mathsBURST

mathsburst.com supports the rollout of MathsBURST program at your school. It's fully intergrated tool for your teachers and students, accessiable via any modern web browser on your school's exisiting tablets and laptops.

What follows is a walkthrough of our key features.

- Framework
- Lessons
- STEM Units
- Challenges
- Students
- Assessment
- Support

Conceptual Underpinnings of the Spatial Reasoning Intervention Framework

The practice of becoming spatial

Pedagogical Framework ELPSA

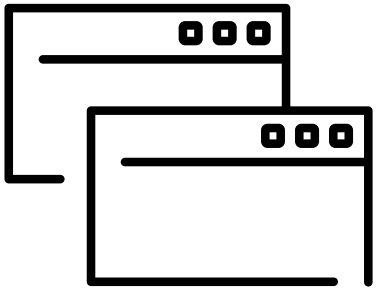
- **Experience**
- **Language**
- **Pictorial**
- **Symbolic**
- **Application**

Student Focused Visualisation

- **Visualise**
- **Predict**
- **Check**

Practise features

Digital Resources



2 HTML-based digital challenges per year

Pedagogical Framework

Our learning activities are highly engaging, hands-on, experiences that move the students toward symbolic reasoning.

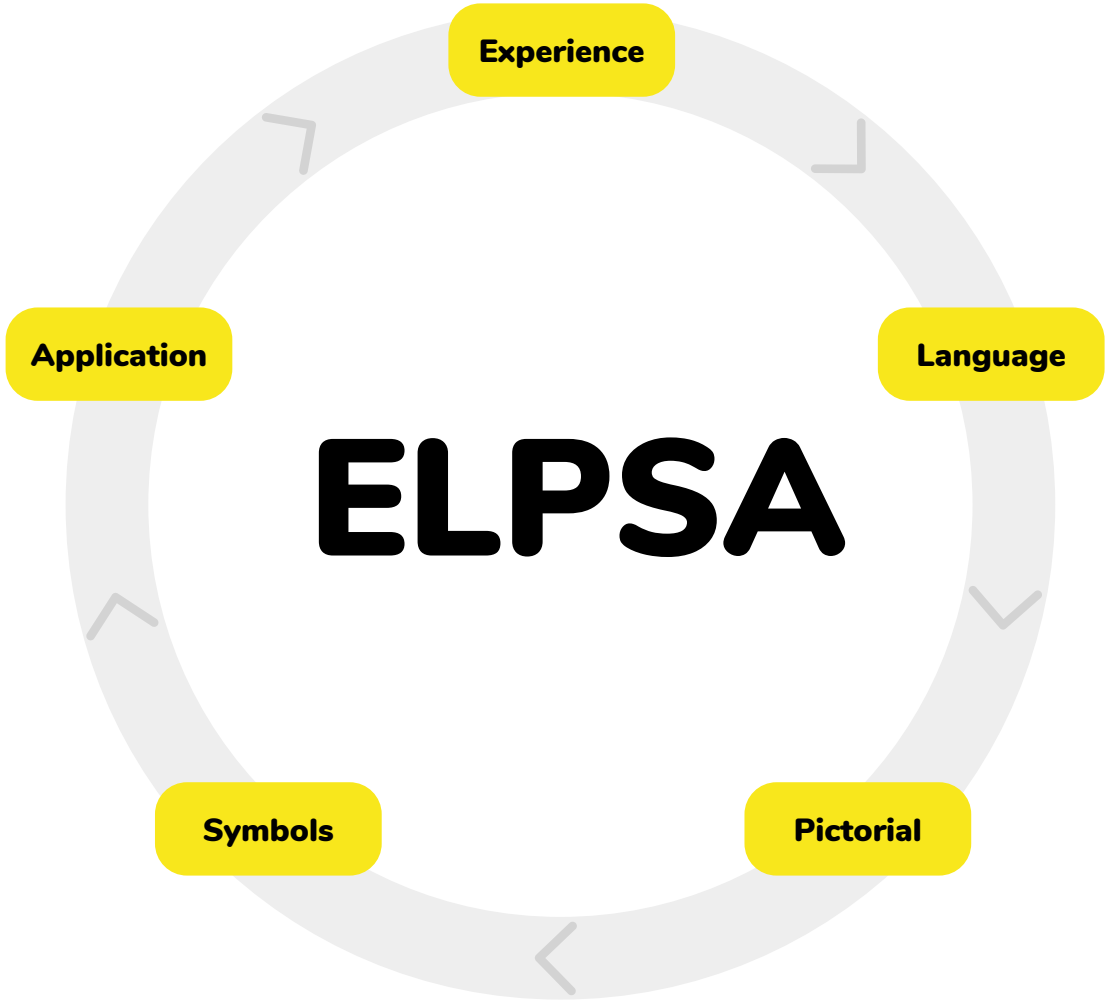
Experience
Evoke out-of-school experiences to build on understanding; provide physical resources

