



EDDY'S SECRET

Your robotic adventure

Educational materials

6P-8P
(ages 8-11)

eddy.espace-des-inventions.ch/school

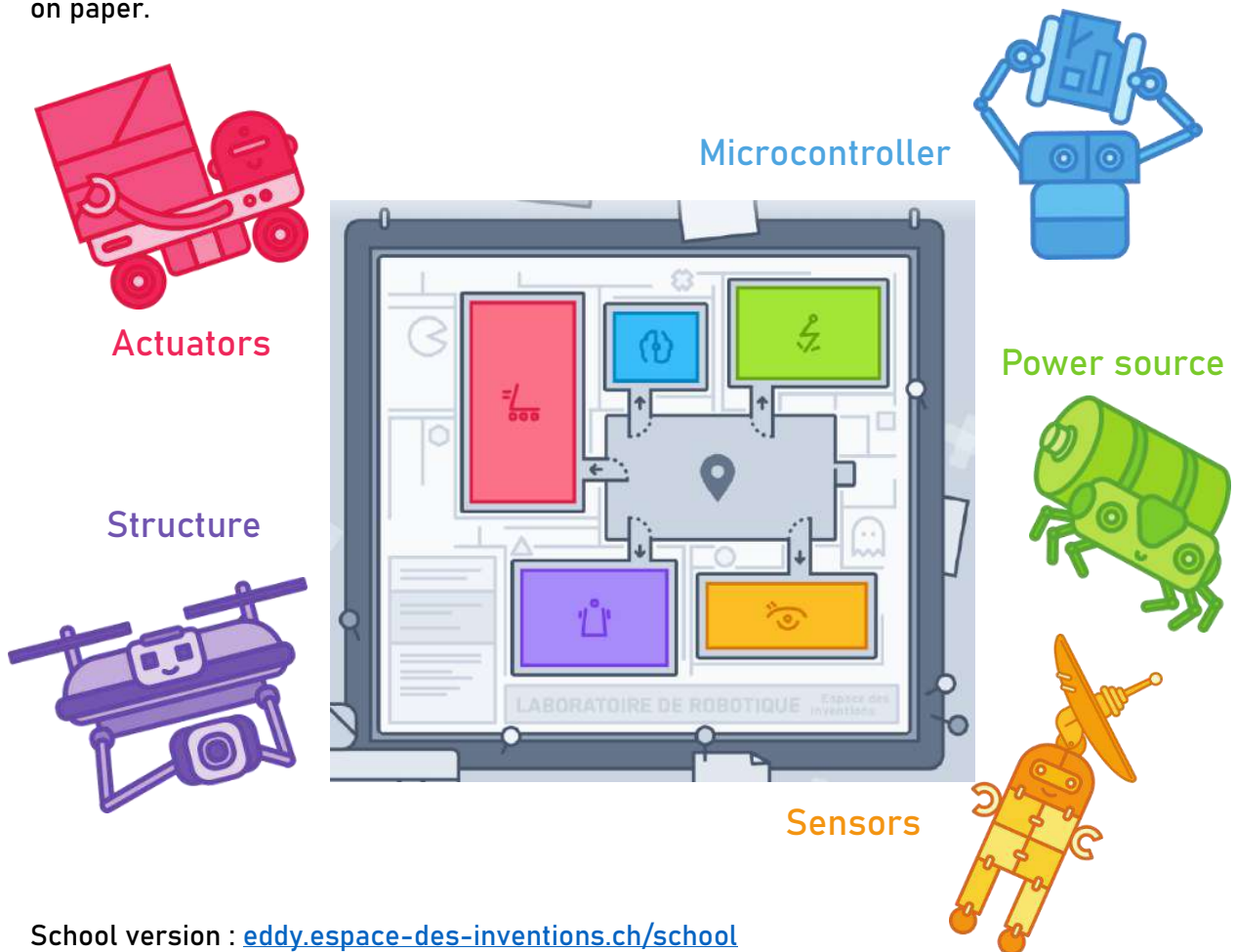
Espace des
inventions
Lausanne

HE^{VD}
IG | MEI
Media
Engineering
Institute

1. Introduction

This game is a story that combines two elements: 1) you are the hero and 2) an escape game. It is the result of a collaboration between the Espace des Inventions, a museum in Lausanne and the MEI (Media Engineering institute) of the HEIG-VD, in Yverdon (Switzerland). The game has been designed for children 8 and up as an introduction to the world of robotics. This education material is designed for classes from 6P to 8P

