	Grade / Age: Secondary School Students (Grades 9-12 / Ages 14-18)
	Topic: Activating Learning Through Embodied Methods **Subject area:** Mathematics, Sciences, Arts **Keywords:** Embodied Learning, Kinesthetic Intelligence, Active Participation, Creativity, Collaboration, STEAM **Single/team work:** Both (Individual Exploration and Team Collaboration) **Language:** English (can be adapted to other languages) **Duration:** 4-6 weeks

Description of the Task:
Moving Minds: A Journey Through Embodied Learning in Mathematics, Sciences, and Arts

Students will work in interdisciplinary teams to create an interactive STEAM exhibition that incorporates embodied learning methods. The project will include the following stages:

Research Phase: Teams will research embodied learning methods and choose specific concepts in mathematics, sciences, and arts to represent.

Planning Phase: Students will plan interactive exhibits that utilize physical movement, dance, or hands-on activities to explain the chosen concepts.

Creation Phase: Teams will create their exhibits, incorporating physical engagement, creativity, and collaboration.

Exhibition Phase: The class will host an interactive exhibition, inviting other students and teachers to participate in the embodied learning activities.

Evaluation Phase: Teams will gather feedback, reflect on the effectiveness of their exhibits, and write a report on their findings.

Objective: Enhance learning experience through embodied learning methods involving free body movement and physical activities in STEAM education. Foster active participation, engagement, memory retention, spatial awareness, creativity, innovation, physical health, and collaboration.

Methodology: Implementation of embodied learning activities that encourage free body movement, physical engagement, kinesthetic intelligence, creativity, collaboration, and well-being.

Tools Used: Various physical tools and activities tailored to specific STEAM subjects (e.g., geometric shapes for mathematics, physical simulations for sciences, creative movement for arts).

Learning Outcomes: Improved understanding of complex concepts, enhanced spatial awareness and coordination, stimulated creativity and innovation, promoted physical health and well-being, fostered communication and teamwork, holistic and multi-sensory approach to learning.

Impact on STEAM Education: Embodied learning offers a transformative approach to STEAM education, making learning more interactive, enjoyable, and effective. It aligns with contemporary research (Fenyvesi et al, 2022) on the benefits of physical engagement and kinesthetic intelligence in education, providing a comprehensive and innovative learning experience.

Solutions of the Task:
The solution will vary depending on the chosen concepts and embodied learning methods. Students will be assessed on their research, creativity, collaboration, final exhibits, and reflection.

Prior knowledge:
Understanding of the chosen concepts in mathematics, sciences, or arts. Familiarity with embodied learning methods.

Comments:
This project fosters creativity, critical thinking, collaboration, and active participation. It integrates mathematics, sciences, and arts through a hands-on, kinesthetic approach. Teachers may need to provide training or resources on embodied learning methods.

Connection to other subjects/topics/areas:

Mathematics: Physical representation of mathematical concepts, spatial reasoning.
Sciences: Hands-on exploration of scientific principles, physical simulations.

Arts: Dance, creative movement, visual and auditory representation of artistic concepts.

Physical Education: Coordination, spatial awareness, physical health, and well-being.

Language Arts: Research, presentation skills, written reflection, communication.

This activity provides a unique, interdisciplinary experience that engages students in a meaningful, real-world project, allowing them to explore the connections between

embodied learning methods and STEAM education. It encourages students to think creatively and work collaboratively, fostering a holistic approach to learning.