Equipment and Materials:

- Cameras (or Iphone/Ipad) to document everything: the junk food and drinks, the health food for the presentations.
- Selection of junk food
- Healthy food from the permaculture farm
- Computers with Internet for the survey, to do research and to present.
- Electronic worksheet for the analysis

Media and Resources

<https://www.scienceabc.com/humans/why-do-we-love-unhealthy-foods-so-much.html>

<https://foodrevolution.org/blog/food-and-health/fast-food-health-risks/>

https://www.ted.com/talks/birke_baehr_what_s_wrong_with_our_food_system

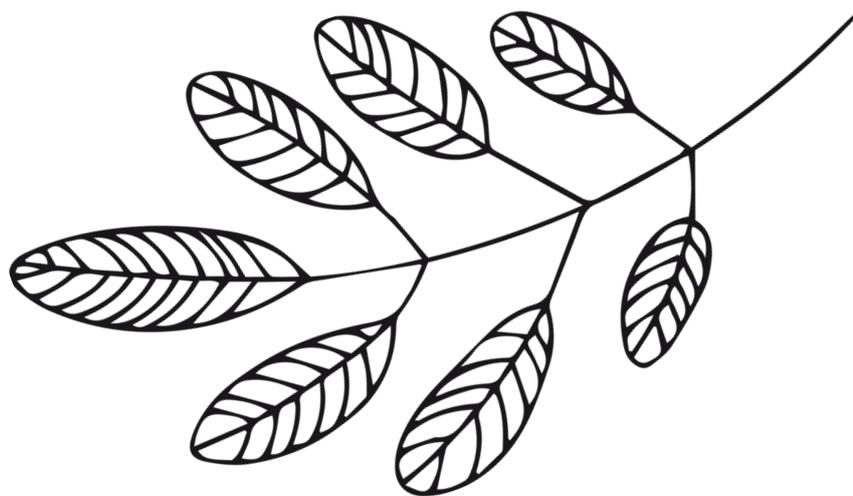
https://www.ted.com/talks/jamie_oliver_teach_every_child_about_food/transcript

<https://food-forest-cookery.tumblr.com/post/180495828538/delicious-breakfast-from-the-food-forest-with>

<https://www.healthline.com/nutrition/true-superfoods#section17>

<https://www.hsph.harvard.edu/nutritionsource/superfoods/>

LivingSTEM - Deck of Cards



Tasks

We visit a permaculture garden/forest/farm, learn all about healthy local superfood and take some back to school.

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Final event - 4 hours

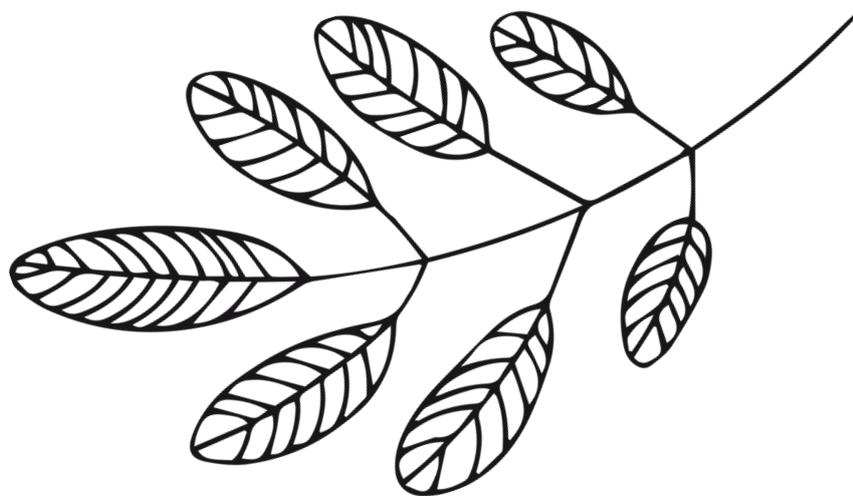
In the school kitchen we prepare a cool and healthy superfood dish - this can be a starter, a main dish, a dessert, some sweets, a drink, ...

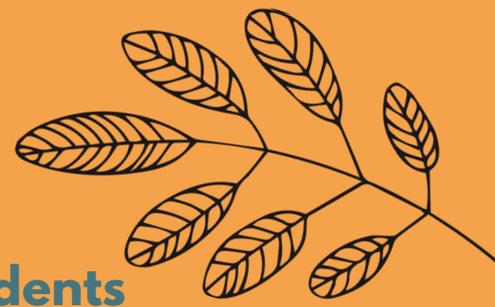
We prepare a little pitch, presenting our research results and our creative productions.

We pitch - 5 - 7 minutes each team!

The teachers/students (parents) get 10 sticky dots and distribute these to the teams.

The three winner teams get some seeds to plant their own healthy food.

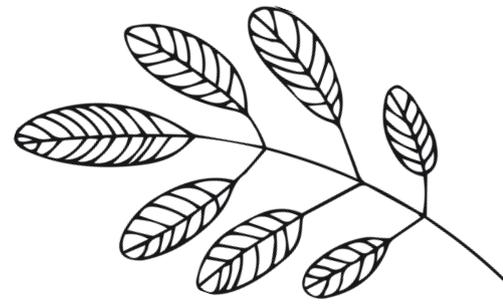




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Worksheet - each team of students analyses 3 junk food items:

	Junk food 1: e.g. Nutella	Junk food 1: e.g. energy drink	Junk food 3: e.g. Pizza	Recommended daily	Health impact
Nutrients					
Calories					
Total fat					
Saturated fat					
Unsaturated fat					
Trans fat					
Total Carbs					
Fiber					
Sugar					
Protein					
Vitamins					
A					
B12					
C					
Minerals					
Calcium					
Iron					
Zinc					
Food additives (Es)					
Carrageen					
Emulsifiers					
Ingredients					
Sugar					
Glucose					
Fructose					
Salt					
Palm oil					



Some hints

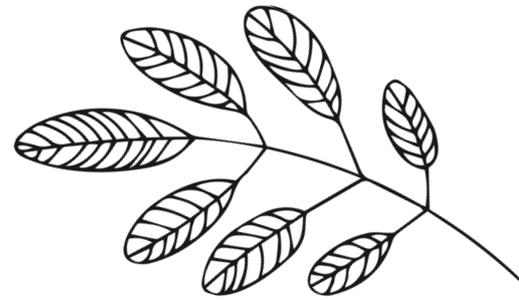
<https://www.scienceabc.com/humans/why-do-we-love-unhealthy-foods-so-much.html>
<https://foodrevolution.org/blog/food-and-health/fast-food-health-risks/>
https://www.ted.com/talks/birke_baehr_what_s_wrong_with_our_food_system
https://www.ted.com/talks/jamie_oliver_teach_every_child_about_food/transcript
<https://food-forest-cookery.tumblr.com/post/180495828538/delicious-breakfast-from-the-food-forest-with>
<https://www.healthline.com/nutrition/true-superfoods#section17>
<https://www.hsph.harvard.edu/nutritionsource/superfoods/>
<https://bodynutrition.org/processed-foods/>
LivingSTEM - Deck of Cards

Safe and security checklist

Washing the hands frequently, the students should not eat too much of the junk food and children with allergies should be careful, with what they eat.

(Note: This should be in alignment with safe and security checklist, given within the LivingSTEM Manual, Chapter 8)

Project's partners



Générations.bio

Générations.Bio (Belgium)

Web: www.fermebiodupetitsart.be



LogoPsyCom (Belgium)

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The Polish Farm Advisory and Training Centre (Poland)

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Facebook: @MakingProjectsCEPS, @TransitProjectes