LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de l'Éducation nationale,
de l'Enfance et de la Jeunesse

SCRIPT
Service de Coordination de la Recherche
et de l'Innovation pédagogiques et technologiques

FLiP
e-assessment community

2nd international event

Rome

06th – 07th June 2019

Luxembourg's experience in e-assessment for learning

Country presentation - LUXEMBOURG

LUXEMBOURG in FLIP+

- Sharing content: technology-enhanced items
- Sharing knowledge and experience
  - Teacher development
  - Research on User eXperience
  - Big data and learning strategies

Country presentation - LUXEMBOURG

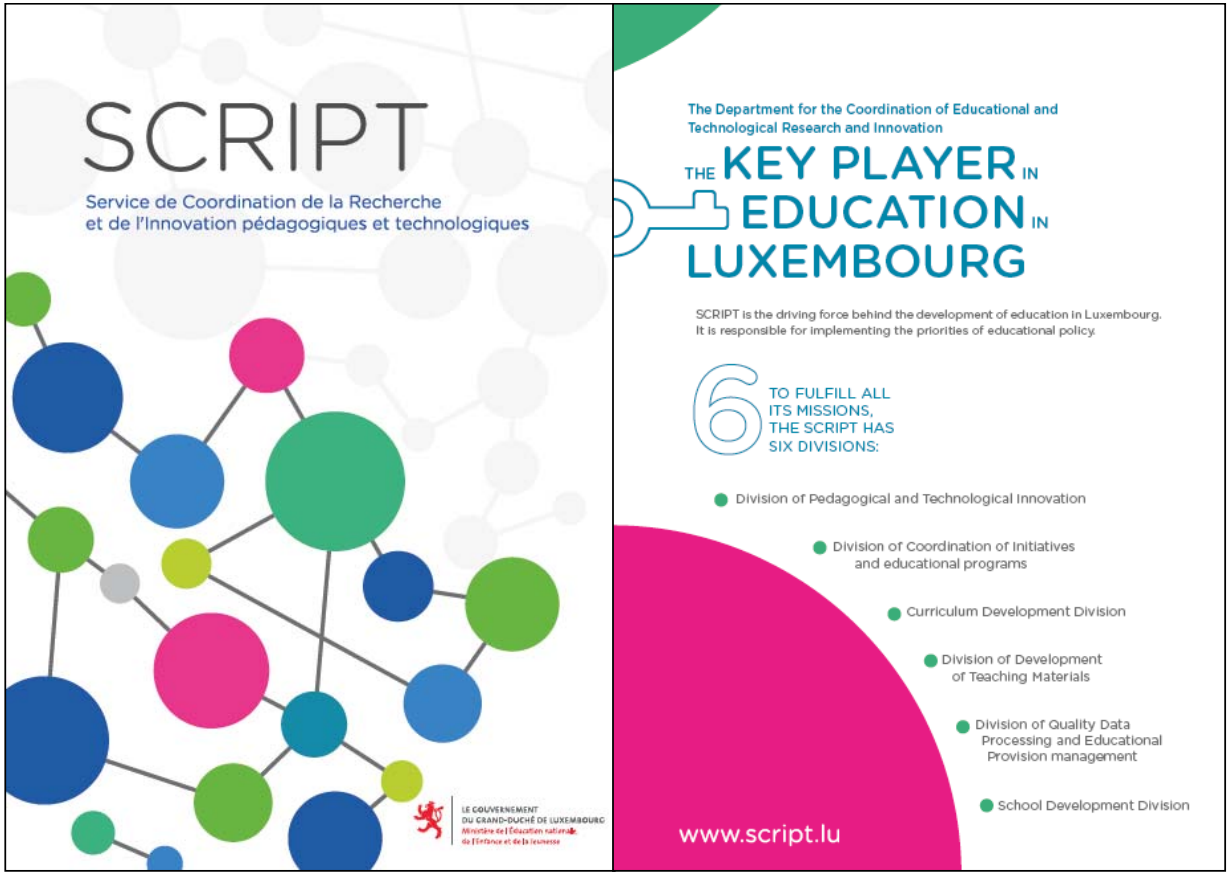
LUXEMBOURG in figures

- ~590k inhabitants 48% foreign residents
- 88k students, ~ 42% foreign origin
- 156 primary & 40 secondary schools
- 1 university
- 180, 000 cross-border workers
  - 45% of jobs

eduPôle walferdange

SCRIPT
Service de Coordination de la Recherche et de l'Innovation pédagogiques et technologiques

Country presentation - LUXEMBOURG



SCRIPT - our expertise

120

THE KEY PLAYER IN EDUCATION IN LUXEMBOURG

SCRIPT- Data Division

Database management

Datalakes: link data content, quality, security

Data production

Production, dissemination & publication: data, statistics for all education actors