Language
reinforce and model mathematical terminology throughout; foster conversations that link experiences with language

Pictorial
Concrete manipulatives, external pictorial representations and visualisation; ensure multiple representations (including non-prototypical)

Symbols
symbolic representations and expressions; model fluency and flexibility with efficient symbolic representations

Application
Apply symbolic reasoning to real-life problems and related mathematics concepts



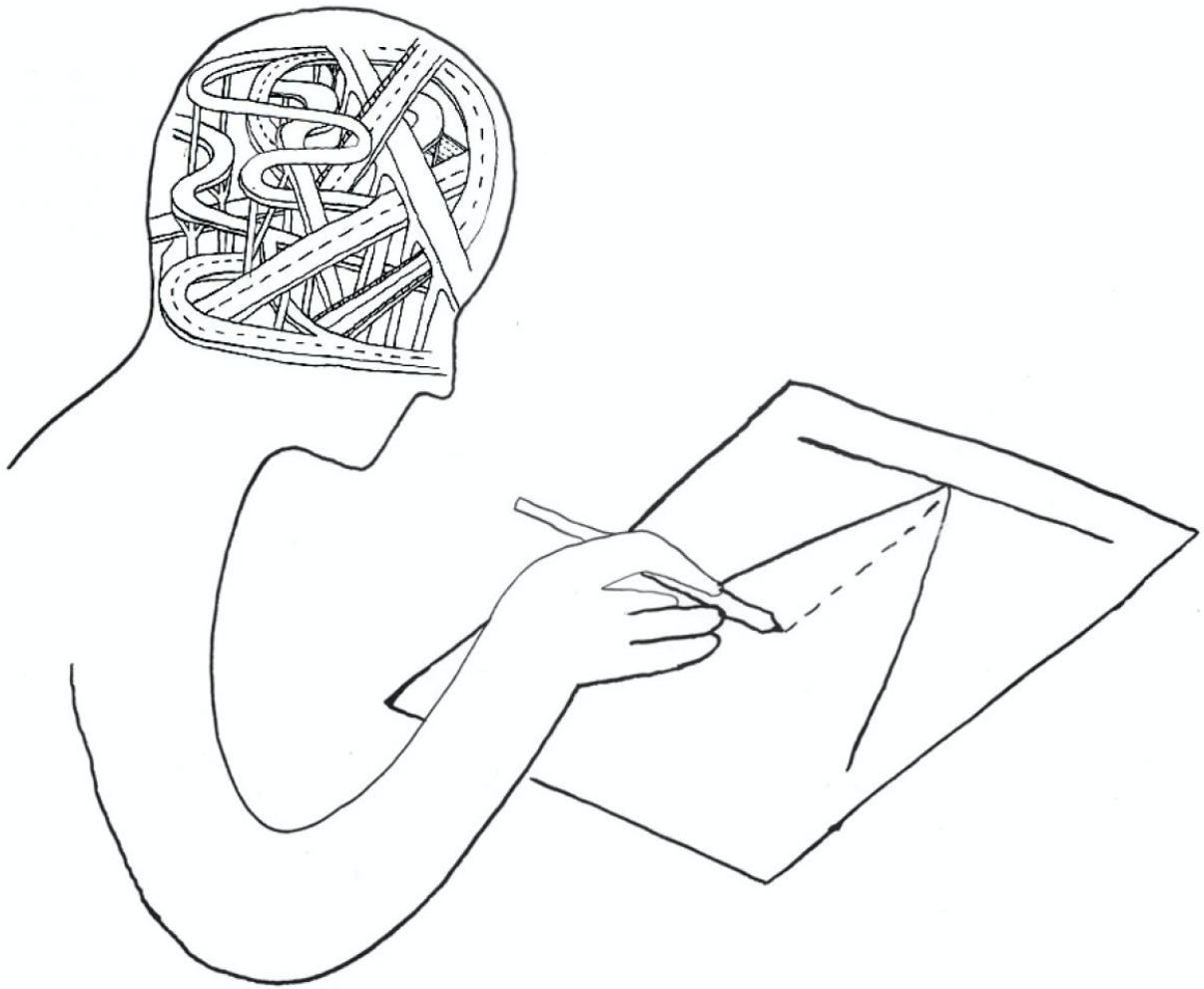
⚓ STEM Units

In Term 4 students undertake a STEM unit to apply knowledge gained in Terms 2 and 3 to life-like experiences.

