

TEMPLATE for BEST PRACTICE EXAMPLES - SOLVED TASK



1. Name of the task: **How do objects of different shapes move?**
2. Why did you choose this task?

I chose to do this task with my students because the subject of Physics "Movement" is included in the new primary education curriculum. The area "Movement" for children is quite complicated and difficult to understand. I think this challenge has helped students better understand the patterns of movement. The exclusivity of the task is that almost all the activities were done by the students on their own, with minimal help from the teacher.

3. Subjects covered from STEAM areas:

Cognition of the world, mathematics, art and technology, civic education.

4. Target group (age range and size of the group):

6-7 years, grade 1a, 24 students

5. Duration of the activity:

Duration of educational activity 3 hours.

6. Key words:

STEAM, movement of objects, geometric shapes, practical activities.

7. Key sentence describing context of the activity, followed by short description (200 words):
Through the experiment, students find out how objects of different shapes move in an inclined plane. The inclined plane is made by the students themselves from secondary raw materials and items in the classroom. Geometric shapes (or geometric bodies) are mold from plasticine. Students make a hypothesis. The experiment finds out independently how objects of different shapes move (straight, in a circle, in an arc). Students draw conclusions. They tell what determines the movement of objects of different shapes in the inclined plane. The facts justify whether the hypothesis was confirmed. An important point is that this activity develops the awareness of sustainability, that the temporary structure does not require the use of new objects, that the inclined plane built from waste can be used many times for other experiments.

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

Measures. Secondary raw materials: empty boxes. Items in the classroom: Lego blocks, books, pencils, chairs, and more. Plasticine.

Educational methods. Inclusive story, review of filmed documentary, practical activities, work in pairs, discussion.

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

Learning strategy.

I stage. Introduction to the concept of "inclined plane". Review and comprehension of filmed documentary where the inclined plane is used in practice.

Phase II. Presentation of the necessary tools for the experiment (conversation-discussion about secondary raw materials, interpretation of the concept of sustainability). Production of a inclined plane in pairs from secondary raw materials and items in the class.

Stage III. Molding of plasticine items of different shapes.

Stage IV. Raising the hypothesis of how objects of different shapes move (straight, arc, circle).

TEMPLATE for BEST PRACTICE EXAMPLES - SOLVED TASK

Stage V. Performing the experiment.

Stage V. Conclusion: whether the hypothesis was successfully raised. Reflection: what's hard, what's new, what I liked, and so on.

Based on the activities, the film “The STEAM challenge. How do objects of different shapes move? ”: <https://www.youtube.com/watch?v=O9PfxOlnPf8>



Figure 1-4. Examples of manufactured inclined planes

TEMPLATE for BEST PRACTICE EXAMPLES - SOLVED TASK

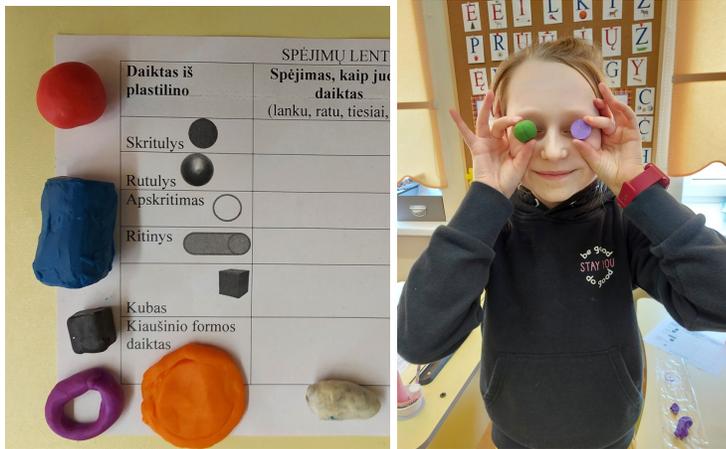


Figure 5-6. Items of various shapes are made of plasticine

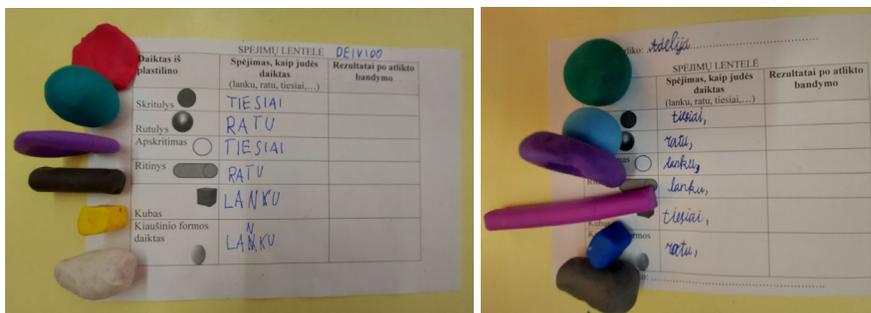


Figure 7-8. Hypothesis testing



Figure 9-10. Performing the experiment.

10. Learning objectives/competencies:

Purpose. Make an inclined plane and figure out how objects of different shapes move.

Tasks of integration subjects.

Science - performing an experiment.

Mathematics - explaining concepts; inclined plane, three-dimensional shapes - ball, roll, oval, circle, cube, etc.

Art and technology - to learn how to make an inclined plane and different shapes of plasticine.

Civic education - to understand that secondary raw materials and items in the classroom can be used to make an inclined plane. Realize that a temporary structure does not require the use of new objects, that an inclined plane built from waste can be used many times for other experiments.

TEMPLATE for BEST PRACTICE EXAMPLES - SOLVED TASK



11. Evaluation/Assessment guidelines:

Conclusions:

- Throughout the activity, the children worked actively, explained the challenge in a practical way, understood the successes and failures of their work, and offered new solutions.
- Introduction to the concept of "inclined plane".

12. Lessons learned:

The challenge for teachers is that children have not been able to accurately remove objects of various shapes from plasticine. And this is an important moment in the experiment, which explains the movement of objects, so I had to use objects of different shapes in the classroom.

13. Additional information/Links:

-

14. Contact person:

Danguole Saviciene, danguole.saviciene@gmail.com, Visaginas Verdenė Gymnasium. Lithuania.