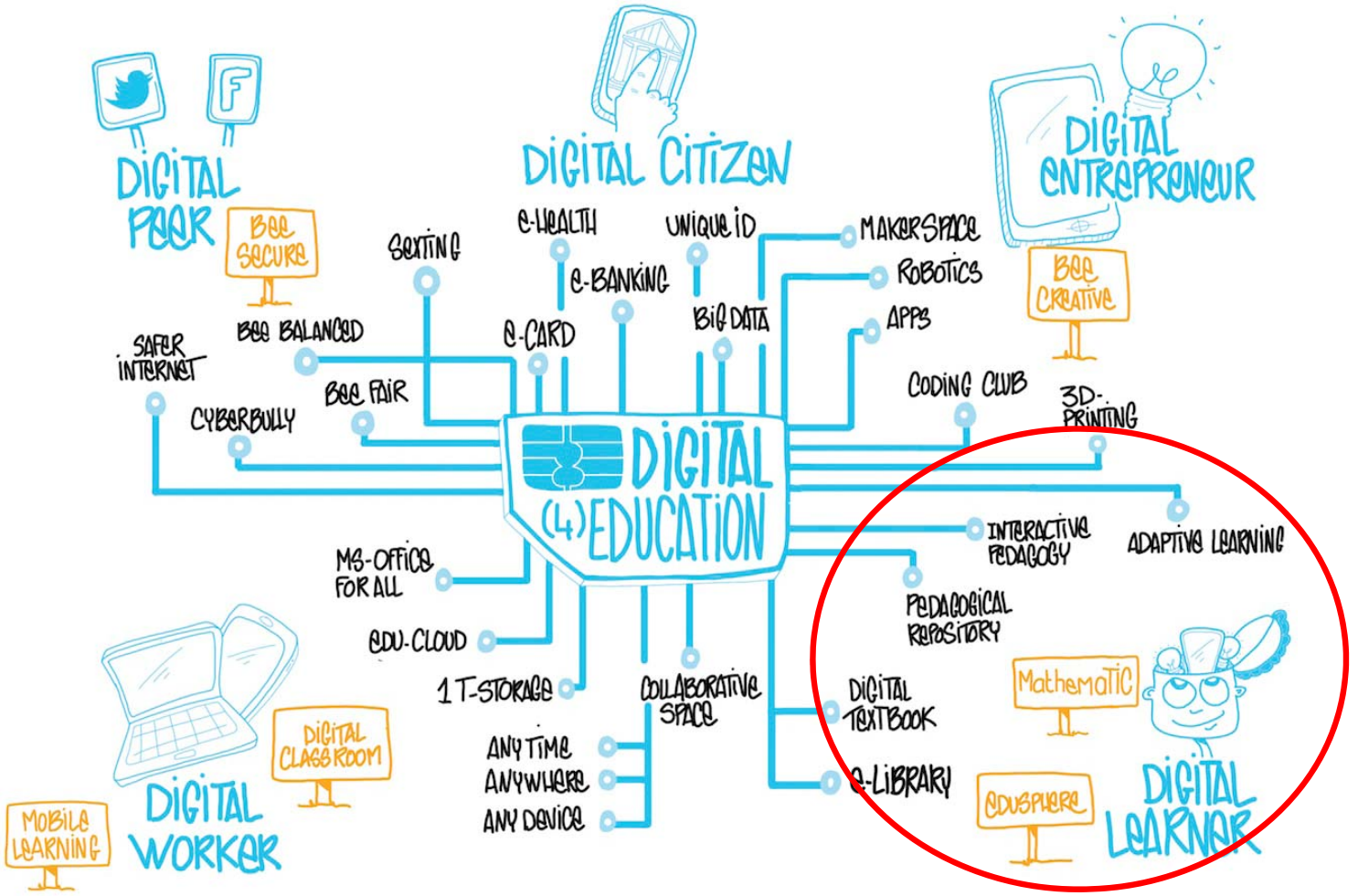
Student assessments

Coordination: national & international assessments

Data use & literacy

Creation of data use framework, tools & data literacy programs

Digital$_{(4)}$ Education - LUXEMBOURG

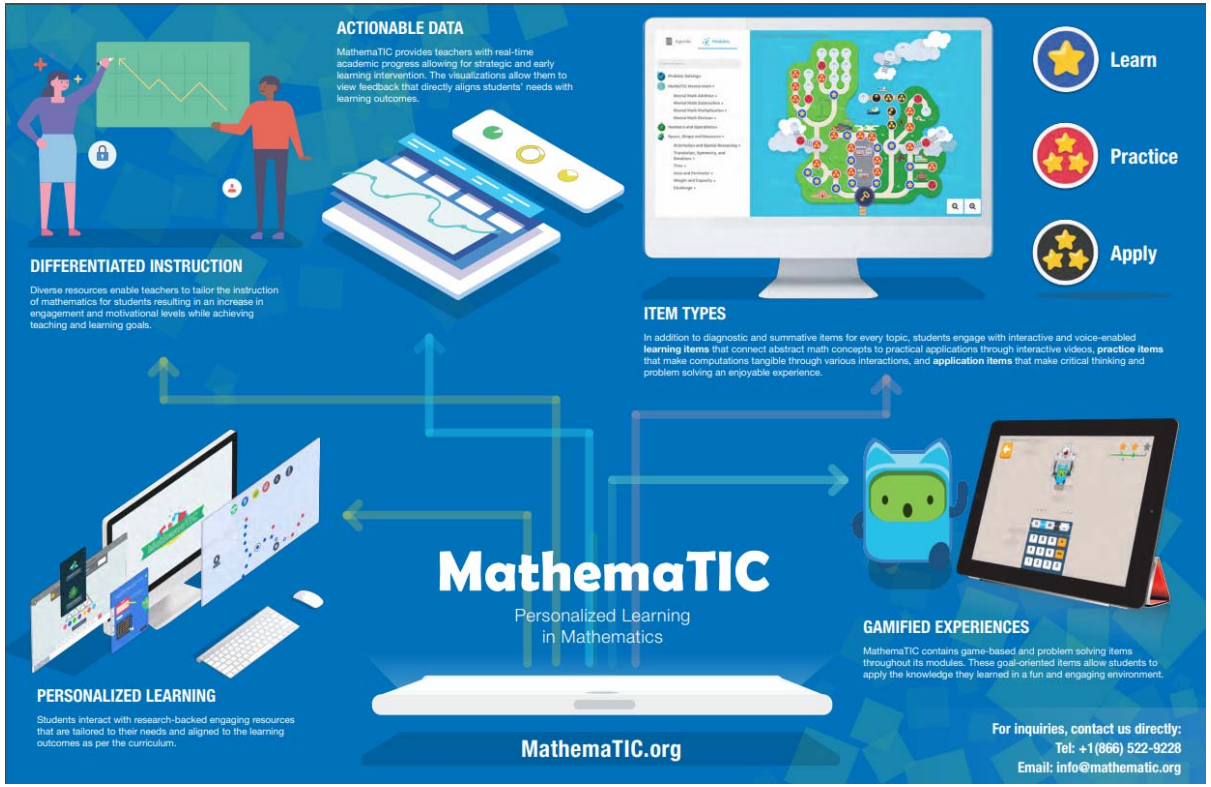


MathemaTIC: personalized learning

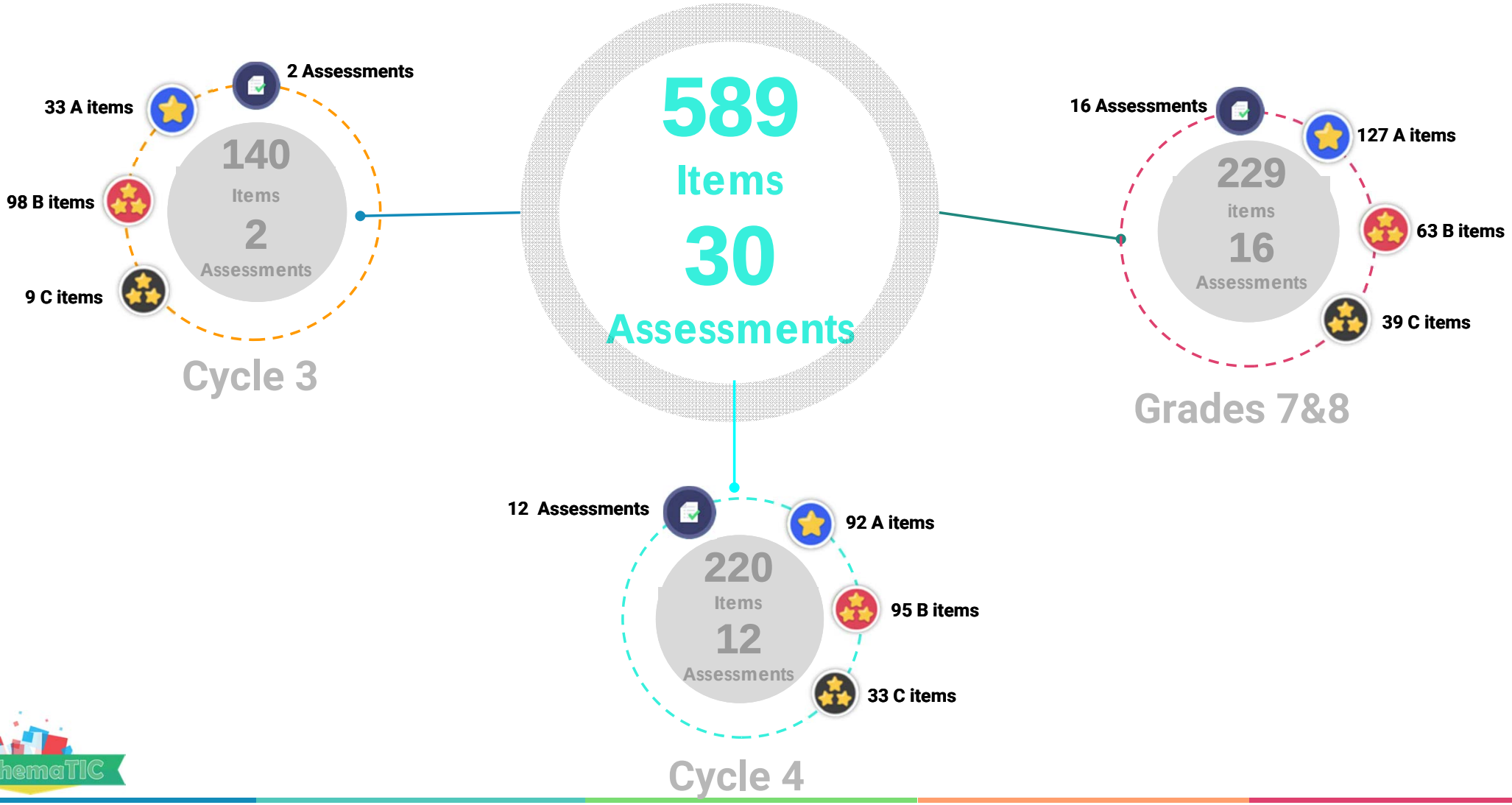
Assessment for learning

- Adaptive
- Multilingual
- Intuitive
- Curriculum-aligned
- Tech-enhanced items

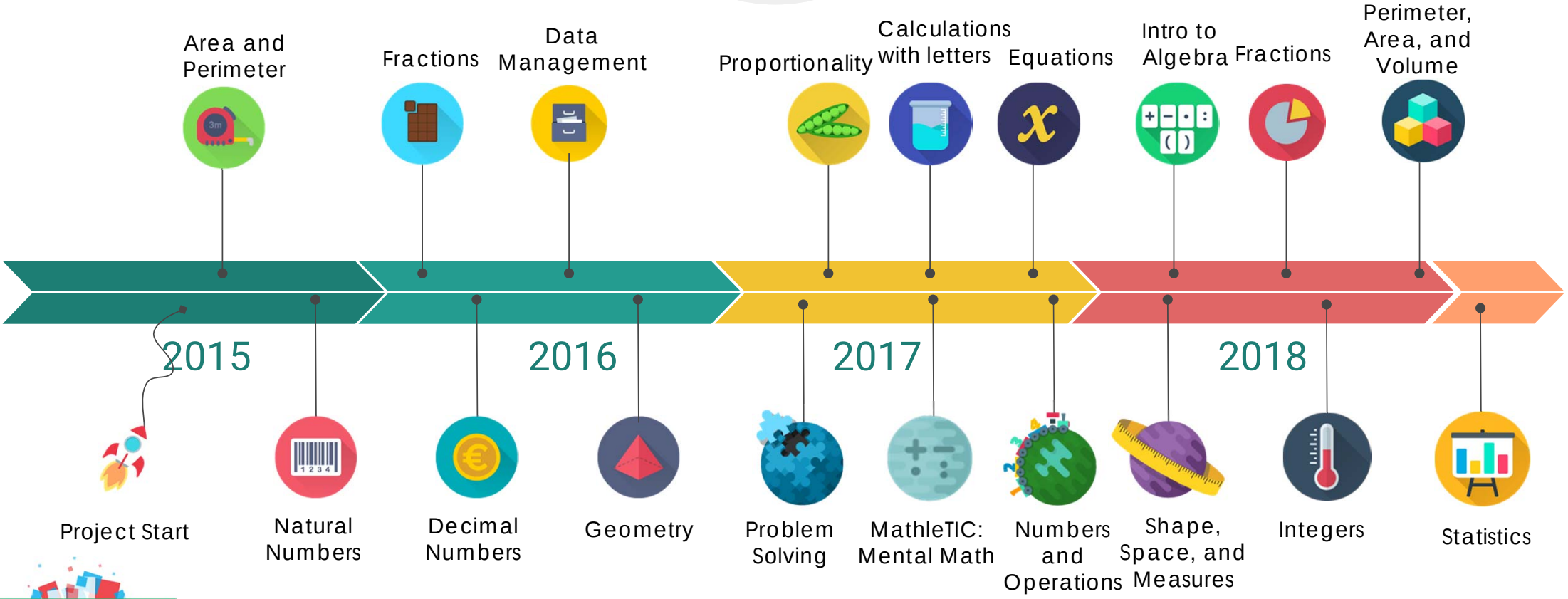
