DYNAMAT IN SLOVAKIA

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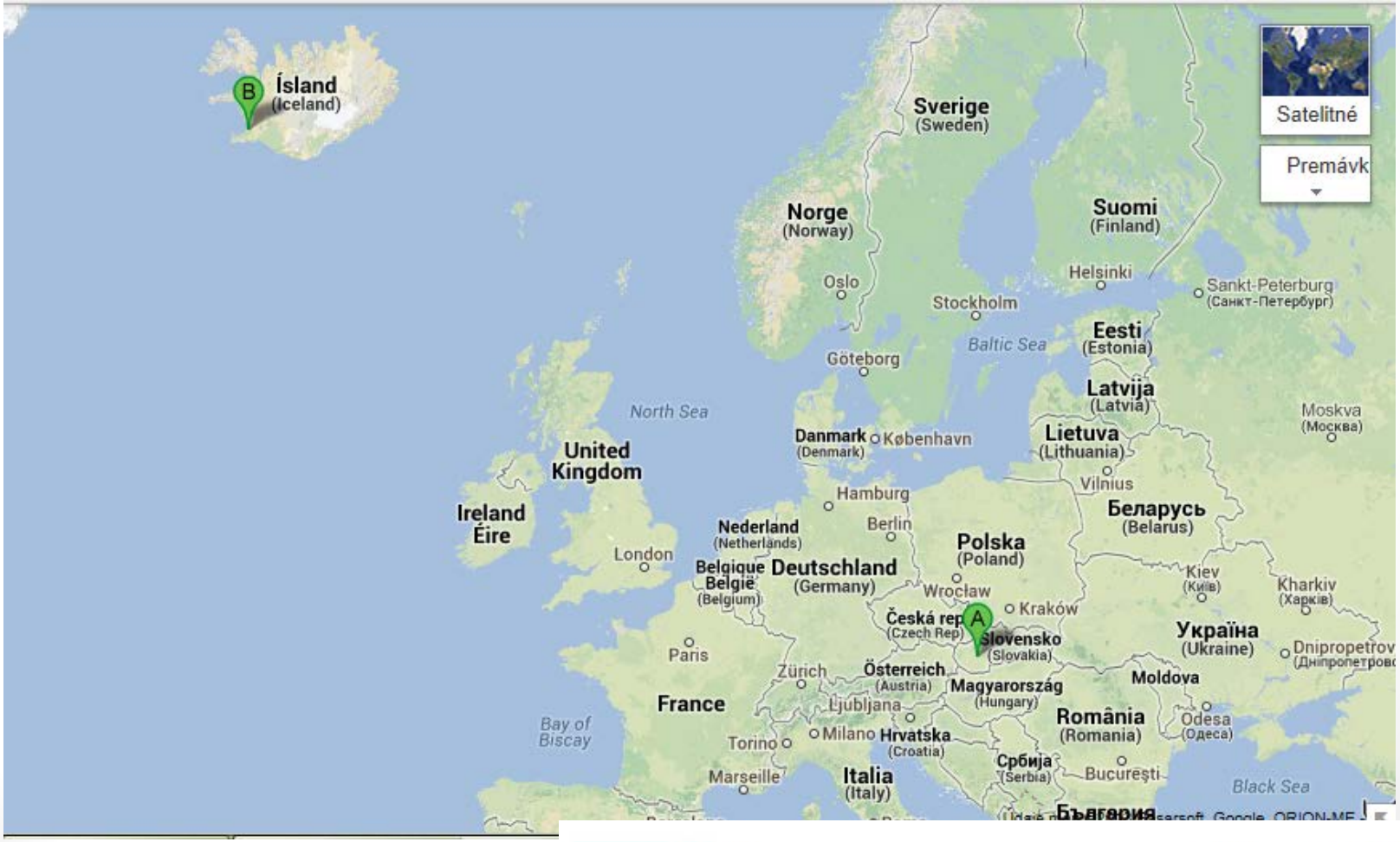
Where are we?



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Slovakia team

- Colleagues – university teachers
  - maths + physics, chemistry, biology
- PhD students – Theory of Maths Education
- Department of Mathematics
- Department of Computer Science

Slovakia Activities

- Project web
- Materials
- Courses with e-learning support
  - Pre-service teachers - 4 courses
  - In-service teachers – 4 courses

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Project web

http://www.dynamathmat.eu/

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Mathematics in the playground

Problem 7

In the picture is one of climbing frames in the playground, which is part of half-cylinder.

