Lesson plan

2023-1-SK01-KA220-SCH-00015112

Topic	Nutrition and technology	
Block name	*My Healthy Day – Nutrition Tracking App Design*	
Age category 13 – 15	**Duration** 135 minutes	**Number of teaching hours** 3

Student-centered educational goals (content and performance standards)

Content standard:

- Principles of healthy nutrition, energy balance, drinking regimen
- Possibilities for tracking diet and nutritional habits using digital technologies

Performance standard:

- Design and create a simple app to track food and fluid intake
- Create a visual interface for the application and connect it to the basic logic (calorie counting, daily log)
- Present the proposal and reflect on its benefits for a healthy lifestyle

Integration of subjects:

- Biology,
- Chemistry,
- Informatics,

- Mathematics,
- Art education

21st century skills:

- Digital literacy,
- Cooperation,
- Critical thinking,
- Creativity

Didactic aids and teaching techniques:

- MIT App Inventor/Thunkable/Glide,
- blackboard, flipchart,
- mobile phones,
- Canva

References / Resources (videos, methodologies):

https://appinventor.mit.edu

Motivational phase:

Duration: 35 minutes

- The teacher shows a short video about healthy eating and digital health (e.g. “How apps can help you eat better” – TED-Ed).
- The following is a discussion: How can we use technology to take care of our health?
- Students brainstorm in groups the features of their ideal app: for example, water drinking reminders, healthy recipes, calorie intake control.
- Finally, they create a simple mind map in Canva or on a whiteboard: “What does a healthy day mean?”

Exposure phase (discovery):

Duration: 45 minutes

Objective: To develop students' ability to apply scientific knowledge about healthy nutrition in practice through the design and creation of their own mobile application. Students connect

theoretical knowledge about health with digital tools, develop algorithmic thinking, and learn to understand how technology supports a healthy lifestyle.

Science Integration:

- Students use knowledge from biology and chemistry to understand how different food components (proteins, carbohydrates, fats, fiber, vitamins) affect physical and mental health.
- They work with concepts such as caloric value, hydration, nutrient balance, metabolism.
- They analyze simple examples of menus and determine whether they are balanced.
- They discuss how modern technologies (e.g. mobile nutrition apps) can help people improve their eating habits. The goal is to understand that scientific knowledge is not just theory, but can be used to practically solve real-world problems.

Informatics integration:

Students will become familiar with the principles of mobile application development in the MIT App Inventor environment:

- They will understand basic concepts: user interface, inputs, variables, conditions, outputs.
- They will try out the principle of block programming and its logic.
- They learn how to program an interactive element that responds to user input (e.g. displaying the notification "Drink another 0.5 l of water").
- I understand that applications are based on data collection and processing - similar to scientific experiments.

Activities:

Demonstration and analysis (10 min)

- The teacher will show a short demo from MIT App Inventor - creating a simple form with two inputs (e.g. food name, quantity).

Discussion: How can a similar principle be used to track nutrition?

Creating an application in groups (25 min)

- Students in groups design the appearance and functions of their application ("food diary", "drinking regimen", etc.).

- They will create a simple user interface and program the basic logic – calculating a score, sending a notification, or reviewing daily consumption.
- They try basic testing - they try what works and what doesn't.

Discussion and reflection (10 min)

- Students share their experiences - what was the most difficult, what was the most fun, how such an application can be useful in everyday life.
- The teacher summarizes the principle: science + technology = practical impact on health and everyday life.

Fixation phase (fixing and deepening):

Duration: 45 minutes

- Each group will present their prototype and explain how the application contributes to a healthy lifestyle.
- The teacher invites other students to reflect: What did the app teach you about health?
- He then creates a “My Ideal Day” infographic in Canva.

Student evaluation:

- Functionality and creativity of the application
- Teamwork and presentation
- Understanding nutritional principles

Attachments:

Promoting adolescent well-being: Promoting adolescent well-being