www.mathematic.lu



MathemaTIC: technology-enhanced items

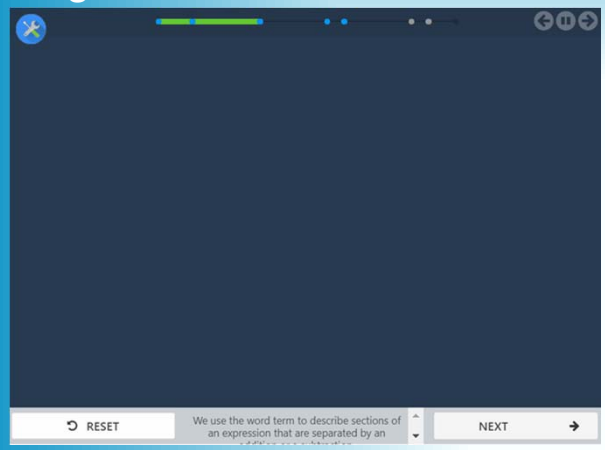


18 Modules

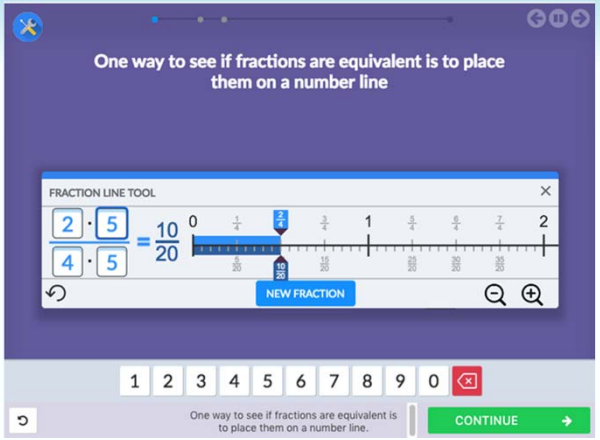

Area and Perimeter
Fractions
Data Management
Proportionality
Calculations with letters
Equations
Intro to Algebra
Fractions
Perimeter, Area, and Volume
2015
2016
2017
2018
Project Start
Natural Numbers
Decimal Numbers
Geometry
Problem Solving
MathleTIC: Mental Math
Numbers and Operations
Shape, Space, and Measures
Integers
Statistics