- What would be a developed area in the plane, if you draw the holes in the square grid?
- How many meters of rods would be needed for the construction of the climbing frame? The half-cylinder should remain consistent with its height.
- How many kilograms of yellow and red colour do we need for coating bars of climbing frame if we know the average price of a colour bar of $1m^2$.

Students wanted to find out how many kilometres of rods are obtained if all the bars of climbing frame are connected together.

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COMPASS

Web page

http://www.compass-project.eu/

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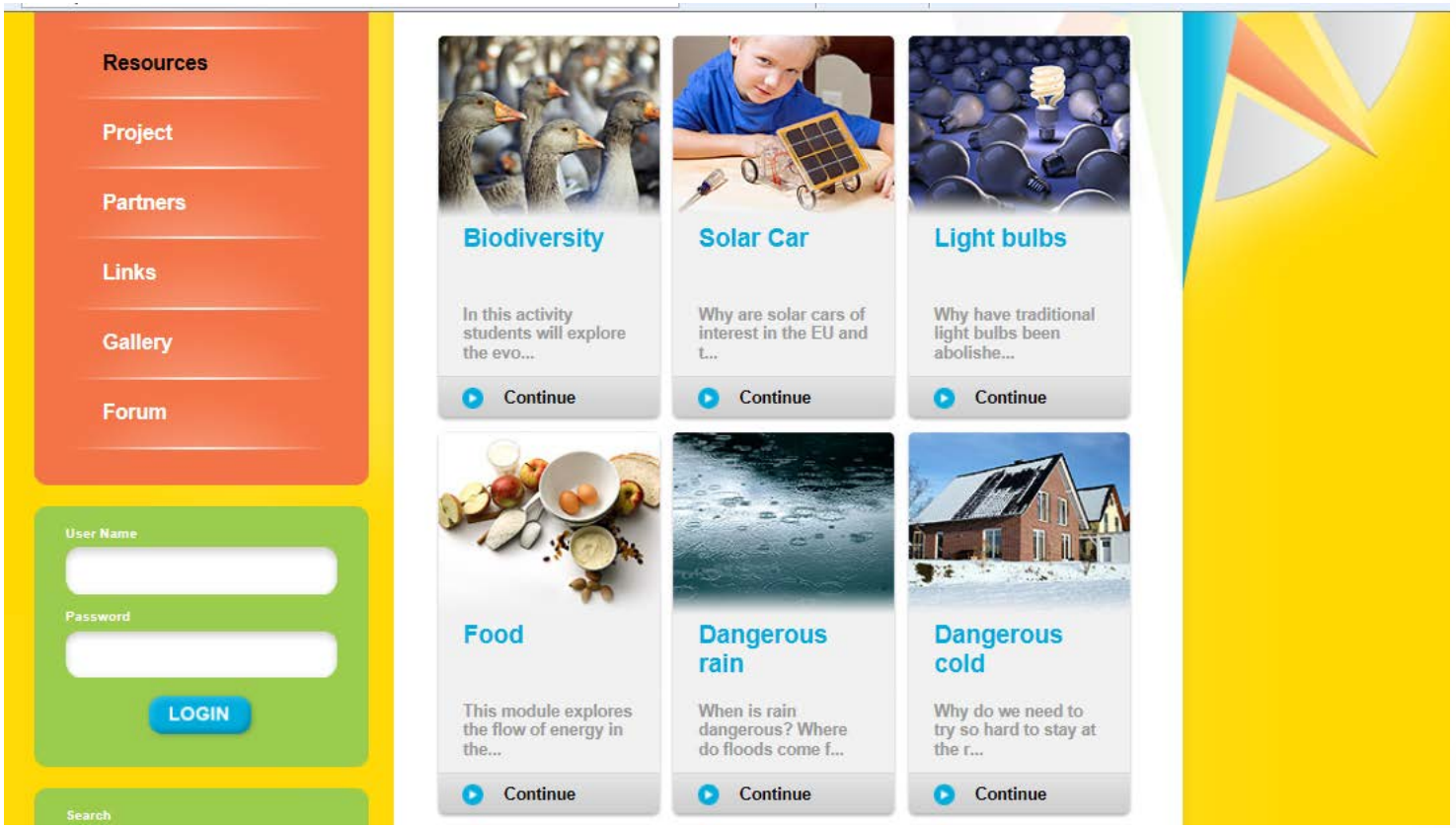
COMPASS



