

# TEMPLATE for BEST PRACTICE EXAMPLES - SOLVED TASK

## 1. Name of the task: EXOTIC JAM

## 2. Why did you choose this task?

This task was chosen because of its diverse interdisciplinary integration and creative solution as well as its connection to today's Lithuanian cooking traditions.

3. **Subjects covered from STEAM areas:** mathematics, design and technology, information and communication technology, chemistry, biology, physics, geography.



4. **Target group (age range and size of the group):** 14 years old, 30 students.

5. **Duration of the activity:** 15 lessons.

## 6. Key words:

Creativity, integrated lessons, jam, cooking temperature to jam set, decorated jam jars.

## 7. Key sentence describing the context of the activity, followed by a short description (200 words):

### The jam-making process.

Students will create a business plan, find the products they need in the supermarket and make jam. They will notice and understand the chemical and physical phenomena involved in the process. Students will discover that pectin plays a key role in the texture of the jam. They will find out where it is possible to use "Proportional Division" in life and learn how to decorate jars with modeling and decoupage techniques.

7.1. Writing a plan to create/establish a company "Magic Jam", making a calculation of the sum needed to produce jam. The shares of the company will be sold and money will be used for the production of jam.

7.2. Creating a recipe for the exotic jam.

7.3. Buying the products for the project: such as glass jars with lids and tools for decoration. Tasks will be provided with QR codes.

7.4. Distributing activities:

- integrated math and geography lesson in the supermarket;
- integrated physics and chemistry lessons in the laboratory;
- preparation for a jar decoration, drawing sketches;
- products preparation for making jam, cooking it, canning.

7.5. Public project presentation, tasting, and selling magic jam.

7.6. Presenting all activities, impressions and involvement by using the World Café method.

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### 8. Description of the activity environment, including the list of materials and tools needed:

Activity environment: supermarket, pro-gymnasium canteen, technology (kitchen, workshops), chemistry-physics, other subjects' rooms, outdoor class - "Winter Garden Class".

Materials and tools: jam ingredients (apples, oranges, pumpkins, lemons, sugar), modelin, acrylic paint, decoupage napkins, glue, laboratory flasks, thermometers, spirit bulbs, scales, pots, wooden sticks, jars with lids.

### 9. Step by step, detailed description of the activity, including teaching and learning strategies:

9.1. Students write the plan to create a "Magic Jam" company. Calculate how much money will be needed to produce this jam. Sell shares of the company and use received money for the production of the jam.



9. 2. Creating a recipe for the exotic jam.

**INGREDIENTS**

- 6 KG APPLES
- 2 KG PEELED ORANGES
- 1,5 KG BUTTERNUT SQUASH
- 200 GR. ORANGE PEELS
- 2 GREEN LIMES
- 3 KG SUGAR

**DIRECTIONS**

- WASH THE FRUIT, PEEL SQUASHES AND ORANGES. CHOP ALL THE FRUIT. ORANGE PEELS ARE SCALED. PREPARED FRUIT PLACE IN A SAUCEPAN AND HEAT UNTIL THE JUICE APPEARS. ADD SUGAR. COOK, STIRRING OVER LOW HEAT FOR ABOUT 2 HOURS UNTIL THE JAM THICKENS. POUR BOILED JAM INTO HEATED JARS.

9. 3. Go to the supermarket to buy products, jars with lids and tools for decoration. Tasks are presented with QR codes.





ORIGIN OF THE INGREDIENTS



Lithuania



Spain



Turkey



Lithuania

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9. 4. Distribution of the activities. Students are divided into teams.
- Integrated math and geography lesson in the supermarket;
  - Integrated physics and chemistry lessons;



- Jars preparation for drawing sketches and decoration;



- Products preparation, cooking, canning;



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Teaching and learning strategies:

Students find and pick up the right products in the supermarket by using the QR generators.

To identify and understand the chemical and physical processes laboratory research was performed.

The structural appearance of the jam was observed using a smartboard and 3D image. It was convinced that pectin plays a very important role in the texture of the jam.

To decorate jars modeling and decoupage techniques were used.



## 10. Learning objectives/competencies:

To develop students' creativity, initiative, cognition and communication competencies.

- Create a business plan, select ingredients and determine their origin.
- Demonstrate the chemical and physical phenomena that occur during jam cooking (integrated chemistry and physics lessons “Chemical and physical phenomena in jam production”).
- To find out how pectin affects jam (chemistry "Pectin meaning").
- Calculate the ratio of sugar to jam (mathematical proportional distribution).
- Prepare jars for canning and decorating (technologies “Canning and decorating”).

## 11. Evaluation/Assessment guidelines:

Students gain knowledge about the cost of making jam as well as decorating jars and calculating sales profit by writing the business plan. Individual progress was evaluated by using a self – assessment sheet.



SELF - EVALUATION								
NIP - Child's individual progress self-assessment sheet		Student name, surname, class						
Date	My role in a business	Preparing for the lesson Punctual and well-organized for school work	The outcomes for me/our team Design, thinking, practical work	My role in the team Participate in the team work	The role of the team Cooperation, communication, teamwork	Learning for others Encouragement, trust, cooperation, management of the group	Role of group	Teacher evaluation

## 12. Lessons learned:

1. To plan and create a “Magic Jam” company; to calculate how much money is needed to produce jam. To sell the shares of the company and make money for the production.
2. To create a recipe for the exotic jam.
3. To buy ingredients, jars with lids and tools for decoration.
4. To work in teams, participate in these activities:
  - Integrated math and geography lesson in the supermarket;
  - Integrated physics and chemistry lessons in research laboratory;
  - To prepare the jars for decoration, drawing sketches;
  - To prepare products for jam; jam cooking, canning.

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5. To present and sell exotic jam to the public.
6. To present their process of activities and impressions by using the World Café method.



### 13. Additional information/Links:

[https://drive.google.com/file/d/1APDNjDswq9HbzW8vokbB\\_cDqNkYLc\\_yg/view](https://drive.google.com/file/d/1APDNjDswq9HbzW8vokbB_cDqNkYLc_yg/view)

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