MathemaTIC- Learning tools

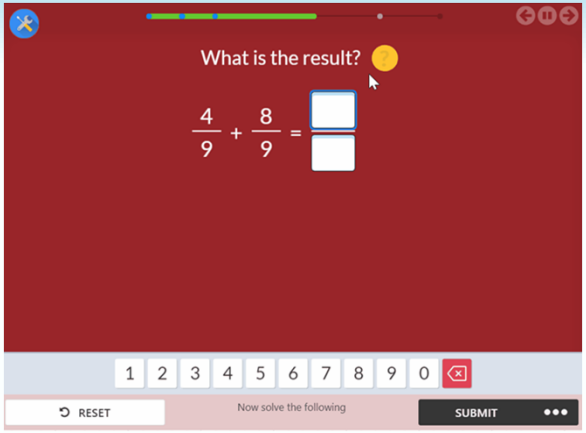
Algebraic Terms



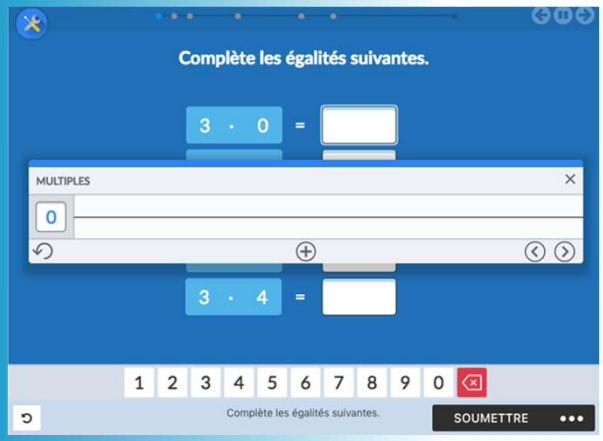
Fraction Line Tool

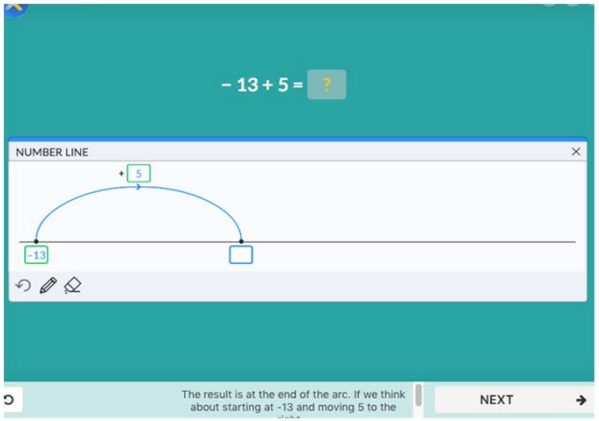


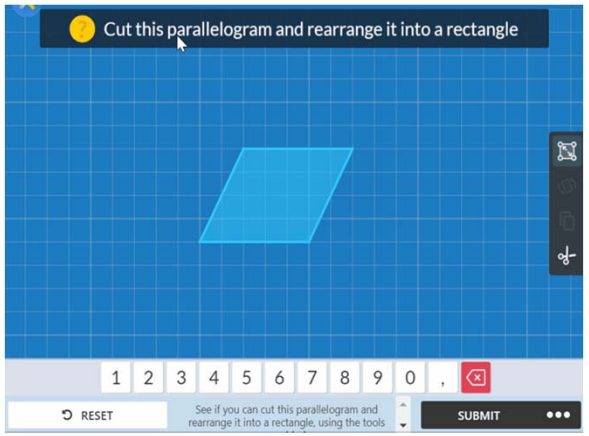
Fraction Multi-Tool



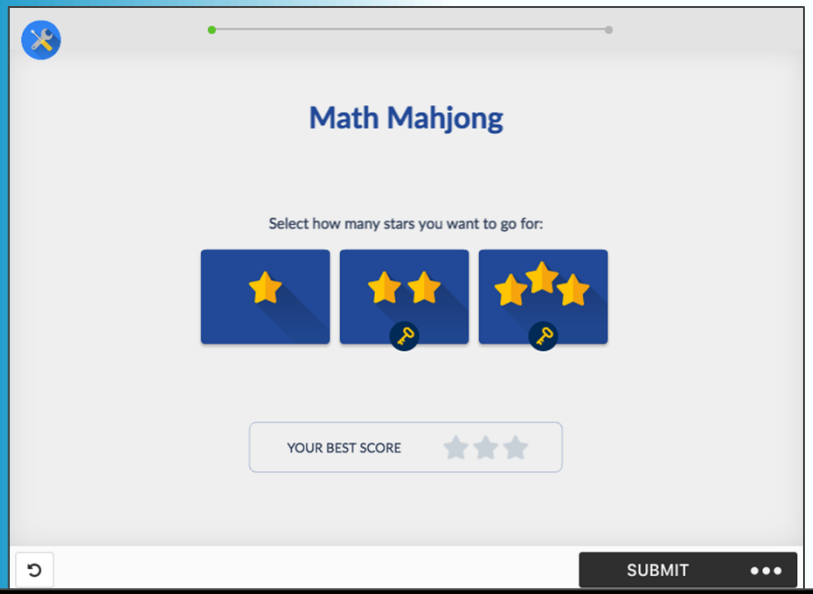
Multiples Tool



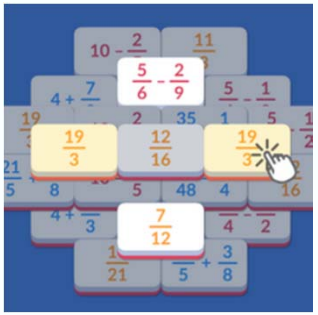


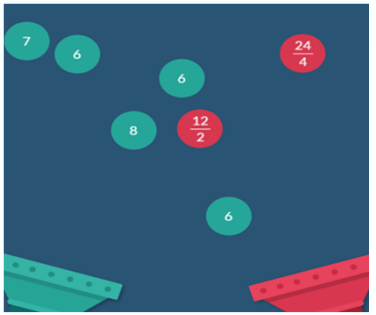


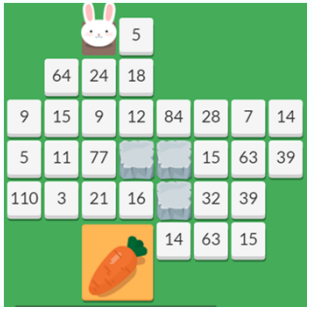
MathemaTIC- Gamification



Difficulty Selection



