

# Mathematics and physics outdoors

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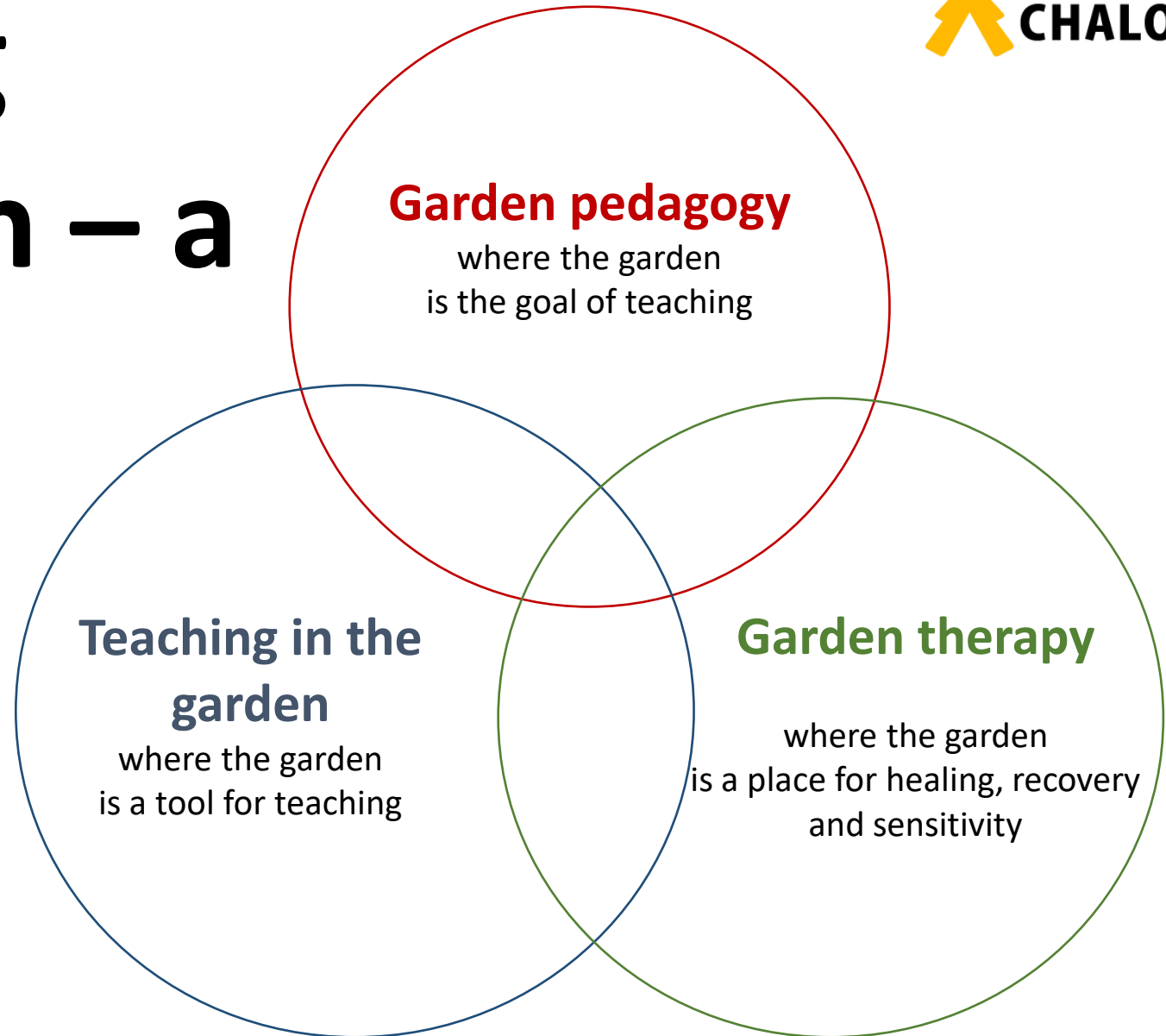
- A center of **environmental education**, which has six educational hubs in the Vysočina region in the Czech Republic
- We focus on **school gardens**, teaching outdoors, etc.
- We work with schools and gifted children, we teach teachers, we publish educational materials for outdoor learning
- We publish a magazine called School Garden  
**[www.chaloupky.cz](http://www.chaloupky.cz)**



- “We learn outdoors” is a long-term program available all over the Czech Republic (10,000 teachers)
- We take school curricula outdoors; not only biology and environmental studies – other subjects, too
- We offer consultations to kindergartens and schools
- We organize a number of workshops, webinars, courses, and create publications