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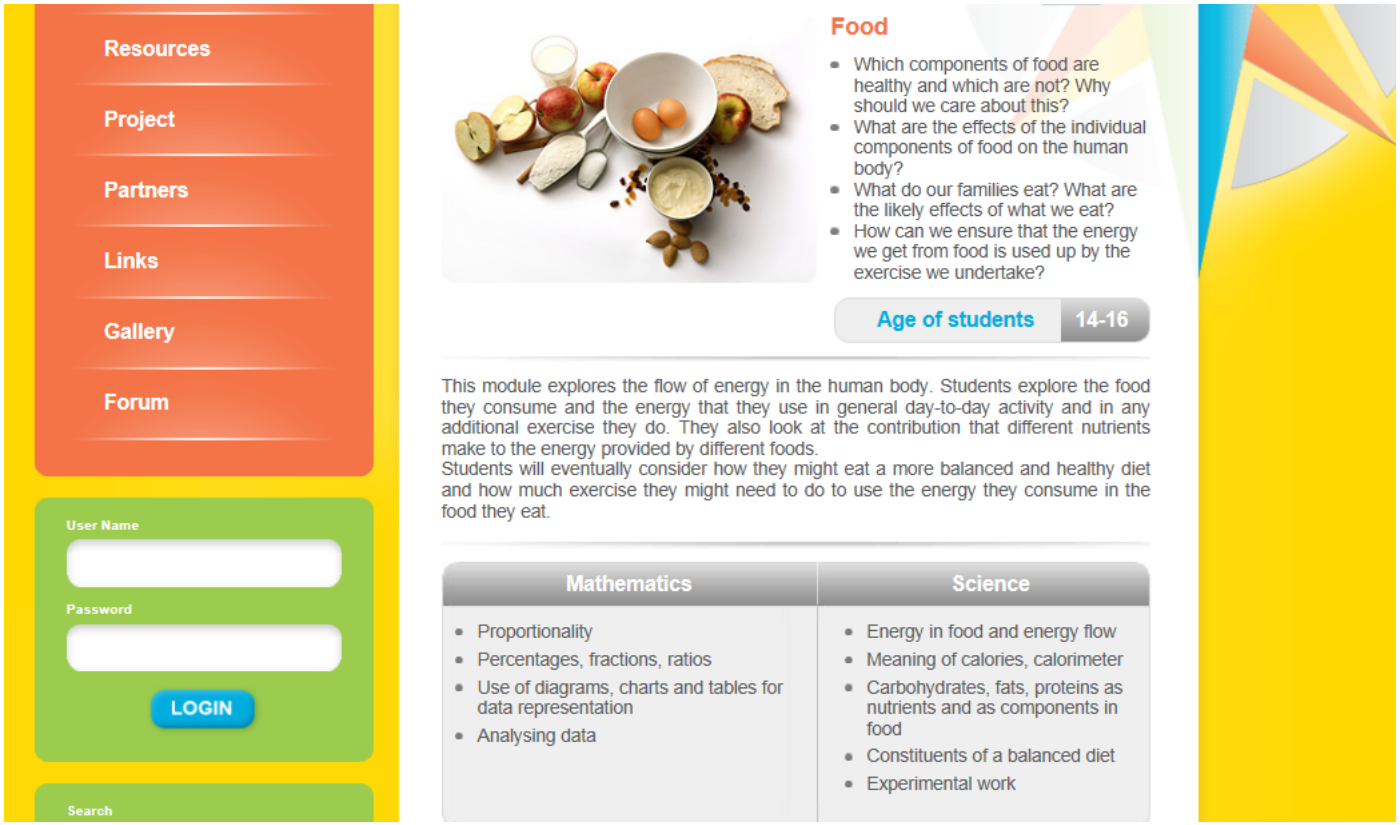
COMPASS material FOOD



link

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PRIMAS

Web

www.primas-project.eu

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PRIMAS

☐ Professional development
☐ Background

Processes of inquiry ☐ select all

☐ Exploring situations
☐ Planning investigations
☐ Experimenting systematically
☐ Interpreting and evaluating
☐ Communicating results