After entering a virtual robotics lab, the game covers five topics: sensors, actuators, microcontroller, power source and robot structure. For each topic, students explore a game room accessible from the main lab and solve a puzzle, with the aim of gaining the five elements needed to build a robot that will allow them to escape from the lab. Following or in parallel with the online game, each theme can be consolidated with three additional puzzles on paper.



School version : eddy.espace-des-inventions.ch/school

→ Teachers' page : eddy.espace-des-inventions.ch/teachers

→ Pupils' page eddy.espace-des-inventions.ch/pupils.

Public (individual) version : eddy.espace-des-inventions.ch

Links with PER objectives (for Cycle II) : MSN24, MSN25, MSN26, EN22, EN23

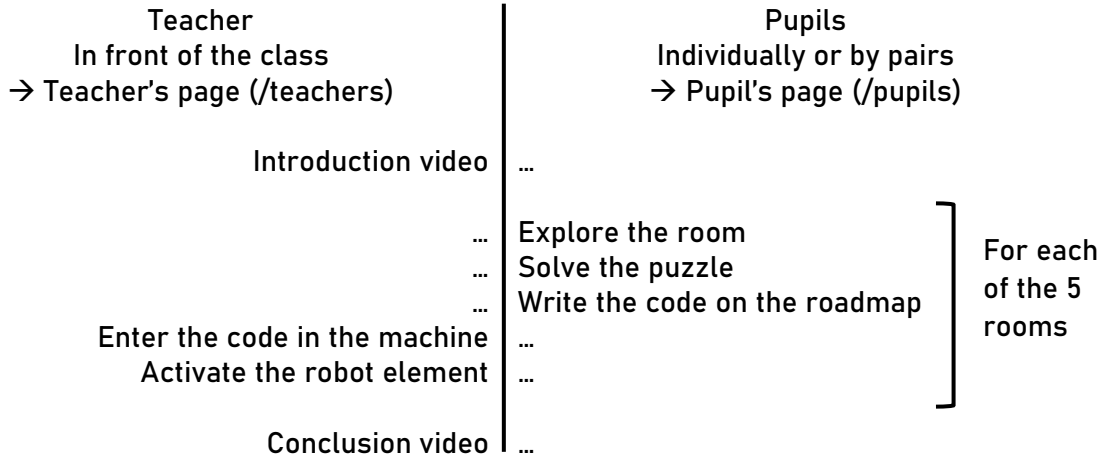
Contact for questions and comments : eddy@espace-des-inventions.ch

Eddy's secret – Educational materials

2. How it works in the classroom

The school version of the game has an asymmetrical structure allowing the teacher to manage the overall progress of the game in front of the class while the students explore the themes and solve the puzzles on individual computers (or in pairs).

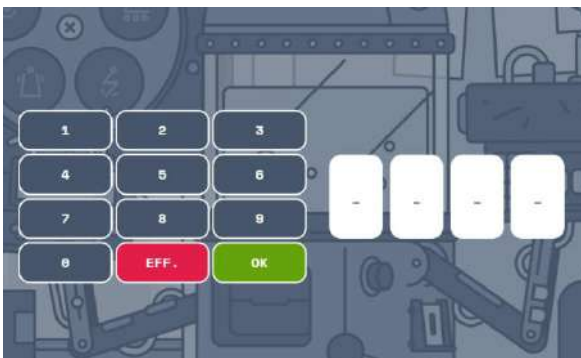
1. Online game



Introduction video (/teachers)



Room map in the pupils' page (/pupils)



Machine in the main laboratory (/teachers)



Sensors page (/pupils)

