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2D shapes

Year	Field of study, subject	Subject connections
1.	Mathematics	Digital culture, : environmentally aware, lifestyle and technology

The purpose and didactic tasks of the lesson

Observation of planar shapes (square, rectangle, circle, triangle)
Their properties. Identities, differences. Sorting and distinguishing planar shapes. Sorting logical tiles according to color, size and shape. Building planar shapes according to given conditions

The effect of the clock

Thinking and cognition methods: comparison, identification, differentiation. Recognizing and naming common properties. Ability to select different forms from identical ones. Be able to think, help peers, and cooperate in joint activities.
Thanks to the color-coded controls of the INDI toy car, the track can be changed, so children can even create different tracks themselves.

Tools and resources used

	State curriculum, local curriculum, textbooks
	INDI robot and color code cards, logic kit
	INDI robot track, worksheets

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Occupation plan

3 minutes	**Introduction and motivation**	• Free construction from logic boards • Attention, motivation, repetition • Pair work • Device: Logical set
10 minutes	**Getting to know the ski shapes**	• Sorting the elements of the logical set by shapes. Collecting the properties of a square, triangle, circle • Experiential learning, new knowledge • Individual work, then frontal discussion • Device: Logic set and its elements in board size
5 minutes	**Introduction to the INDI robot, explanation of the purpose of the course**	• Digital device use. • Frontal work. • Tools: INDI robot, track.
10 minutes	**Collecting plane objects on the robot track**	• The groups draw from task cards, and the robot must "collect" the corresponding plane shapes. • Algorithmic thinking, practice • Pair or small group work, problem solving. • Tools: INDI robot, track, task cards
10 minutes	**Building diagrams using INDI**	• Shape recognition, construction of planar shapes according to a given set of conditions: color, size, quality, shape. • Pair work • Tools: INDI robot, track, logic set, task cards, colored pencils
8 minutes	**Summary and closing of the lesson**	• Systematization of knowledge, feedback • Reflection, self-reflection. • Frontal activity.

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INDI-ASSIGNMENT CARDS – Ski Shapes

Collect all the squares with INDI!

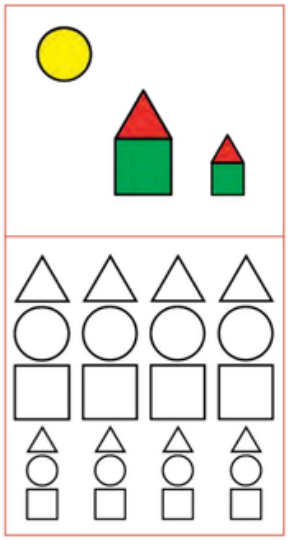
Collect all the triangles with INDI!

Collect all the circles with INDI!

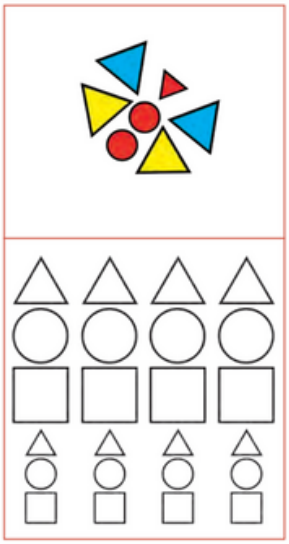
Collect 2 squares and 2 triangles with INDI!

Collect 3 circles and 3 triangles with INDI!

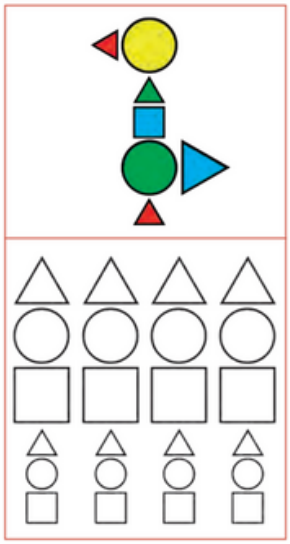
Collect 1 circle and 4 squares with INDI!



Collect the shapes needed to complete the picture with INDI! Color in the drawing!



Collect the shapes needed to complete the picture with INDI! Color in the drawing!



Collect the shapes needed to complete the picture with INDI! Color in the drawing!

