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LESSON/ UNIT PLAN

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Title: ***The History of Instruments for Measuring Time***

School subjects: Physics, History, Geography, Technology, ICT

Level: 12 years old (6th Grade)

Language: Romanian

Short description: The lesson plan is complex, but the teacher decides, depending on the class, what activities to do with the students. It is important for students to understand that time is a concept that is not only related to physics, but also to history, technology, and the evolution of humanity and scientific discoveries.

Estimate time: 2 hours (120 minutes)

Tags: time, clocks, sundials, hourglasses

Learning objectives:

By the end of this lesson, students will be able to:
1. Describe the evolution of timekeeping instruments from ancient to modern times.
2. Identify key innovations in timekeeping technology and their impact on society.
3. Analyze how the measurement of time has influenced various fields such as science, technology, and daily life.
4. Create a project that illustrates understanding of a specific timekeeping instrument and its historical context.

Process:
Materials Needed:
- Presentation slides (PowerPoint or Google Slides)
- Photographs and diagrams of timekeeping instruments (clocks, sundials, hourglasses, etc.)
- Art supplies (poster boards, markers, craft materials)
- Access to the internet or library resources
- Research worksheets

Lesson Activities:
Activity 1: Introduction to Timekeeping (30 minutes)
Objective: Introduce students to the concept of time and its measurement.

Procedure:
1. Begin the lesson with a discussion: What is time? How do we measure time in our daily lives?
2. Present a brief timeline of timekeeping devices, starting with natural events (sunrise, seasons) and moving through ancient instruments (sundials, clepsydra) to modern devices (atomic clocks).
3. Highlight key inventions and innovations in a visually engaging manner.
Expected Outcome: Students gain a foundational understanding of how the need to measure time has led to various innovations.

Activity 2: Research and Presentation (30 minutes)
- Objective: Deepen understanding of a specific timekeeping instrument.
- Procedure:
  1. Divide students into groups of 3-4 and assign each group a different timekeeping device (e.g., sundial, hourglass, mechanical clock, digital clock).
  2. Provide them with a research worksheet to guide their inquiry, covering the instrument's history, how it works, and its societal implications.
  3. Allow students to use computers or library resources to gather information and create a short presentation (5 minutes each) to share with the class.
- Expected Outcome: Students will become experts on their assigned instruments and develop presentation skills.

Activity 3: Timeline Creation (60 minutes)
- Objective:Visualize the evolution of timekeeping technologies.
- Procedure:
  1. After group presentations, engage students in creating a large, collaborative timeline on butcher paper illustrating the evolution of timekeeping devices.
  2. Each group contributes details about their instrument, including dates, images, and key facts to the timeline.
  3. Encourage creativity by using drawings, symbols, and colors to represent different eras and innovations.
- Expected Outcome: A comprehensive visual timeline that serves as a collaborative reference and illustrates the chronological progression of timekeeping devices.

Activity 4: Creative Project – "Time Travel" (Homework/Extended Activity)
- Objective: Encourage creative expression while reinforcing knowledge of timekeeping history.
- Procedure:

1. Assign students to create a fictional story, comic strip, or short video that features a character who "travels" through time using one of the timekeeping instruments they studied.
2. The story should include historical accuracy and illustrate the importance of the chosen device in that era.
3. Students will present their projects in the next class, emphasizing how the timekeeping device affected life in that period.
- Expected Outcome:Students will creatively synthesize their knowledge, engage with history in an imaginative way, and demonstrate understanding through diverse forms of expression.

Assessment:

- Participation in discussions and group activities.
- Quality and engagement of group presentations.
- Creativity and accuracy of the timeline project.
- Evaluation of the "Time Travel" creative project based on historical accuracy, creativity, and presentation.

Digital applications: Canva, PPT, Padlet

Useful Links:

Conclusion: This lesson plan encourages students to explore the fascinating history of timekeeping instruments while developing research, collaboration, and creative skills. Through a mix of interactive, visual, and imaginative activities, students will gain a deeper appreciation for the significance of time measurement throughout history.

Proofs:

Students activity (links to the materials created by students, photos)

https://padlet.com/dcnane/istoricul-instrumentelor-de-masura-pentru-timp-zfwnbqefeczmqh5m