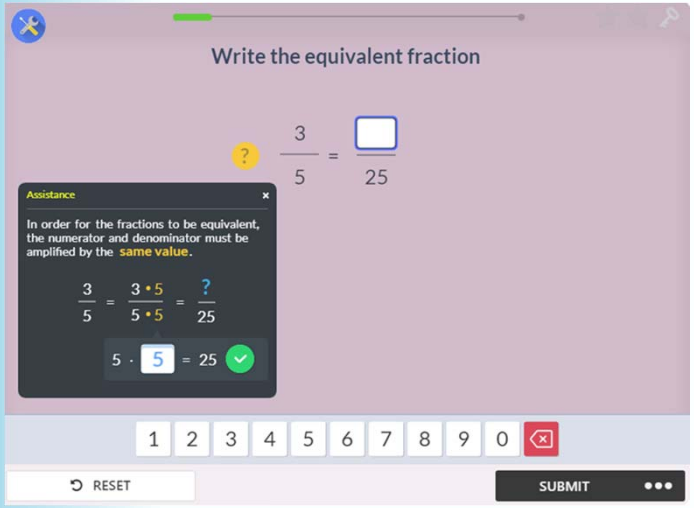




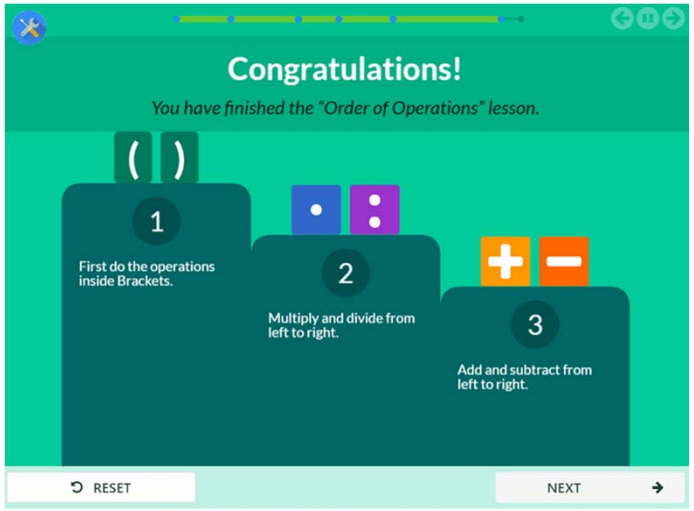
Game-Like Items

MathemaTIC- Key features in items

Step-by-step Assistance

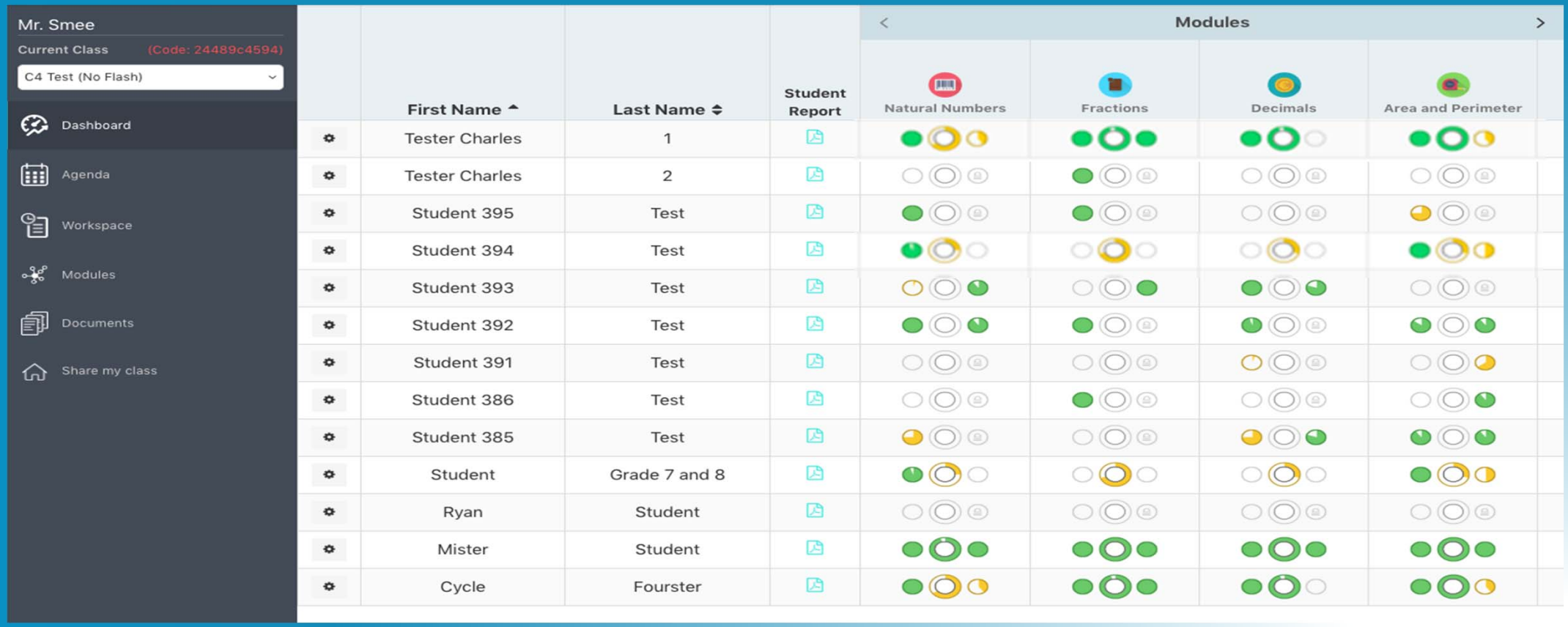


Reference Tools

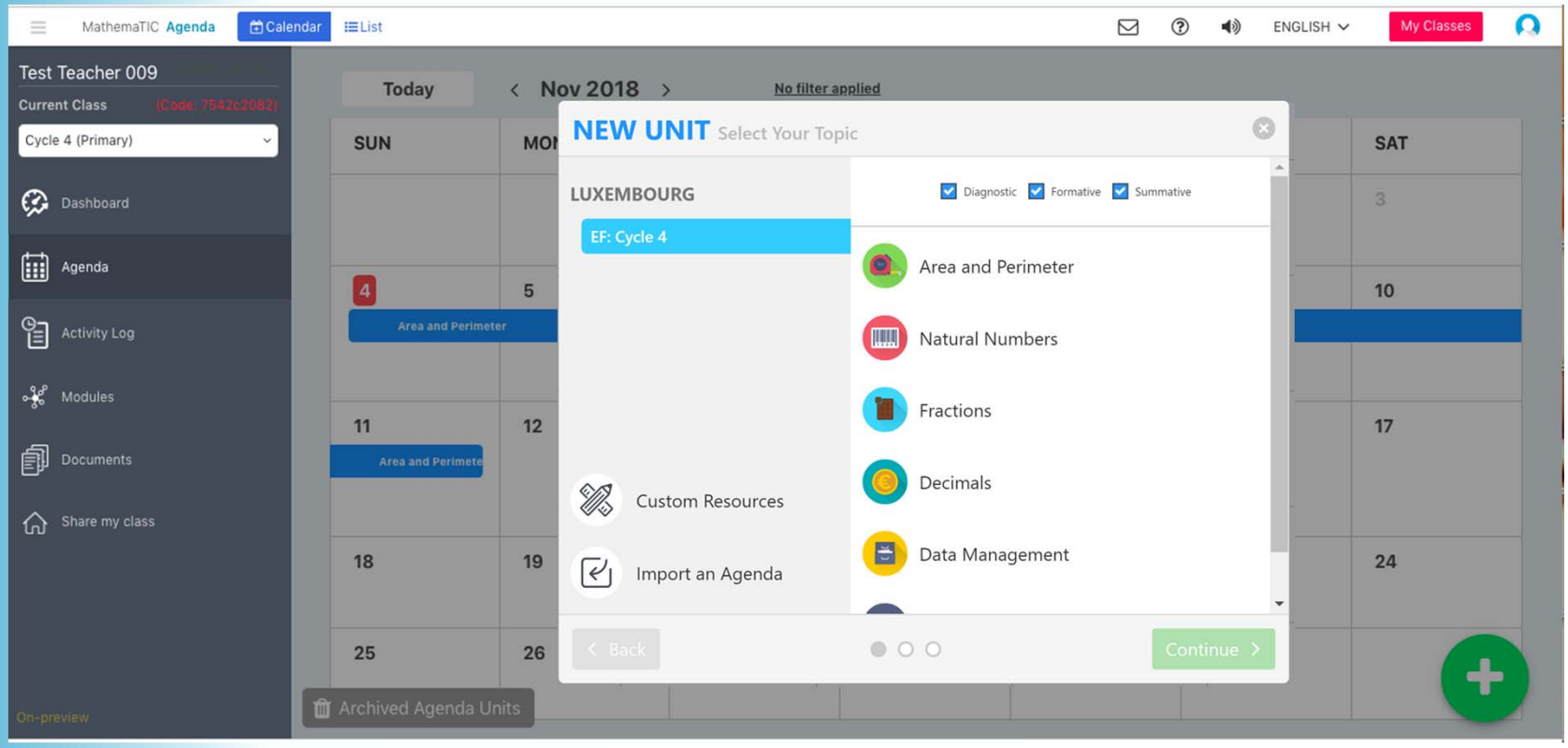


TEACHER RESOURCES
Developed in 2017-2019

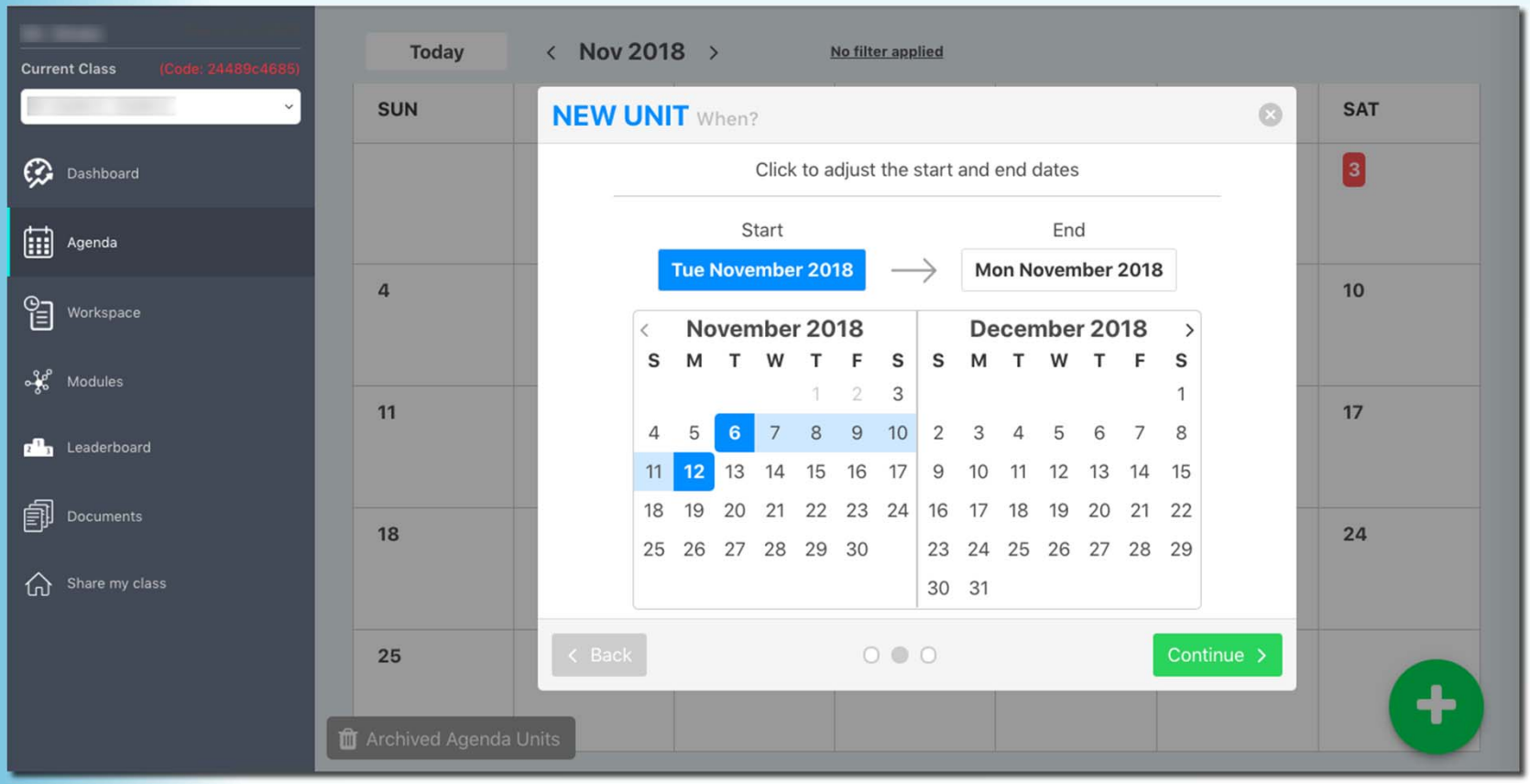
MathemaTIC- dashboard to visualize progress



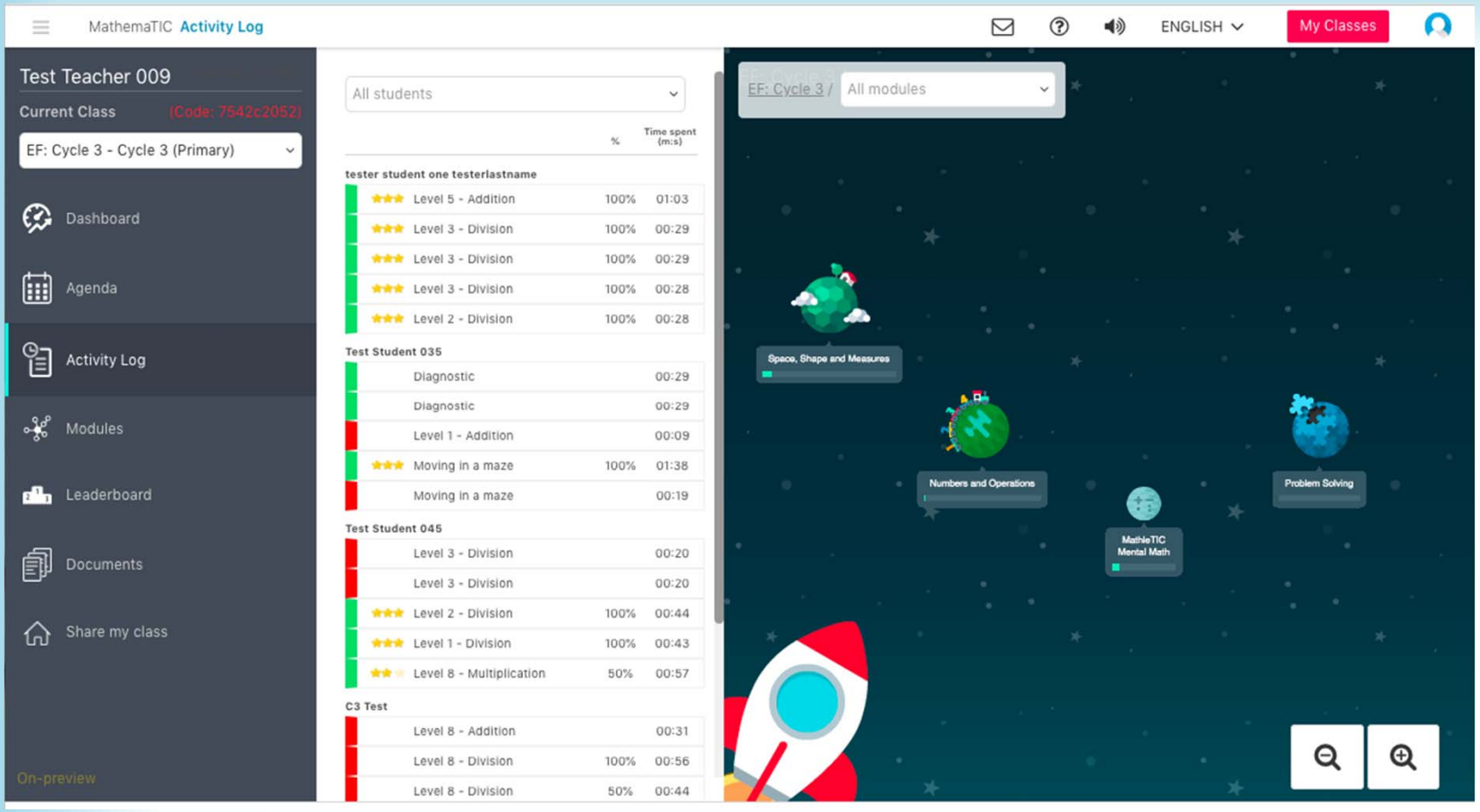
MathemaTIC- agenda to assign lessons to overall class or individual students