One such unit assigns children with the task of being a STEM Practitioner associated with industrial design, namely expertise in packing construction.

Industrial designers create designs on the computer or on paper and then make prototypes to test the design to be considered for production. They must consider a product's functionality, safety, and appearance as part of the decision to produce the product. They also analyse the cost of production and materials and work with other specialists to determine if the designed product is reasonable to manufacture.

To some degree, industrial design is applied art—which is why spatial visualisation skills are so important to this type of STEM Practice.



Lessons

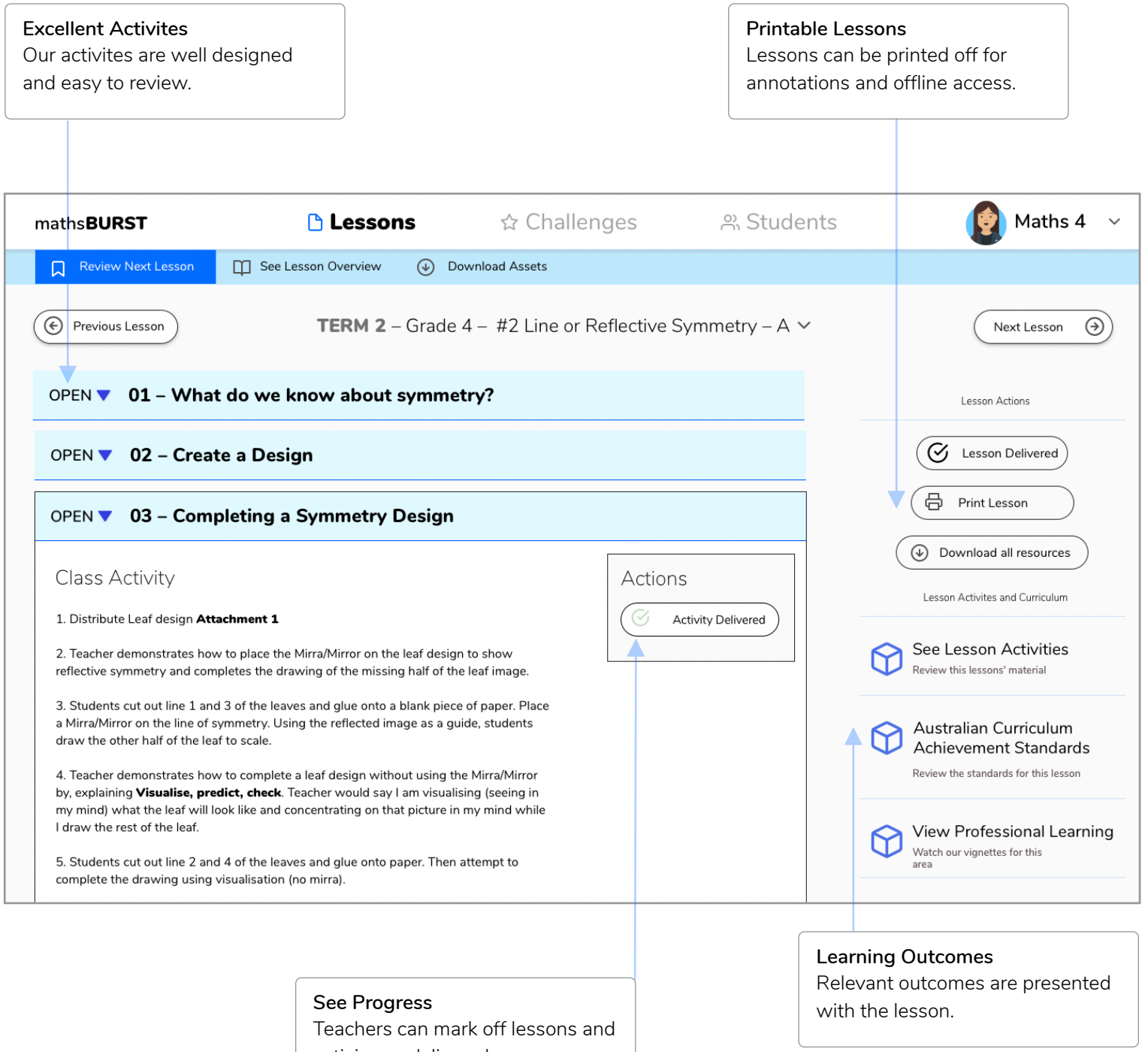
The detailed lessons are designed within the ELPSA pedagogical framework.