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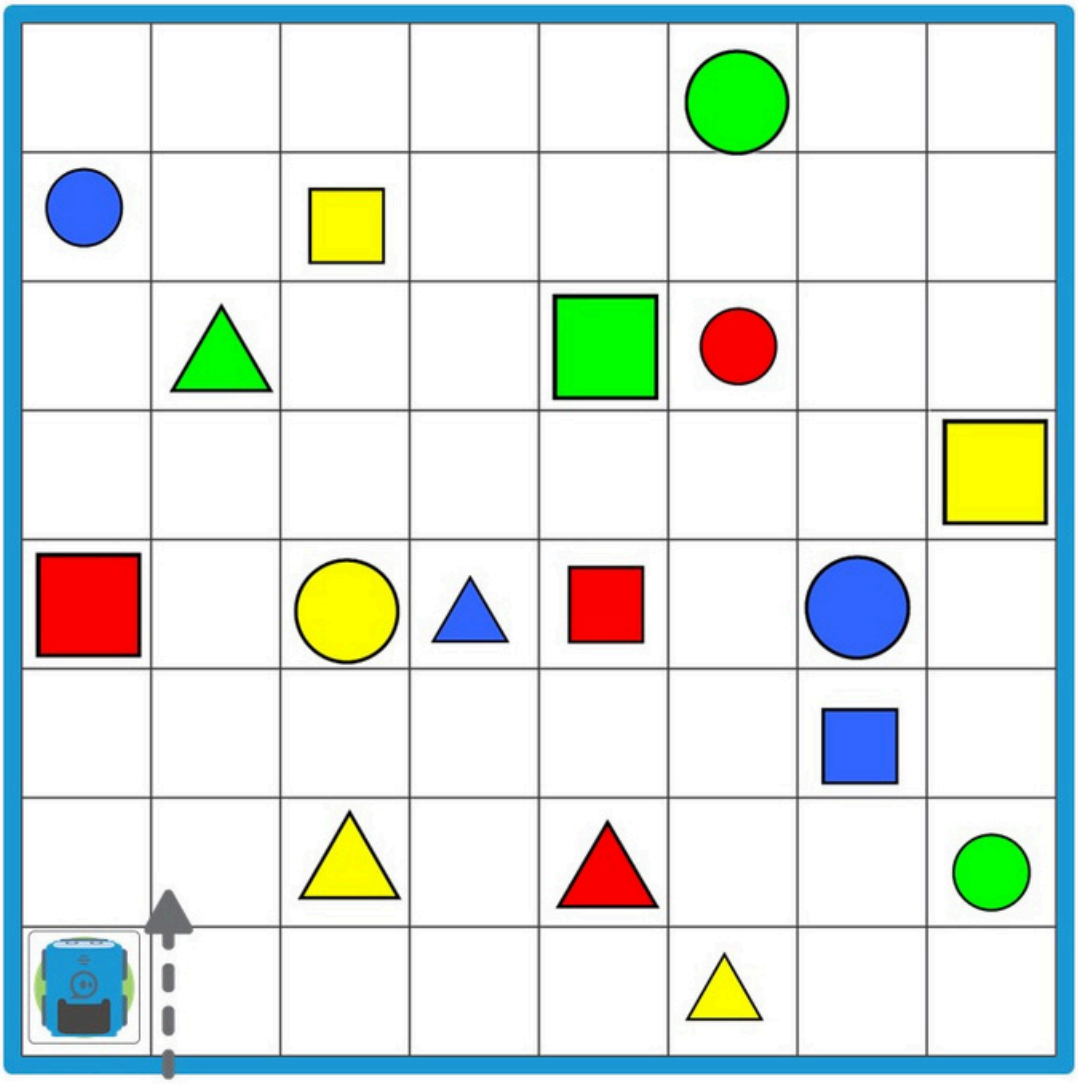
Methodological advice for creating a robot track



1. Differentiation options:

We can adjust the number and variety of ski shapes placed on the course to the students' abilities and knowledge.
we can increase or decrease the number of skis placed on the track

- If necessary, we can create additional task cards for practice.
- Have the children create tasks and challenges for each other
- During the collection, say out loud the name of the plane, its color, size, and the direction of the robot - for language development
- we can limit the number and type of color code sheets that can be used

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