Issues for teachers ☐ select all

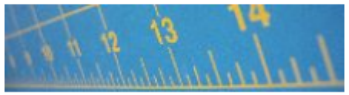
☐ Organizing student-led inquiry
☐ Using unstructured problems
☐ Developing concepts
☐ Asking questions
☐ Managing classroom interaction
☐ Supporting collaborative work
☐ Using assessment to promote learning

Discipline ☐ select all

☐ Mathematics
☐ Physics
☐ Chemistry
☐ Biology
☐ Science

PROFESSIONAL DEVELOPMENT

More articles



Professional development modules
for inquiry-based, collaborative learning

PD Module 1: Student-led inquiry
How to ask productive questions for learning

PD Module 2: Tackling unstructured problems
Selection of mathematical techniques

TEACHING MATERIALS

More articles

Animal fooprint
Interpretation of observations

Learning to model
Guiding low achieving students

Hydratation of legumes
Teachers experiencing IBL as students

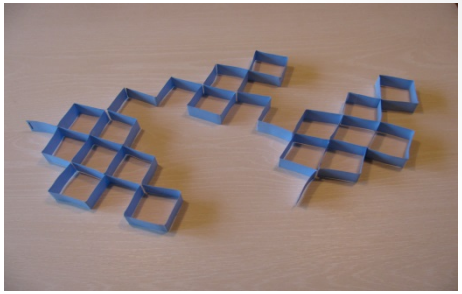
BACKGROUND

More articles

Pollen
Promotion of science teaching renovation

Fibonacci
For dissemination of inquiry-based education

Mathematics B-day



Freudenthal Institute for Science and Mathematics Education
Utrecht University
The Netherlands

Henk van der Kooij

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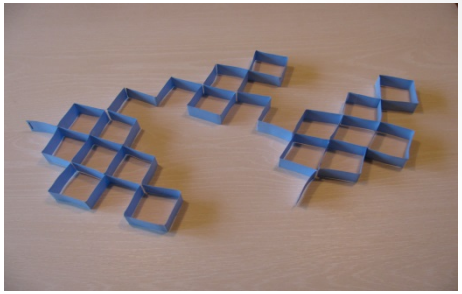
Mathematics B-day



- open, divergent tasks in mathematical text (10 pages)
- mathematics investigation
- process skills in mathematics

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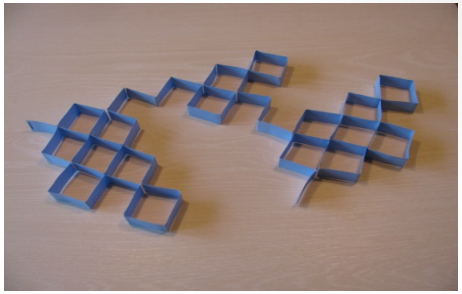
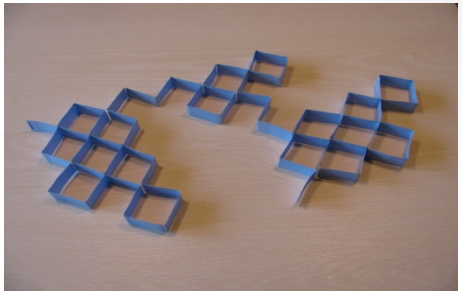
Mathematics B-day



- team hand out one report
- communication within team
- using literature, internet, call a friend
- 7 hours of intense work

