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Title of the STEPAM Unit: A Journey Through Time – Transformers

AUTHORS (NAMES /SCHOOL / COUNTRY): EXPERIENCE WORKSHOP, JAGODINA

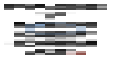
RELATED SUBJECTS	AGE GROUP OF THE STUDENTS	TOTAL ACTIVITY TIME	LEARNING OBJECTIVES DURING THE LESSON SUBJECT-SPECIFIC COMPETENCIES	LEARNING OBJECTIVES AFTER THE LESSON
Science, Mathematics, Engineering, Physical Education, Arts	1st-4th grade (6 to 11 years old)	90 minutes	Understand time measurement concepts: millennium, century, decade. Learn to organize historical events and inventions on a timeline. Compare the evolution of technology (e.g., toys, cars). Apply math-related time calculations to real-world contexts. Engage in physical activities to reinforce historical and mathematical learning. Imagine and	Students can organize events in chronological order on a timeline and apply time measurement concepts to problem-solving. Students can explain how technology and inventions evolve over time, at the same time that they will have improved coordination and teamwork skills. Students can design

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			create futuristic inventions using recyclable materials.	and present creative models of future inventions.



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OVERVIEW: TOPIC & PURPOSE

This unit allows students to explore the **concept of time measurement** by analyzing **the evolution of toys and cars**. Through a mix of **math, history, and engineering**, students will:

- **Construct timelines** of inventions.
- **Participate in a timeline relay** to reinforce time intervals.
- **Engage in a laser maze challenge** to develop coordination and teamwork.
- **Create models of futuristic inventions** using recyclable materials.

By the end of the lesson, students will have an improved understanding of how **technology has evolved over centuries and how future inventions might look**.

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ACTIVITY PREREQUISITES -

STEAM ELEMENTS

ELEMENT 1: context presentation	What is a timeline? How does it help us organize events? How have toys and cars changed over time? How does technology influence daily life and future inventions?
ELEMENT 2: creative design	Creating historical timelines with inventions. Using math skills to calculate time differences between inventions. Designing and building futuristic toy/car models using recyclable materials.
ELEMENT 3: emotional and social learning	Teamwork & cooperation in relay activities. Developing focus and coordination in the laser maze challenge. Communicating ideas through presentation of futuristic designs.

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STEAM SUBJECT ELEMENTS

STEAM SUBJECTS	SCIENCE	TECHNOLOGY	ENGINEERING	Physical Education	ARTS	MATHEMATICS
SHORT INTRODUCTION TO RELATED SUBJECT ELEMENTS	Exploring technological evolution of toys and vehicles over time.	Using the internet to research the history of inventions.	Designing and building models of futuristic toys and cars.	Enhancing motor skills and coordination in relay and laser maze activities.	Designing and crafting futuristic models using recyclable materials.with different materials.	Measuring time intervals (decades, centuries, millennia) and organizing data in a timeline.

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SYLLABUS

LESSONS	SUBJECTS	TOPIC OF THE UNIT	LEARNING OBJECTIVES DURING THE LESSON: SUBJECT SPECIFIC COMPETENCIES	LEARNING OBJECTIVES AFTER THE LESSON: STEAM COMPETENCIES
1	**Science, Mathematics, Engineering, Arts**	**Timeline Creation & Math Calculations**	- Understanding time intervals. - Placing inventions in chronological order. - Solving math problems related to time measurement.	- Students can create a timeline and explain historical changes. - Students improve time-related math problem-solving skills.

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2	**Physical Education, Engineering, Mathematics**	**Timeline Relay & Laser Maze Challenge**	- Using movement to reinforce time intervals. - Navigating a laser maze to improve coordination.	- Students develop motor skills and teamwork. - Students apply physical activity to learning historical concepts. The students apply their geometrical knowledge in everyday life
2	**Science, Engineering, Art**	**Future Inventions: Creativity & Design**	Designing futuristic inventions. - Exploring how inventions evolve.	- Students can predict and creatively design new inventions. - Students can apply historical trends to future innovation.

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INSTRUCTIONAL PLAN BY LESSON

LESSON Grade 3-4 Science, Engineering, Physical Education, Art (Language) and Mathematics

TIME PLAN	TEACHING & LEARNING ACTIVITIES	MATERIALS	LEARNING OBJECTIVES
INTRODUCTION **(5-10 minutes)**	Introducing the concept of **timelines and inventions** through a discussion and visual examples.	Timeline cards, large paper, markers	Students understand historical periods and time intervals.
LEARNING ACTIVITIES **(60-70 minutes)**	**Activity 1: Timeline Math Activity** Students arrange invention cards on a timeline and calculate time differences.activity, e.g.through group competition.	Long paper strips, invention cards, markers	Students apply time measurement skills and understand invention history.
	Activity 2: Timeline Relay Race Students run to place invention cards under the correct century.	Cones, invention cards	Students reinforce learning through movement and problem-solving.
	Activity 3: Laser Maze Challenge Students navigate a maze of ropes while answering time-related questions.	Ropes, invention cards	Students develop motor skills and teamwork.

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	Activity 4: Future Inventions Students draw and build models of futuristic toys/cars.	Recyclable materials, markers, glue	Students use creativity and engineering skills to apply knowledge to future technology.
WRAP-UP & EVALUATION (15-20 minutes)	Presenting and reflecting on **timelines, relay results, and futuristic designs**.	~~Completed projects, timeline posters~~	Students summarize key concepts and present their work.

EVALUATION PLAN BY LESSON

LESSON/ACTIVITY	EVALUATION CRITERIA	EVALUATION METHOD
1	Did students correctly place inventions on the timeline?	Observation, reviewing timelines
2	Did students correctly calculate time intervals?	Math problem-solving assessment
3	Did students engage in the relay and laser maze?	Observation of participation
4	Did students present creative future invention models?	Presentation and peer review

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NOTES -

ACTIVITY SHEETS TO BE LINKED -

EVALUATION MATERIALS TO BE LINKED -

REFERENCES / SUPPORTING MATERIALS TO BE LINKED

PDF / PPT slides:

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