2. Puzzles on paper

- ➔ 3 supplementary puzzles of games per theme to consolidate knowledge of the online game.
- ➔ Possibility to alternate between 2 groups between the online game and the puzzles on paper, if the number of computers available is low.
- ➔ The codes obtained are entered on the roadmap for the final puzzle
- ➔ Summarizing activity « invent your robot » for the end of the sequence

Proposed sequences

→ 2 periods

- Online game only
- Intro video – Exploration of the 5 rooms – Activation of the 5 elements of the robot – final video

→ 5 periods

- One period per theme / room explored
- Online game + supplementary puzzles on paper, following each other or in parallel
- If the teacher stays on the same computer, the game progression is saved from one period to another on the /teachers page

→ 6 periods

- Similar to the « 5 periods » version, adding an extra period for the wrap-up activity “invent your robot”
- Creation of robots with a card game, then by drawing it or building it with legos or recycled materials
- Possibility to use this as a starting point for another sequence in educational robotics or programming

3. Materials needed

Online game






- Computer with projection system or TBI and sound system
- One computer for two pupils (or more, if available)

Puzzles on paper

- Scissors, pencils, brads
- Riddles from the educational material printed on paper (some on thick paper or cardboard, as indicated). A black-and-white print is possible.

4. Summary of the puzzles and codes

1. Online puzzles (/pupils)

Room	Color	Code	Where do I find it?
Power source	Green	1859	
Actuators	Red	2331	
Microcontroller	Blue	1971	
Structure	Purple	1618	
Sensors	Orange	3241	