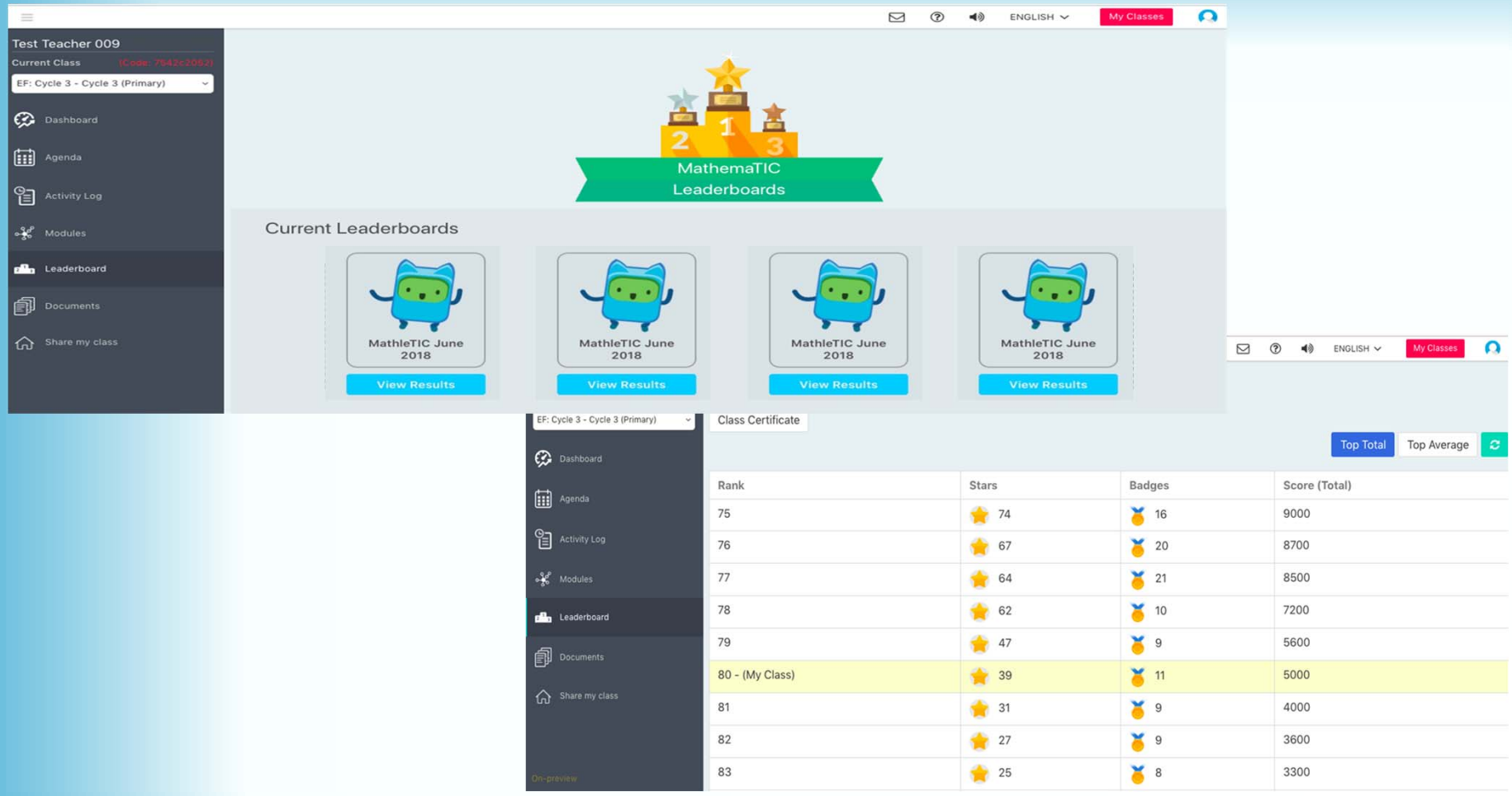
MathemaTIC- scheduling or customizing units to overall class or individual students



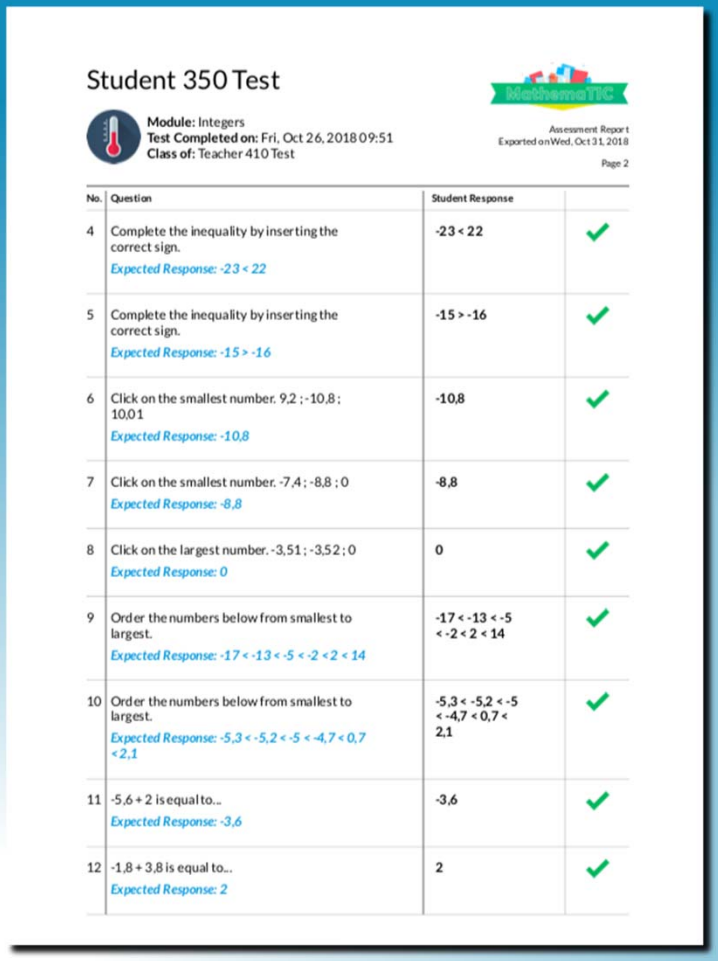
MathemaTIC- activity log with detailed performance data by student and class