Mathematics B-day



Piloting in Slovakia

2011 Combinatorics games

- 40 pupils, 6 schools, 2 towns
- 10 teams

2012 Folding paper

- 117 pupils, 15 schools, 9 towns
- 29 teams

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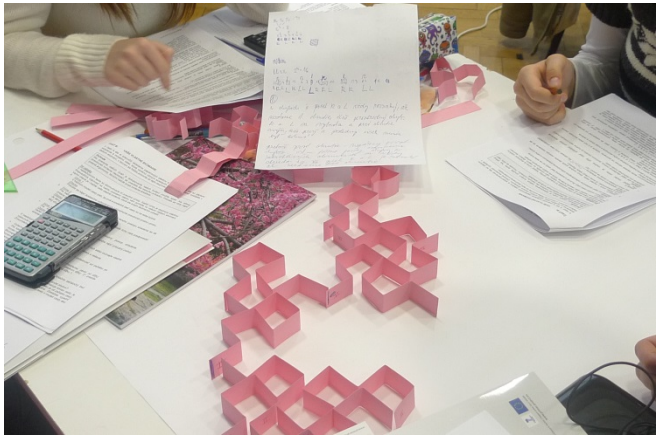
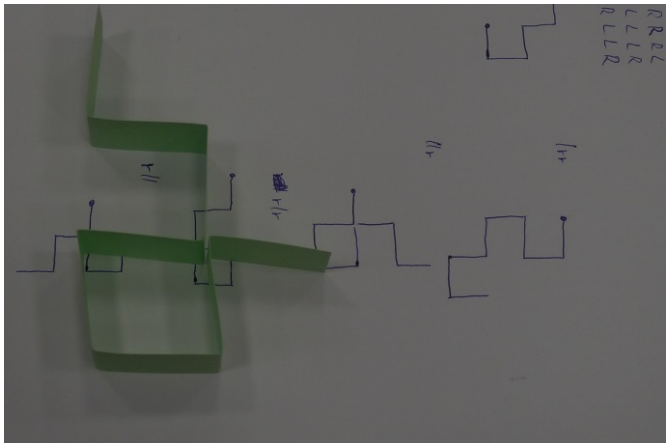
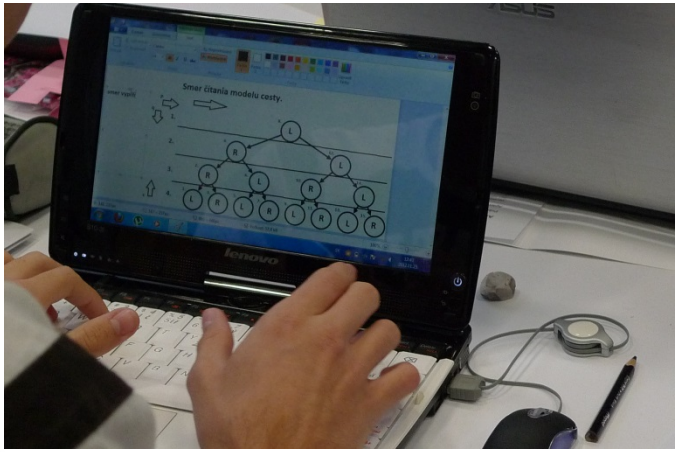
Mathematics B-day 2012

