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LEARNING BOX OF UNPLUGGED ACTIVITIES

The car that needs attention

In this unplugged activity, participants face a realistic everyday dilemma: their car starts making a strange noise while they also recall that a routine service check may be due. At the same time, they have limited financial resources, which forces them to prioritize and make careful decisions.

Participants must analyze the situation, consider possible causes and risks, and decide how to respond, whether to inspect the issue immediately, delay maintenance, or prioritize one expense over another.

Target Group

- ☐ Low-skilled adults with low digital competences
- ☐ Low-skilled adults with limited formal education or qualifications
- ☑ Low-skilled adults with low participation in lifelong learning / training opportunities

Learning Objectives

- Identify and structure key elements of a real-life decision problem (symptoms, risks, budget constraints).
- Apply decomposition to break down a complex maintenance and budgeting scenario into manageable parts.
- Recognize patterns that help link symptoms to possible causes or required actions.
- Use abstraction to focus on relevant factors such as urgency, safety, and cost.
- Develop and justify a step-by-step decision-making strategy under financial constraints.
- Apply computational thinking to make informed, practical everyday decisions.

Theme

Everyday decision-making under constraints, specifically vehicle maintenance and personal budgeting.

Duration

60mins

Level

Intermediate

Computational Thinking Steps Used

- ☑ Decomposition
- ☑ Pattern recognition
- ☑ Abstraction
- ☑ Algorithmic thinking

Methodological Approach

- ☐ Gamification
- ☑ Challenge-Based Learning
- ☑ Collaborative learning
- ☐ Experiential learning

Competence Areas

a) Innovation Competences

- ☐ Creativity
- ☑ Critical thinking
- ☑ Problem solving
- ☐ Communication
- ☐ Collaboration

b) Information Literacy Competences

- ☑ Ability to access, understand and critically analyse information
- ☐ Interpretation of digital and visual content
- ☐ Awareness of media influence and biases

c) Life and Career Competences

- ☑ Flexibility and adaptability
- ☑ Initiative and autonomy
- ☐ Sociability and intercultural competence
- ☐ Productivity
- ☐ Leadership and responsibility

Learning Outcomes

- Identify key factors in a real-life maintenance and budgeting problem.
- Prioritize actions based on urgency, safety, and cost constraints.
- Apply decomposition, pattern recognition, and abstraction to analyze the situation.
- Develop a clear, step-by-step plan for deciding how to respond to the problem.
- Justify decisions using logical reasoning and available information.
- Use computational thinking to solve everyday resource and decision-making challenges.

Notes

- Clearly define the constraints, especially the limited budget, to ensure meaningful decision-making.
- Avoid providing too much technical automotive detail; the focus should remain on reasoning, not mechanics expertise.

- Include uncertainty in the problem (e.g., the cause of the noise is not fully known) to encourage hypothesis-based thinking.
- Encourage participants to explicitly justify trade-offs between safety, urgency, and cost.

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The car that needs attention

Step 1: Understand the situation

Participants are presented with a realistic scenario: their car is making an unusual noise, and they also recall that a routine service check may be due soon. At the same time, they are working with a limited monthly budget. They begin by identifying and organizing all relevant information: symptoms (the noise), maintenance history, possible service needs, and financial constraints. The goal is to clearly understand what is known and what is uncertain.

Computational thinking focus: Decomposition, breaking the problem into key elements such as symptoms, maintenance needs, risks, and budget.

Step 2: Analyze options and risks

Participants explore possible interpretations of the problem (e.g., minor issue vs. serious mechanical fault) and compare different response options, such as immediate repair, scheduled service, or delaying action. They evaluate each option based on criteria like cost, urgency, and potential consequences of inaction. They should also consider uncertainty and risk when making comparisons.

Computational thinking focus: Pattern recognition and abstraction, identifying meaningful signals (symptoms, maintenance patterns) and focusing on relevant decision criteria.

Step 3: Decide and justify a plan

Participants select the most appropriate course of action and design a clear step-by-step plan explaining what they would do and why. They must justify how their decision balances safety, cost, and urgency under constraints. Different solutions are acceptable as long as they are logically reasoned and well supported.

Computational thinking focus: Algorithmic thinking, creating a structured decision process to solve a constrained real-world problem.

ACTIVITY CARDS

The car needs attention

Card Categories

Roles

Decisons

Surprise events

Priority Levels

Essential
Extremely necessary to take into consideration

High
Importance

Medium
Helpful to take into consideration

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Print and cut the cards on the following slides to use in the activity.

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DANIEL

Uses the car for daily work

Completely dependent on the vehicle

Tight monthly budget

No advanced mechanical knowledge

AVAILABLE RESOURCES

320 EUR available this month

Estimated costs

Routine check-up: 180 EUR

Initial diagnosis: 40 EUR

Minor repair: 120–250 EUR

Major breakdown: 400+ EUR

IN THE LAST WEEK

“Clack-clack” sound when starting cold

Fuel consumption slightly increased

Annual check-up scheduled in 10 days

Regular workshop sent reminder

INITIAL MISSION

The team must choose:

a) Take the car to the workshop now?

b) Wait for the scheduled check-up?

c) Get only a diagnosis?

d) Postpone everything to save money?

CAUTIOUS USER

FUNCTION:

Minimize future risks

OBJECTIVE:

Avoid major breakdowns, even if it costs more now

SAVER USER

FUNCTION:

Control immediate spending

OBJECTIVE:

Spend as little as possible this month

MECHANICAL APPROACH

FUNCTION:

Analyze technical risks

OBJECTIVE:

Prioritse diagnosis before financial decisions

PRACTICAL USER

FUNCTION:

Prioritize daily functions

OBJECTIVE:

Avoid being without a car in the short term

OPTION A: Take to workshop now

Immediate cost (40–250 EUR)

Reduces uncertainty

May prevent major breakdown

Priority: Essential

OPTION B: Wait for scheduled check-up

Lower immediate cost

Risk of worsening

Possibly more expensive later

Priority: High

OPTION C: Diagnosis only

Medium cost (40 EUR)

Partial information

Decision deferred

Priority: Medium

OPTION D: Do nothing

Immediate savings

High risk

Possible sudden failure

Priority: Essential

EVENT 1: The noise increases

The “clack-clack” now appears while driving too

Increases probability of major breakdown

Priority: Essential

EVENT 2: Mandatory car use

This week there is an important work trip

The car cannot fail

Priority: Essential

EVENT 3: Workshop offer

The workshop offers: Check-up + Diagnosis for 200 EUR total

Limited time discount

Priority: High

EVENT 4: Alternative transport

Public transport is available, but:

Increases commute time

Reduces flexibility

Priority: Medium