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Title of the STEPAM Unit: Human Mandala (PE + STEAM Integration with Music)

AUTHORS (NAMES /SCHOOL / COUNTRY): UNIVERSITY OF JYVÄSKYLÄ

RELATED SUBJECTS	AGE GROUP OF THE STUDENTS	TOTAL ACTIVITY TIME	LEARNING OBJECTIVES DURING THE LESSON SUBJECT-SPECIFIC COMPETENCIES	LEARNING OBJECTIVES AFTER THE LESSON
Physical Education, Music, Arts, Mathematics	Grades 3-5 (Approx. 8 to 11 years old)	45-60 minutes	• Coordinating movement in sync with peers • Recognizing patterns and symmetry through body movement • Developing teamwork and spatial awareness • Expressing creativity through dance and formation	• Students can create and replicate symmetrical human patterns • Students understand the concept of mandalas and pattern formation • Students reflect on cooperation and group synchronization

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OVERVIEW: TOPIC & PURPOSE

In this unit, students will explore the creation of human mandalas—symmetrical group formations inspired by mandala art—through movement and music. The activity fosters teamwork, spatial reasoning, and rhythmic coordination. Students engage in forming shapes using their bodies while keeping in sync with peers and musical rhythm. This kinesthetic approach strengthens pattern recognition and symmetry concepts in an engaging and creative setting.

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ACTIVITY PREREQUISITES -

STEAM ELEMENTS

ELEMENT 1: context presentation	• Introduction to mandalas as circular, symmetrical patterns found in nature and art. • Use of music to explore rhythm and synchronization. • Discussion on how patterns can be created through movement.
ELEMENT 2: creative design	• Formation of human mandalas using physical movements. • Students perform rhythmic and symmetrical movement patterns. • Groups create mini-mandalas and explore embedded formations.
ELEMENT 3: emotional and social learning	• Developing collaboration, communication, and peer feedback. • Emphasis on respect, inclusion, and creativity within the group. • Learning how to follow and lead group activities.

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STEAM SUBJECT ELEMENTS

STEAM SUBJECTS	SCIENCE	TECHNOLOGY	ENGINEERING	Physical Education	ARTS	MATHEMATICS
SHORT INTRODUCTION TO RELATED SUBJECT ELEMENTS	Spatial reasoning, natural patterns	(Optional) Video recording for playback/reflection	Structuring group movements for stable and clear formations	Motor skills, agility, rhythmic movement coordination	Pattern design, symmetry, human geometry	Rotational symmetry, circle geometry, pattern repetition

SYLLABUS

LESSONS	SUBJECTS	TOPIC OF THE UNIT	LEARNING OBJECTIVES DURING THE LESSON: SUBJECT SPECIFIC COMPETENCIES	LEARNING OBJECTIVES AFTER THE LESSON: STEAM COMPETENCIES

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1	PE, Music, Arts	Human Mandala Creation	Coordinated movement, forming patterns	Symmetry recognition, teamwork skills.	

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)**	• Sit in a large circle, hold hands. • Discuss mandalas and show visual examples. • Introduce symmetrical stretching movements in the circle.	• Music player and selected music (calm, rhythmic music that promotes focus) • Visuals of mandalas	1. **Coordinate** movements in sync with peers based on the teacher's lead. 2. **Form and memorize** symmetrical movement patterns in a group setting.

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LEARNING ACTIVITIES **(25–30 min)**	• **Group Movements in Unison:** Follow teacher-led rhythmic movements. • **Mini Mandala Formation:** Groups form smaller shapes and practice embedded patterns. • **Human Mandala Dance:** Each group performs a flowing, musical sequence.	• Open space (indoor gym or outdoor area) • Camera or tablet (optional, to record or capture pictures of the formations) • Floor mats (optional for comfort)	3. **Create and perform** complex, synchronized human mandalas using musical rhythm. 4. **Understand** the concept of symmetry and pattern formation in a creative and cooperative environment.
WRAP-UP & EVALUATION **(15-20 minutes)**	• Group performances with optional video. • Reflect on what made formations symmetrical and challenging. • Peer feedback and class discussion.		

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EVALUATION PLAN BY LESSON

LESSON/ACTIVITY	EVALUATION CRITERIA	EVALUATION METHOD
1	Coordination and synchronization	Teacher observation
	Symmetry and creativity in formations	Observation and peer feedback
	Reflection on group collaboration and rhythm	Self-assessment and discussion

NOTES -

ACTIVITY SHEETS TO BE LINKED -

EVALUATION MATERIALS TO BE LINKED -

REFERENCES / SUPPORTING MATERIALS TO BE LINKED

PDF / PPT slides:

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