MathemaTIC- leaderboards



MathemaTIC- student reports



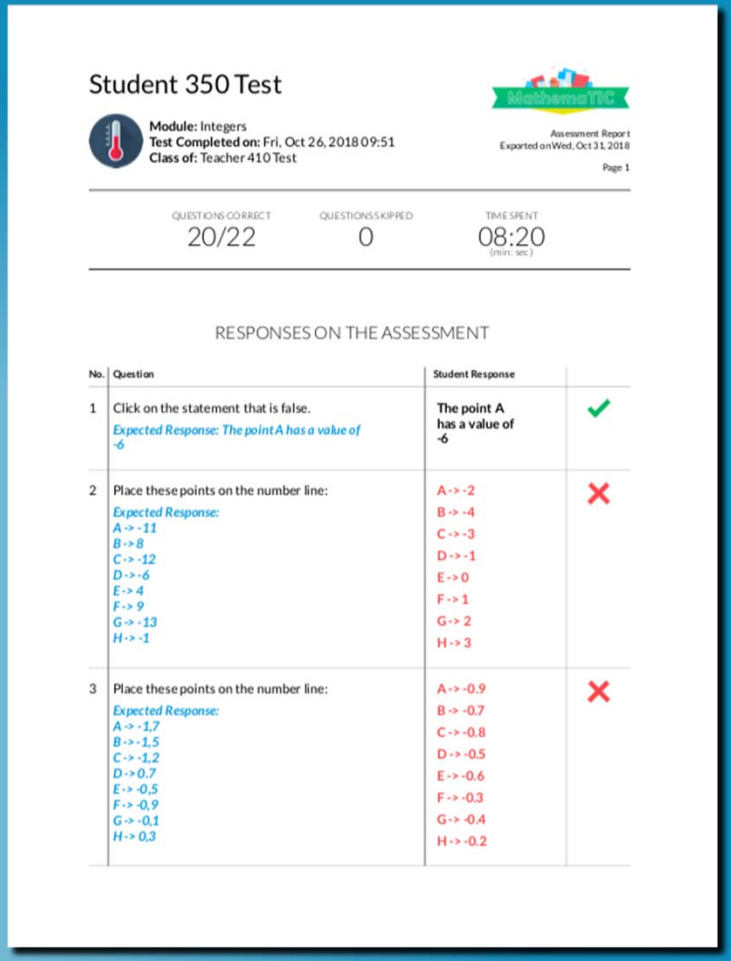
Student 350 Test

Module: Integers
Test Completed on: Fri, Oct 26, 2018 09:51
Class of: Teacher 410 Test

Assessment Report
Exported on Wed, Oct 31, 2018

Page 2

No.	Question	Student Response	
4	Complete the inequality by inserting the correct sign. *Expected Response: -23 < 22*	-23 < 22	✓
5	Complete the inequality by inserting the correct sign. *Expected Response: -15 > -16*	-15 > -16	✓
6	Click on the smallest number. 9,2 ; -10,8 ; 10,01 *Expected Response: -10,8*	-10,8	✓
7	Click on the smallest number. -7,4 ; -8,8 ; 0 *Expected Response: -8,8*	-8,8	✓
8	Click on the largest number. -3,51 ; -3,52 ; 0 *Expected Response: 0*	0	✓
9	Order the numbers below from smallest to largest. *Expected Response: -17 < -13 < -5 < -2 < 2 < 14*	-17 < -13 < -5 < -2 < 2 < 14	✓
10	Order the numbers below from smallest to largest. *Expected Response: -5,3 < -5,2 < -5 < -4,7 < 0,7 < 2,1*	-5,3 < -5,2 < -5 < -4,7 < 0,7 < 2,1	✓
11	-5,6 + 2 is equal to... *Expected Response: -3,6*	-3,6	✓
12	-1,8 + 3,8 is equal to... *Expected Response: 2*	2	✓



Student 350 Test

Module: Integers
Test Completed on: Fri, Oct 26, 2018 09:51
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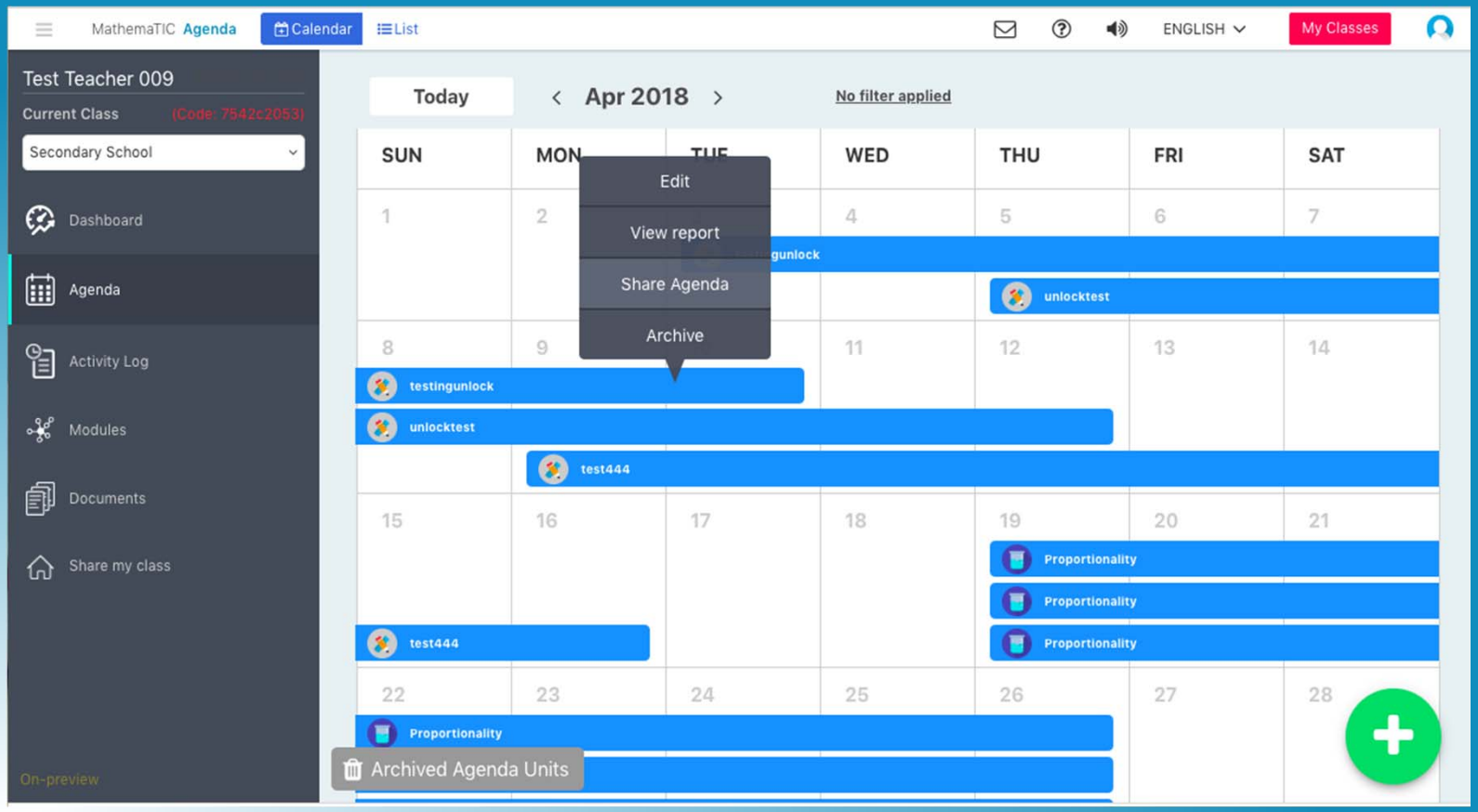
Page 1

