

# Hungry, Hungry Kitty



## 1. Name of the project:

Hungry, Hungry Kitty

## 2. Subjects covered from STEAM areas:

CS: modeling, planning, block programming with Ozoblockly

## 3. Target group (age range and size of the group):

(programming beginners Sek 1 or beginners Sek 2)

Differentiation courses information science / computer science / etc. at the vocational college e.g. in the vocational high school / technical college

## 4. Duration of the activity:

90 min, if Ozobots are known already or with a given plan

2-3x 90 min, if Ozobots not yet known

## 5. Key words:

Ozobots,  
block programming,  
problem solving

## 6. Key sentence describing context of the activity, followed by short description (200 words):

The students think about a path through the pre-prepared maze with barriers, curves, obstacles to the cat and back and program the Ozobots to drive this path (either online or by drawing lines and commands for the Ozobots in the maze).

In advance, the teacher must prepare a maze with a (plush) figure of a cat sitting in the middle, for example. Obstacles in the labyrinth can be generated e.g. by other Ozobots, which block certain paths like a barrier every 10 seconds for 2 seconds. Then have the students come up with a plan for the Ozobot to travel through the maze to get to the cat. The Ozobot can drive straight for a certain distance, change direction, zigzag, and stop to avoid obstacles.

Then, the designed plan should be either programmed using Ozoblockly or the corresponding commands should be drawn on the floor of the maze.

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## 7. Description of the activity environment, including the list of materials and tools needed:

- Maze: built from cardboard or simply drawn on paper. Obstacles with the help of more Ozobots.
- Ozobots
- Alternatives:
  - paper + pens to record the roadmap for the Ozobots
  - Ozoblockly.com + laptop with Bluetooth to program the Ozobots

## 8. Step by step, detailed description of the activity, including teaching and learning strategies:

The students can learn and work in a self-oriented way if they already know the Ozobots.

The lesson opens with a problem: The cat is trapped in the maze and needs something to eat. The tools for the students are the Ozobots. In the sense of an action/practice-oriented lesson, the students first think of a plan to feed the cat, choose the best alternative from their point of view, then implement it and finally evaluate and reflect on how problem has been solved. Thus, the lesson follows the principle of complete action and the students work mostly independently and the teacher takes only a supporting role.

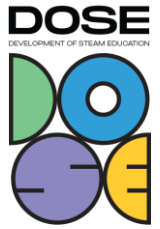
Planning:

- What path must the Ozobot take through the maze to get to the cat?
- How can he avoid obstacles?
- How does he attract the cat's attention when he gets there?
- How does he get back again?

Execution:

- Programming the plan using block-based programming using the Ozoblockly tool.
- Implementation of the planned path to the cat.

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Control:

- Was the goal achieved? Where did something go wrong? How can it be improved?
- Students present their solutions

Evaluation:

- Reflection of own implementation

The teacher introduces the problem and supports the planning and implementation. The control and evaluation/reflection phase is also teacher-led in plenary.

## 9. Learning objectives/competencies:

- Modeling / abstraction of a problem
- Presentation skills when presenting the results
- Reflective ability
- Independent work / SOL
- Creativity in thinking about solutions/programming/drawing solutions

## 10. Evaluation/Assessment guidelines:

- Planning: Did the students abstract the problem and did they consciously thought about the solution?
- Implementation: Does the Ozobot arrive at the cat?
- Presentation: Are the results presented appropriately? How are problems and how to deal with them presented?

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## 11. Lessons learned:

Change of perspective on subjects taught in different types of schools / grades / subjects / age groups, ...

## 12. Additional information/Links:

Ozoblockly: <https://ozoblockly.com/editor>

Ozoblockly Setup instructions: <https://files.ozobot.com/resources/ozobot-device-ozoblockly-setup-for-students.pdf?download=true>

VDI Karlsruhe District Association: Ozobots - What is that? (German) <https://vdi-karlsruhe.de/technothek-karlsruhe/ozobots/>

## 13. Contact person:

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