

DEMO	COMPETITION
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Submission Number
05



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GameLab math game service

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TUT Game Lab

- Keywords:** Game service, Mathematics, Rational numbers, Learning analytics
- Application field:** Mathematics
- Learning goals:** Support the learning of mathematics with main focus on rational numbers.
- Target group:** Content is suitable for the ages between 8-15.
- Platform:** The service and the games are browser based and can be used on computers or tablet devices. Requires a network connection. No installation needed. Accessible via an url: www.tut.fi/gamelab
- Game Description:** GameLab is a free math game service that is targeted for comprehensive schools. It aims to support classroom practices by providing scientifically tested high quality math games and learning analytics for teachers. Most of the currently available content focus on rational numbers. The games are based on number lines and include various scaffolding features that aims to enhance learning and engagement. The learning analytics are designed to improve classroom pedagogy by helping teachers to assess students' competencies and to reveal misconceptions. Academy of Finland has supported the development of the GameLab service that is continuously developed.



Screenshots:

Games
Familiarize with games and choose content that best fits to your teaching needs. The grade levels are based on Finnish school system.

TOPIC: [dropdown] FEATURE: [dropdown] GRADE: [slider] 5 results

Fractions

Topic: Improper fractions | Mixed numbers | Numberline 0-5 | Numberline 0-1 | Equivalences | Estimation | Fractions | Area models | Numberline

Grade: 3-6

Description: The game promotes understanding of fractions. Students will engage in estimating and comparing fraction magnitudes on number lines. Hit system and graphical representations support deep understanding of fractions.

Features: Tasks | Special skills | Extra tasks | Mathematical traps | Enemies | Visual landmarks | Sequential game character movement | Mathematical enemies | Visual representations

Times tables

Topic: Numberline 0-10 | Multiplication | Whole numbers | Numberline

Grade: 2-6

Description: The game help students to learn and memorise multiplication tables. Number line based mechanics boost the learning outcomes.

Features: Sequential game character movement | Mathematical traps

Fractions and decimals

Topic: Improper fractions | Mixed numbers | Operations | Numberline 0-5 | Comparison | Numberline 0-1 | Fractions | Decimals | Equivalences | Number type | Fractions | Estimation

Grade: 4-8

Description: The game promotes understanding of fractions and decimals and their relations. Students will engage in different kind of tasks that require working simultaneously with fractions and decimal magnitudes on number lines. Games can include also operations.

Features: Special skills | Extra tasks | Mathematical traps | Sequential game character movement | Visual landmarks | Exam

Learning Analytics
- Summary of class progress and performance
- Students' individual progress and performance

Class analytics

Exam header 31 | Performance [progress bar]

Student analytics

Completion | Performance
Some progress | Performance [progress bar]

Exam header 31 | Evaluation | Student system understanding | Points [progress bar]

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