

Didactic Scenario

1. Title

Balls in Slow Motion

2. Keywords

Camera, Action, Slow Motion, Teamwork

3. Basic Information

STEAM Subject: Technology, Science

Typical interaction time with the instructional scenario in teaching hours for in-school work:
45 minutes

General description of the scenario:

<u>Phases</u>	<u>Stage</u>	<u>Time</u>
Introduction to the tools	Preparation	15 minutes
Testing and capturing	Implementation	20 minutes
Closing	Evaluation	10 minutes

Age group: 1-4 grades

Estimated difficulty level:

Very Easy	Easy	Moderate	Challenging	Very Challenging
		X		

Teaching resources

Material: Rubber Balls, Plastic Balls, Paper Balls, Hard ground, Pile of Flour, Transparent containers with water for each student.

School infrastructure: Tablets/Phones, room for dirty experiments.

Additional material from external sources/online tools:

Any app that can create slow-motion video.

About rubber:

<https://www.elastoproxy.com/physical-properties-of-rubber-basics-for-buyers-and-designers/>

About plastic:

<https://www.vedantu.com/chemistry/properties-of-plastics>

About paper:

<https://www.britannica.com/technology/papermaking/Paper-properties-and-uses>

Differentiated Instruction for students of differing abilities and learning styles in the same class: N/A

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4. Educational Problem

Most of the time students do not know the properties of different materials and how they react with other materials during some very specific cases. In pop culture, we can see a lot of movie scenes where the character falls on the haystack or in the water from very tall heights and makes it alive. But the reality is different.

5. Learning Objective (-s)

1. Learning about different materials and their properties.
2. Experiment with different materials to find out which one's damage each other more or help to make less damage during the impact.
3. Teaching students how to use video-capturing devices and applications for research reasons.

6. Phases of the Scenario

Phase 1		
Title: Introduction to the tools		
Indoor	Outdoor	Mixed
		X
Phase duration in minutes: 15 minutes		
Detailed description of the scenario phase: With the help of the slide presentation: -Teacher introduce balls and their properties to the students, how it differs from one another. -Teacher introduce surfaces and their properties to the students, how it differs from one another. -Teacher and students have a little discussion about where these materials are used in real life, do students have it now on their clothes, etc.		
Activity sheets: N/A		
Phase 2		
Title: Testing and capturing		
Indoor	Outdoor	Mixed
		X
Phase duration in minutes: 20 minutes		
Detailed description of the scenario phase: -By working in pairs, students experiment with different balls and surfaces. -With teacher's selected app, teams create slow-motion videos and analyze what happened during the impact, how it looked, what happened to the tools.		
Activity sheets: N/A		
Phase 3		
Title: Closing		
Indoor	Outdoor	Mixed
		X

Phase duration in minutes: 10 minutes

Detailed description of the scenario phase:

-The teacher together with students has a short reflection on what happened, what students learned, how they can use this knowledge in the future, etc.

Activity sheets: N/A

7. Evaluation Methodology

Open discussion about the topics covered and by following questions such as “What happened?”, “What did we learn today?”, “Where we can use these new methods?”, “How did I feel during the learning process?” etc.

8. Additional Resources for the teacher

- Slides
- Activity sheets
- One pager notes