

Physics in everyday life



11-15
15-18

1 h
30 m

LEARNING OBJECTIVES

- Understand the application of physics in everyday life
- Recognise the importance of physics in modern technology
- Explore how social networks can be used to learn and share knowledge about physics

MATERIALS NEEDED

- Whiteboard and markers
- Projector and screen
- Handouts
- Internet access
- Social media accounts (optional)

LEARNING SCENARIO AND ACTIVITIES PROPOSED

1) Introduction (10 minutes)

Introduce the topic of physics in everyday life and why it is important. Then, ask students to brainstorm examples of physics in their daily lives. Finally, write down their responses on the whiteboard. The examples of physics in our daily lives can be following:

1. Walking upstairs, involves work against gravity, showcasing the concept of potential energy being converted into kinetic energy. 2. Using a refrigerator, refrigerators operate on the principles of thermodynamics, using a refrigerant to transfer heat from the inside to the outside, thereby cooling the contents. 3. Using a Microwave, microwaves use electromagnetic waves to heat food. Understanding the wavelength and frequency of these waves is a key physics concept. 4. Taking a shower, water pressure and flow rate in a shower involve fluid dynamics, a branch of physics that studies the motion of fluids.

5. Using a Smartphone, Touchscreen technology, wireless communication, and the principles of semiconductors in electronic devices are rooted in physics. 6. Listening to Music, the production and transmission of sound waves, along with the mechanics of musical instruments, involve principles of physics.

2) The Importance of Physics (20 minutes)

Use the projector to show a presentation on the importance of physics in modern technology. Discuss the role of physics in fields such as medicine, transportation, communication, and energy. Then, ask students to provide examples of how physics has improved these fields.

3) Social Networks and Physics (30 minutes)

Discuss how social networks can be used to learn and share knowledge about physics. Ask students to create social media accounts (if they don't already have them). Assign them to follow at least one account and share a post related to physics with their followers.

Here are some examples of how physics can be learned using social media:

1. YouTube channels dedicated to physics, where educators and enthusiasts explain various physics concepts through engaging videos: [Veritasium](#), [Vsauce](#), [MinutePhysics](#).

2. Physics Podcasts such as [The Infinite Monkey Cage](#) discuss physics and related topics in an entertaining and accessible way.

3. Physics demonstrations in Instagram: Some educators and science enthusiasts share short physics demonstrations and experiments on Instagram. Searching for hashtags like #PhysicsExperiments or following relevant accounts can provide interesting content.

4. Physics simulations: Platforms like [PhET Interactive Simulations](#) offer online physics simulations that allow users to explore different concepts interactively.

Online platforms can be valuable tools for exploring and understanding physics in a dynamic and interactive way.

4) Physics in Action (30 minutes)

Show videos or images that demonstrate physics principles in action, such as a roller coaster or a satellite launch. Use some ideas for the videos from our [Project Website](#)

SubscribED. Discuss the physics behind these phenomena and how they are relevant in everyday life.

EXPECTED DIFFICULTIES AND PROPOSED SOLUTIONS

- Lack of interest in physics.

Solution: use real-life examples to demonstrate the importance of physics and its relevance to everyday life.

- Difficulty using social media.

Solution: provide guidance and support to students unfamiliar with social media platforms.

ASSESSMENT

- Ask students to write a short reflection on what they learned about physics in everyday life and how they can apply this knowledge to their daily lives.
- Evaluate their social media posts based on the accuracy and relevance of the information they shared.

ADDITIONAL INFORMATION

- Encourage students to keep learning about physics by following more physics-related social media accounts.
- Provide resources to students who want to explore physics further, such as books, websites, and videos.

BIBLIOGRAPHY

- Griffith, W. T. (2005). The physics of everyday life. *Physics Today*, 58(4), 39-44.
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