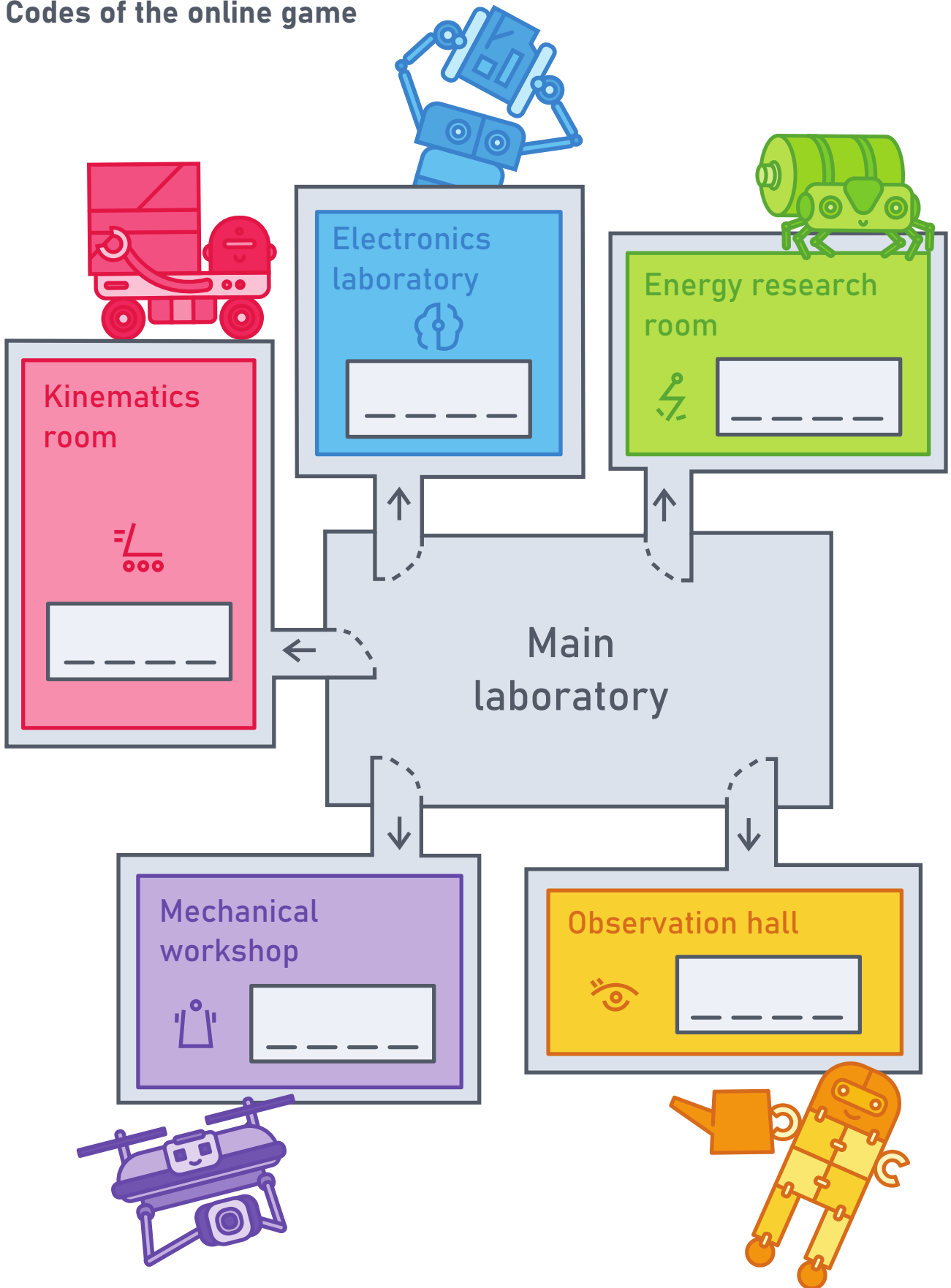
2. Puzzles on paper

Puzzle / Game	Theme	Level	Code	Material	Where do I find it?	On which paper ?
Electrical quiz	Power source	★★★	Red planet	/	Eddy-power.pdf	Normal
Transformations	Power source	★★★★	Gadgets	Scissors	Eddy-power.pdf	Normal
Who consumes what ? - Game	Power source	★★★	/	Scissors	Eddy-power.pdf	Thick
Trajectories	Actuators	★★★	Heart	/	Eddy-actuators.pdf	Normal
The chocolate machine	Actuators	★★★★	ArTiCuLaTiOn	Brads Scissors	Eddy-actuators.pdf	Thick
Tangram	Actuators	★★★	848	Scissors	Eddy-actuators.pdf	Normal
Binary table	Micro-controller	★★★★	35	/	Eddy-mcu.pdf	Normal
The carpets	Micro-controller	★★★	Sun	/	Eddy-mcu.pdf	Normal
The secret message	Micro-controller	★★★	Are robots able to make jokes ?	/	Eddy-mcu.pdf	Normal
The maze	Structure	★★★	42	/	Eddy-structure.pdf	Normal
Robotic jigsaw	Structure	★★★★	4123	Scissors	Eddy-structure.pdf	Normal
Chimera game	Structure	★★★	/	Scissors	Eddy-structure.pdf	Thick
Sensor crossword	Sensors	★★★★	Intelligence	/	Eddy-sensors.pdf	Normal
Which sensors for which robot?	Sensors	★★★	843	Scissors	Eddy-sensors.pdf	Normal
Sensors and the five senses	Sensors	★★★	471	/	Eddy-sensors.pdf	Normal
Final puzzle	All		ENG1N33R OR CRE470R		Last page of this document	Normal
Invent your robot	Wrap-up		/	Scissors	Eddy-invent.pdf	Normal or Thick