# Teaching in the garden – a concept



A garden as a workshop

A garden as a laboratory

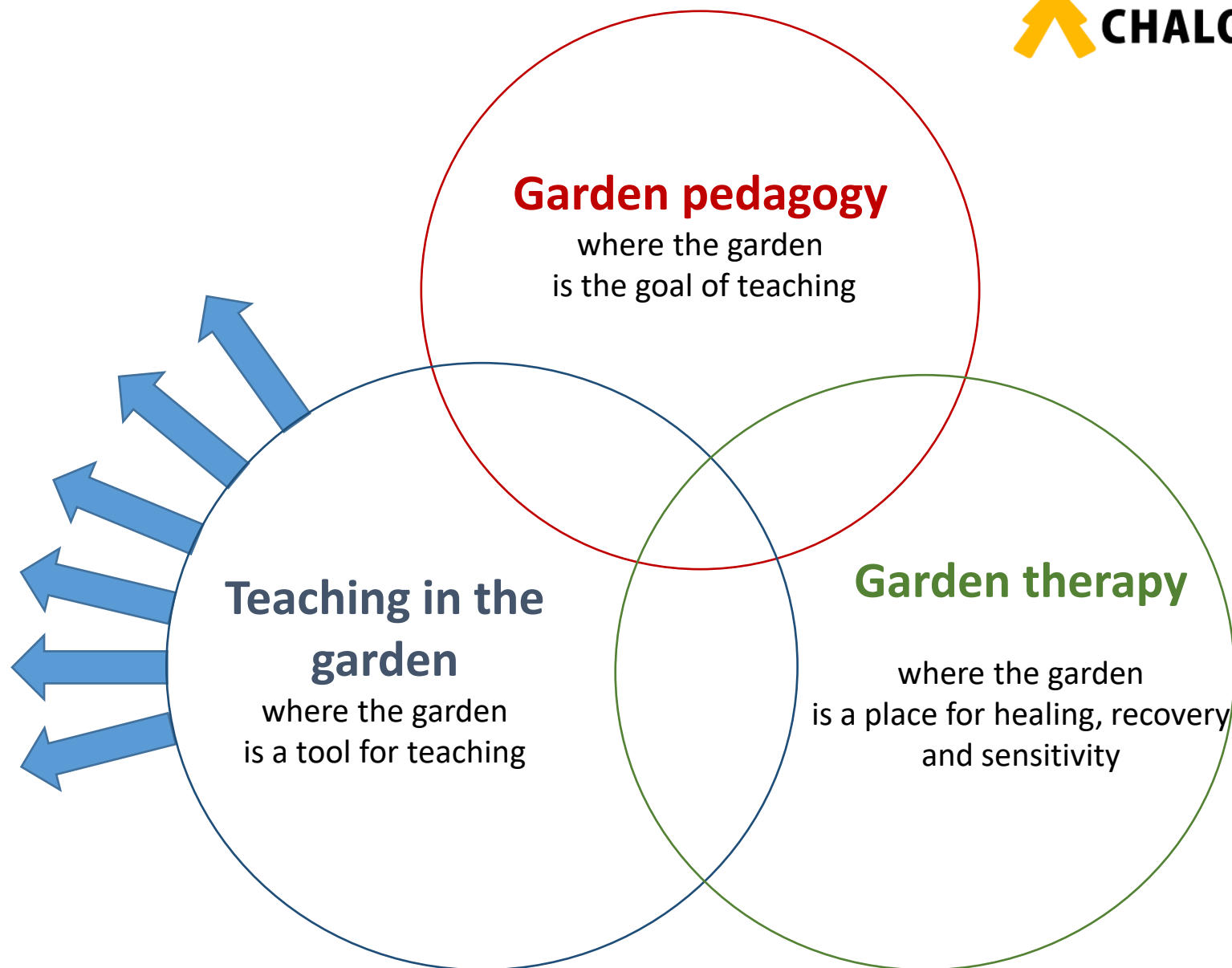
A garden as an atelier

A garden as a gym

Maths in the garden

Stories in the garden

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**GEOMETRY - CURVES - FRACTALS - LENGTHS AND MEASUREMENTS -  
STATISTICS - NUMBERS - FRACTIONS - PERCENTAGE - SYMMETRY -  
DIRECT PROPORTIONALITY...**

**HYDROMECHANICS - THERMOMECHANICS - CONVECTION - OPTICS -  
ATMOSPHERE PHENOMENA - ALBEDO - ACOUSTICS - WATER  
ANOMALIES - STATE OF MATTER - SURFACE TENSION - BENDING  
STRENGTH - MOMENT OF INERTIA - LEVER - PULLEY - TEMPERATURE –  
SPEED...**

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Examples



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## NUMBERS





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## FRACTIONS





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## SYMMETRY



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## GEOMETRY





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## STATISTICS



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## SPEED





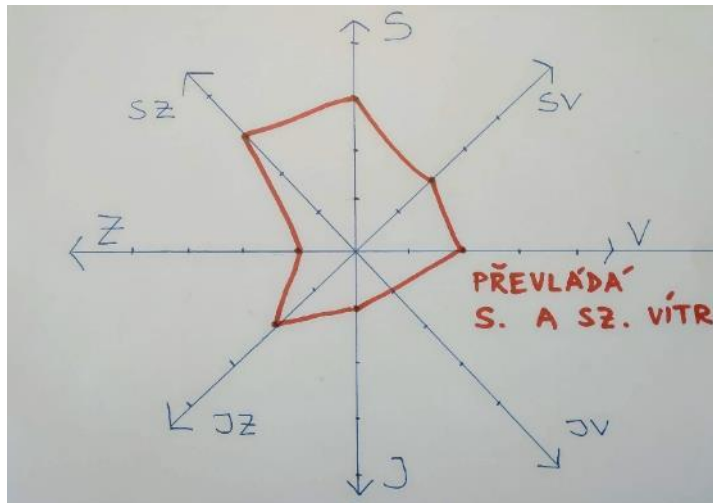
# Mathematics and physics in the garden

## TEMPERATURE



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## WIND



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## OPTICS





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## STATE OF MATTER





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## CONVECTION



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**TRANSLATING THEORY INTO PRACTICE  
REAL PHENOMENA, REAL DIMENSIONS  
USING CONTEXT AND SEVERAL SUBJECTS AT ONCE  
LONGER CONCENTRATION, BETTER EDUCATIONAL RESULTS  
DIVERSE METHODS, PHYSICAL EXERCISE  
HELPING PUPILS WITH SPECIAL EDUCATIONAL NEEDS  
SPENDING TIME OUTDOORS, WITH GREENERY AND FRESH AIR**

**Thank you  
for your attention**

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