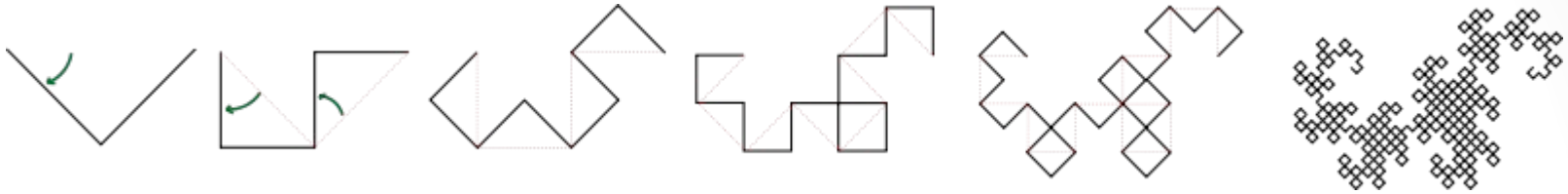


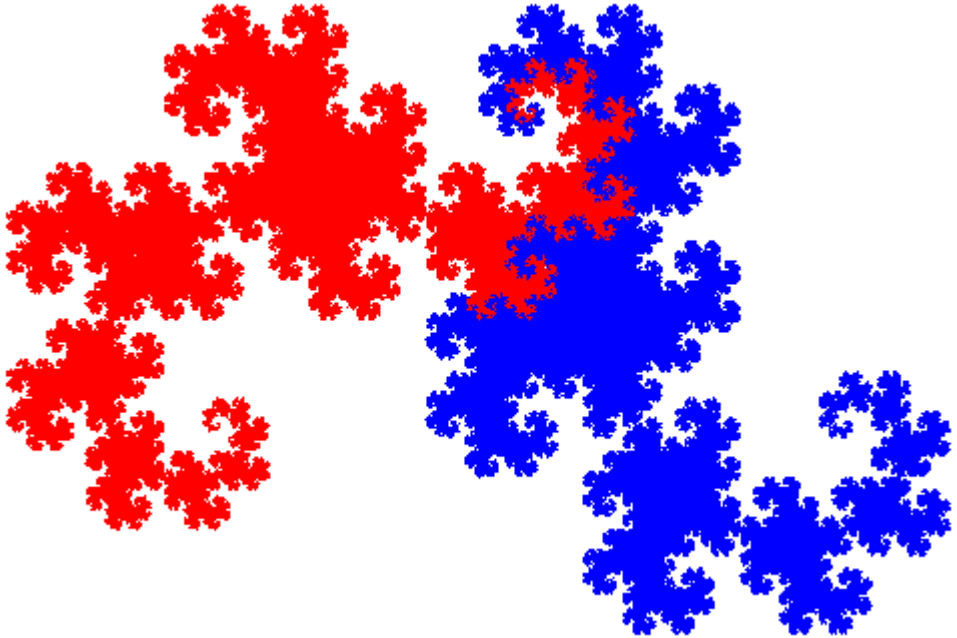


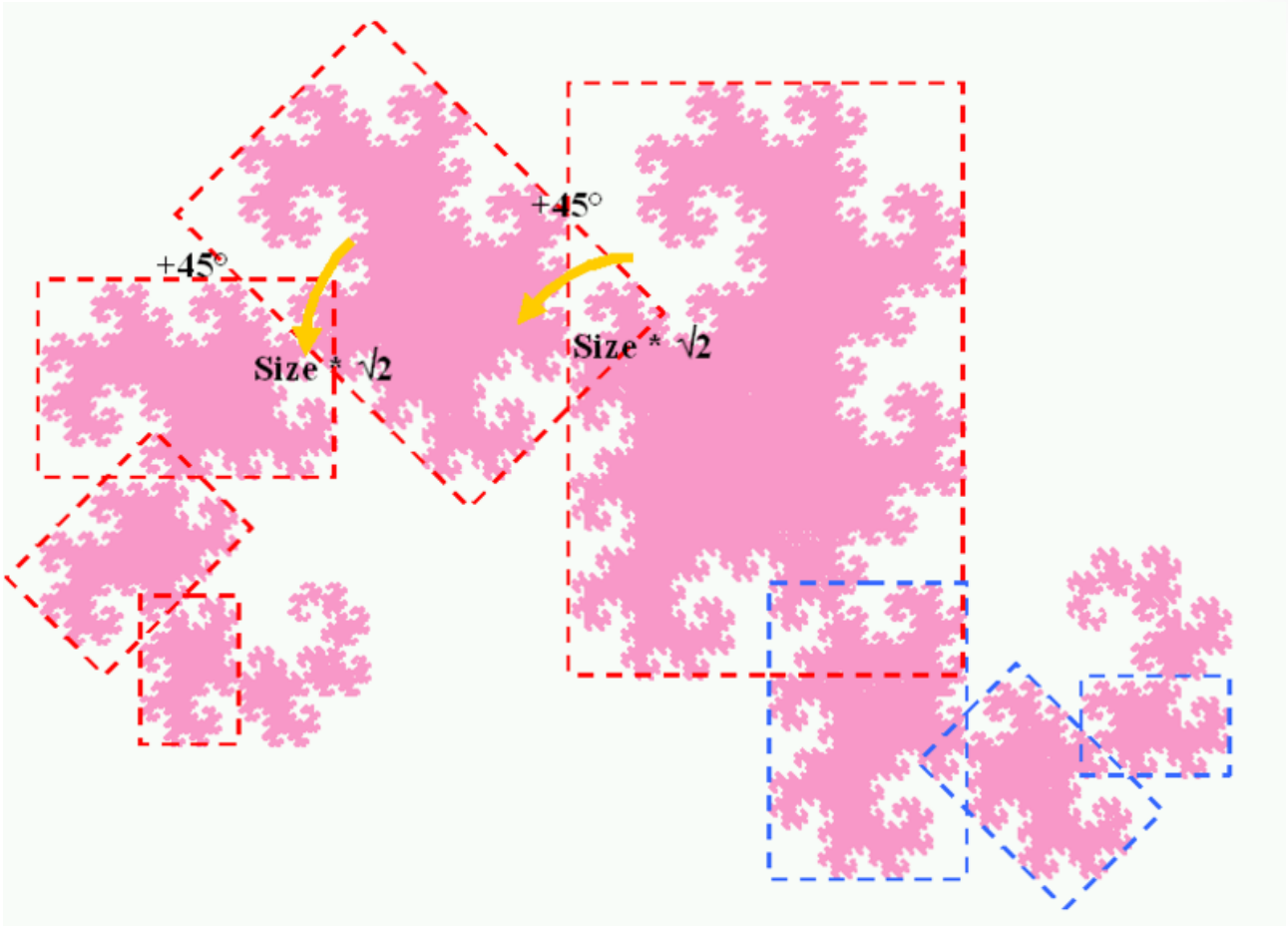


B-DAY applet

John Heighway 1960
Heighway fractal







Infinite number of similar parts.