5. Roadmaps for students (Online / paper-based puzzles)

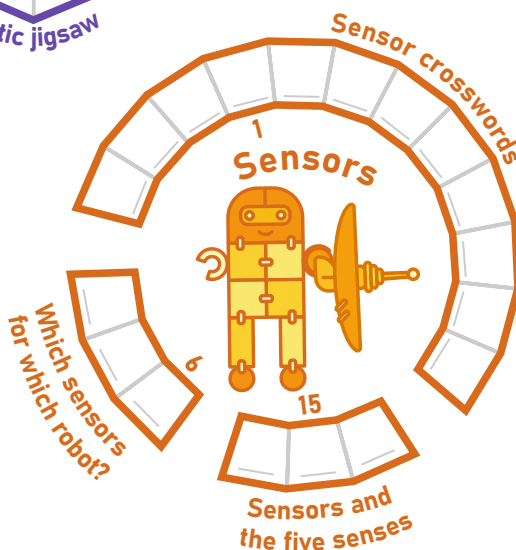
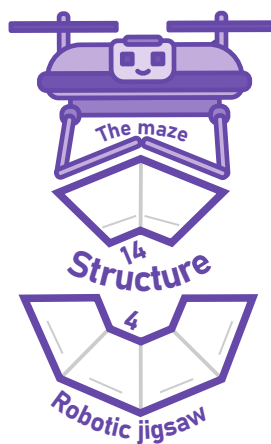
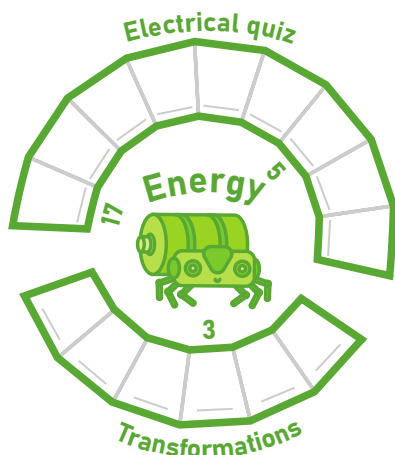
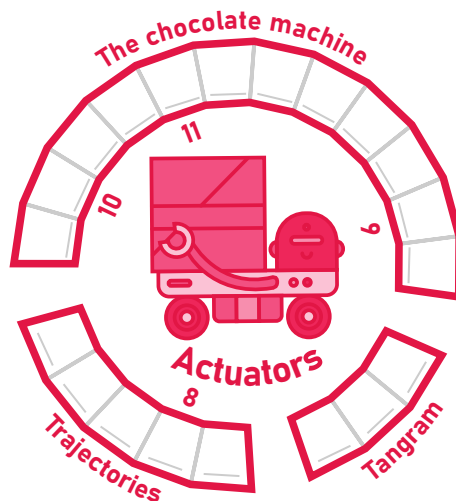
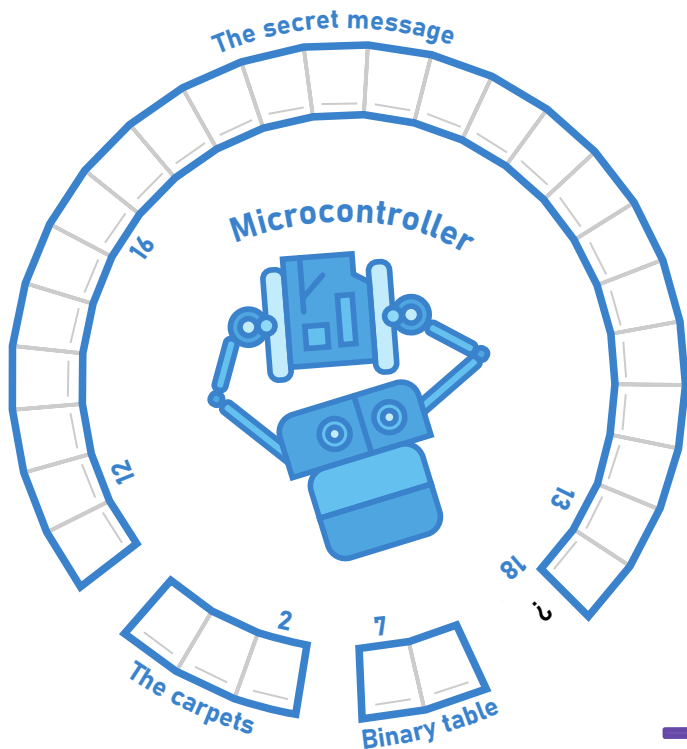
Eddy's Secret

Codes of the online game



Eddy's Secret: final puzzle

Using the codes of the puzzles on paper



1	2	3	4	5	6	7	8
			9	10			
11	12	13	14	15	16	17	18