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Unit change INDI robottall

Year	Field of study, subject	Subject connections
5.	Mathematics	Natural science – measuring length, mass, volume in practice Technique – tool use, measurement Physical education – estimating distances

The purpose and didactic tasks of the lesson

Systematization and expansion of previously learned knowledge. Showing the possibilities of practical application. Knowledge of basic units of measurement. Variable numbers based on the decimal number system. Application in everyday situations
Gaining experience, error recognition, self-monitoring. Promoting cooperation and differentiated practice.

The effect of the clock

Attitudes to be developed: Openness to practical mathematics. Attentive, precise work. Active participation, cooperation.
Skills and abilities to be developed: Switching between units of measurement (length, mass, volume). Logical thinking. Calculation and estimation skills. Communication in a group.

Tools and resources used

	State curriculum, local curriculum, textbooks
	INDI robot and color code cards
	Homemade practice cards

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abacusan STÚDIÓ
WE TEACH ROBOTICS

Occupation plan

5 minutes	**Motivation: Where was the last time you encountered units of measurement?**	• Knowledge retrieval, questions, activation, frontal work, individual response. • Tool: Blackboard. • Mood tuning.
8 minutes	**Knowledge recall: discussion of basic units of measurement and conversions**	• Systematization of concepts, explanation, examples, illustration, frontal. • Equipment: Blackboard, poster. • Presentation of the exchange table.
10 minutes	**Matching unit cards (e.g. 2.5 m ⇔ 250 cm)**	• Practice changing units of measurement, coordinating groups, helping, checking, playful practice, working in pairs. • Tool: Deck of cards. • 12 pairs / group / INDI placement on the field.
12 minutes	**Worksheet completion: shifts, estimation, application**	• Recording, explaining tasks, individual help, written work, individual work. • Equipment: Worksheet, pencil. • Differentiated examples.
5 minutes	**Digital quiz on Wordwall (e.g. "Which is bigger?")**	• Check, playful repetition, • It projects and coordinates the response, • Digital learning, frontal work. • Device: Interactive whiteboard. • Preloaded game.
5 minutes	**Filling out a self-assessment form + brief feedback**	• Self-knowledge, awareness, guided questions, affirmation, discussion, self-reflection, individual work. • Tool: Self-assessment sheet. • Voluntary response.

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Worksheet

INDI WORKSHEET – Unit Conversion

Name: _____ ___ Date: _____

1. Convert the units of measurement!

a) 250 cm = _____ m b) 3,4 m = _____ cm c) 75 mm = _____ cm d) 6 dm = _____ cm e) 1,2 km = _____ m

2. Match the correct values!

Write the correct number next to the letter!

A. 1,5 l B. 2500 g C. 0,5 m D. 300 cm E. 1250 ml

1. 3 m
2. 1,25 l
3. 250 dkg
4. 1500 ml
5. 50 cm

3. True or false?

Write after the sentence: true / false

1 m = 100 cm = 1000 mm

2.5 km = 2500 m

1 liter = 100 ml

1 kg = 100 days

1 dl = 0,1 liter

4. Matching cards – Units of measurement

2,5 m	250 cm
6000 mm	6 m
1 l 1000 ml	
2,5 kg 2500 g	
4 dl	0,4 l
12 dm	120 cm
1500 ml 1.5 l	

5. Word wall Title: Unit Conversion – Which is Correct?

Question: 2.5 m = how many cm?

Answers:

✅ 250 cm ❌ 25 cm ❌ 2500 cm Question: 1500 ml = how many liters?

✅ 1.5 l ❌ 15 l ❌ 0.15 l Question: 3 km = ? m ✅ 3000 m ❌ 30 m ❌ 300 m

6. Student Self-Assessment Sheet – By the End of Class

Circle the true statements!

I managed to convert units of measurement.

- **I could recall the bill numbers.**
- **I was able to help others,**
- **What I still need to practice**

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Methodological advice for creating a robot track

INDI robot track design:
INDI robot pairs cards that represent the same quantity in different units of measurement.
You must move through the unit cards placed on the track, touching cards belonging to the same pair one after the other.

1. **As a differentiation opportunity**

we can adapt the relevant number range to the students' abilities and knowledge
we can increase the number of cards placed on the field

- **The robot must collect 3 or 4 matching cards instead of 2**
- **we can limit the cards that can be touched (e.g. certain units of measurement cannot be touched)**
- **we can limit the number and type of color code sheets that can be used**
- **The task can be linked to language learning (e.g. say a sentence that includes the given quantity).**