Ratio of reduction is $\sqrt{2}$, rotation $45°$ and never intersects itself.

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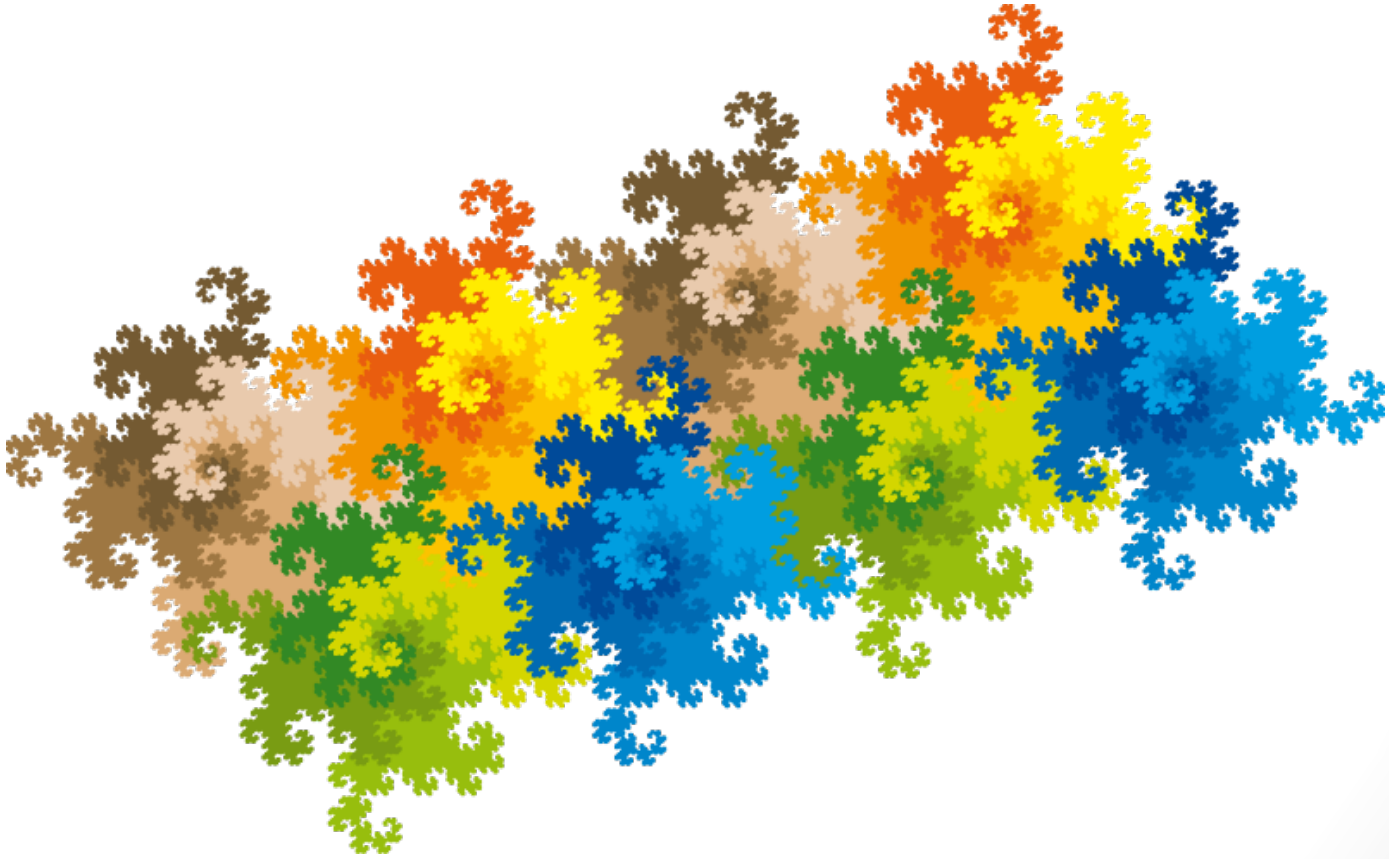
Thank you for your attention



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