QUESTIONS CORRECT	QUESTIONS SKIPPED	TIME SPENT (min: sec)
20/22	0	08:20

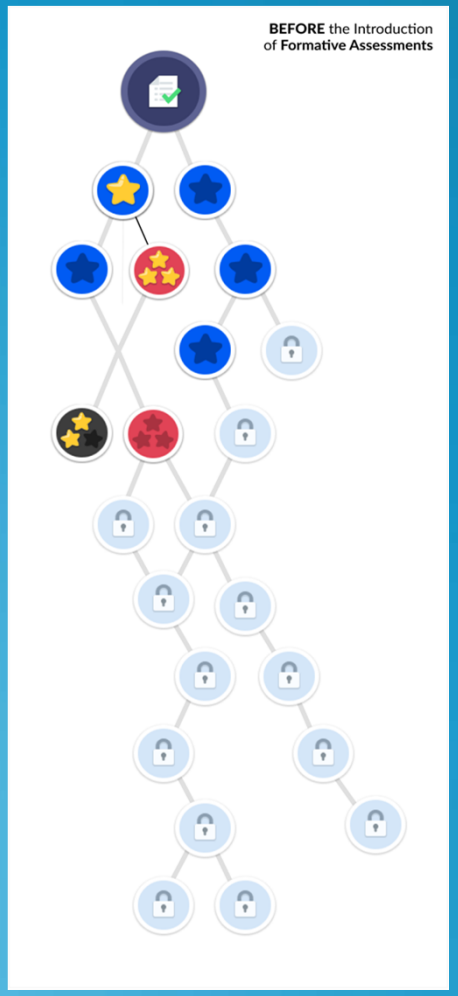
RESPONSES ON THE ASSESSMENT

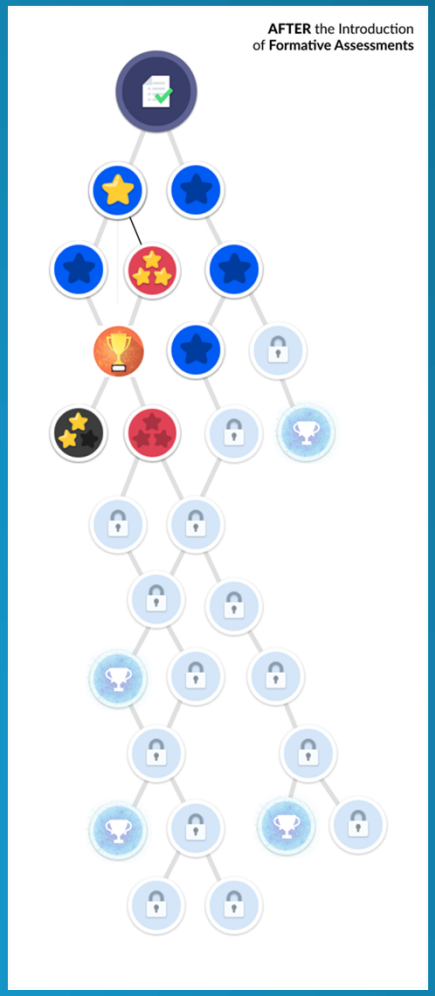
No.	Question	Student Response	
1	Click on the statement that is false. *Expected Response: The point A has a value of -6*	The point A has a value of -6	✓
2	Place these points on the number line: *Expected Response:* *A -> -11* *B -> 8* *C -> -12* *D -> -6* *E -> 4* *F -> 9* *G -> -13* *H -> -1*	A -> -2 B -> -4 C -> -3 D -> -1 E -> 0 F -> 1 G -> 2 H -> 3	✗
3	Place these points on the number line: *Expected Response:* *A -> -1,7* *B -> -1,5* *C -> -1,2* *D -> 0,7* *E -> -0,5* *F -> -0,9* *G -> -0,1* *H -> 0,3*	A -> -0.9 B -> -0.7 C -> -0.8 D -> -0.5 E -> -0.6 F -> -0.3 G -> -0.4 H -> -0.2	✗

MathemaTIC- sharing agenda



MathemaTIC- formative mini-assessments





MathemaTIC – in a collaborative partnership

LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de l'Éducation nationale,
de l'Enfance et de la Jeunesse

cgié centre de gestion informatique de l'éducation

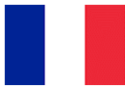
Researchers

SCRIPT
Service de Coordination de la Recherche et de l'Innovation pédagogiques et technologiques

LISER
LUXEMBOURG INSTITUTE OF SOCIO-ECONOMIC RESEARCH

uni.lu
UNIVERSITÉ DU LUXEMBOURG
LUCET | LUXEMBOURG CENTRE FOR EDUCATIONAL TESTING

Teachers, IT and curriculum specialists



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RÉPUBLIQUE FRANÇAISE

MINISTÈRE DE L'ÉDUCATION NATIONALE, DE L'ENSEIGNEMENT SUPÉRIEUR ET DE LA RECHERCHE

DEPP

Technology learning architects

Vretta

MathemaTIC: teacher development

PLC for MathemaTIC

- online interactive tool
- tailored to teacher needs
- 20% of schools
- 90’ of team work per month
- shared practice and reflection

Professional learning community

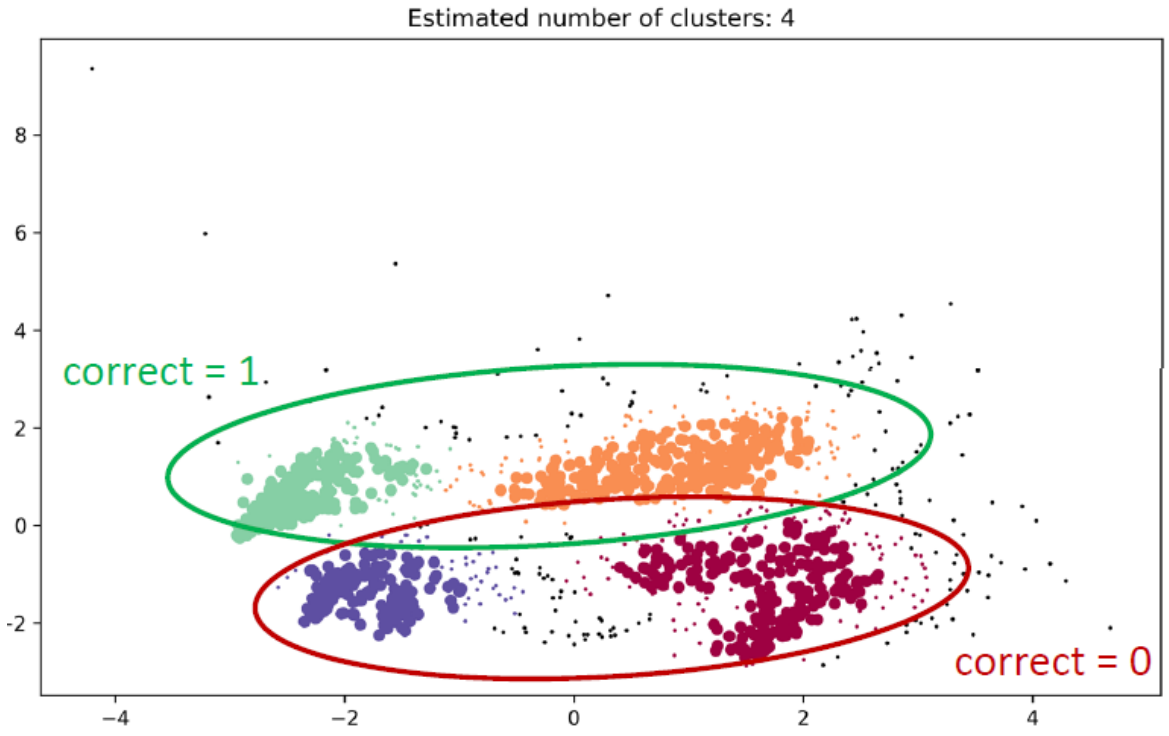
MathemaTIC: research on User eXperience

UX & MathemaTIC

- perception of usability
- video-taping of classroom
- 360 view of interaction
- eye-tracker to capture emotions
- field observation

Assessment MicroAnalytics

MathemaTIC: big data & learning

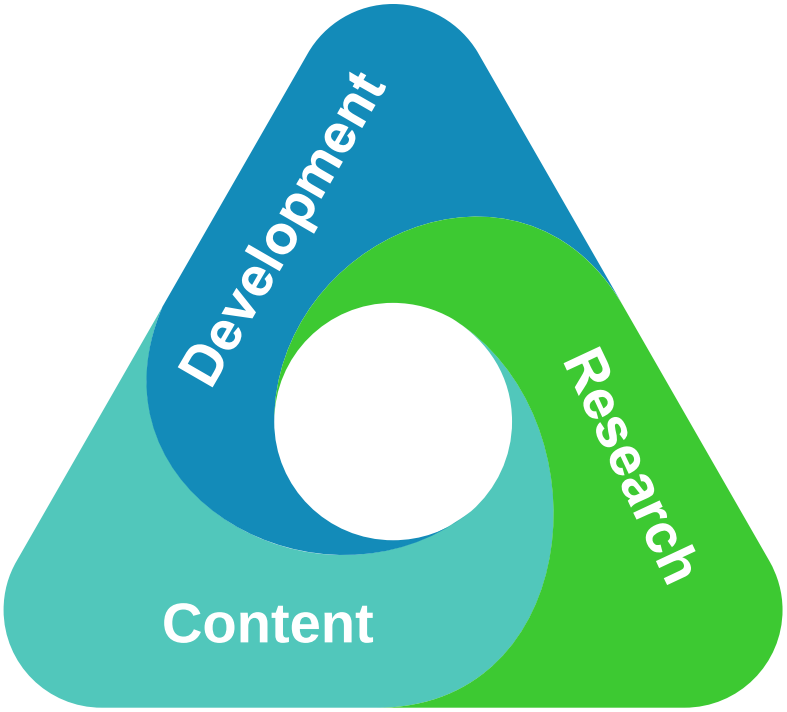


Patterns in problem-solving

Learning strategies in MathemaTIC

- use data from an online formative assessment
- examine item from a didactical point of view
- use data to illustrate possible paths for solving problem
- identify patterns in strategies applied by students
- provide data reports to teachers

MathemaTIC – sharing in FLIP



Sharing in FLIP+

- access to items
- sharing further development
- conversion to PCI
- professional development and research
- bilateral conventions

Sharing content, adaptation of items and research

GET IN TOUCH

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SCRIPT

Service de Coordination de la Recherche et de l'Innovation pédagogiques et technologiques

THANK YOU!

website
www.script.lu