When Teachers visit mathsburst.com, they'll see their next lesson plan and all of the lessons' activites. Each lessons and activity can be marked as completed, to help teachers and schools keep track of the MathsBURST rollout.

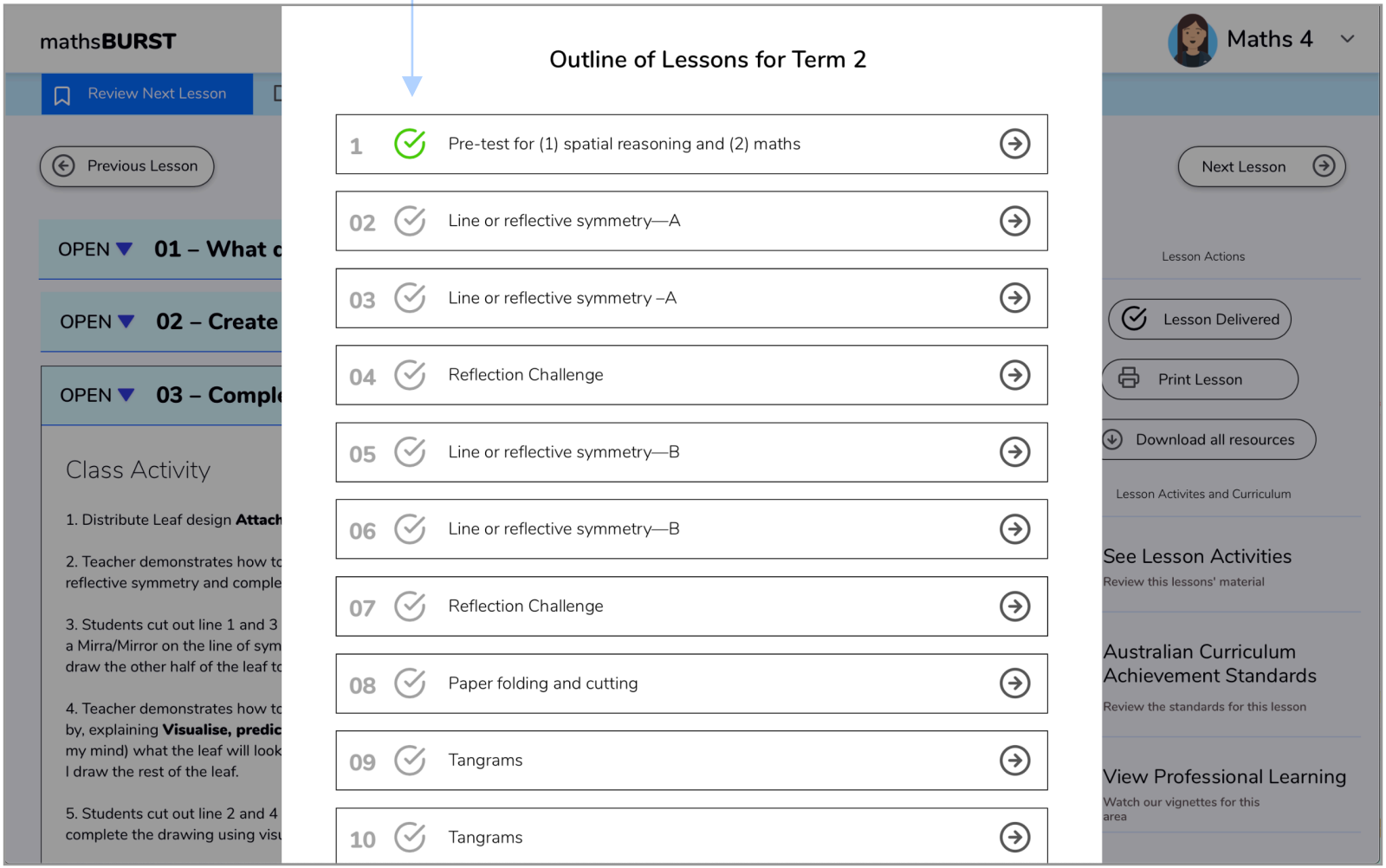
All relevant Professional Learning is presented inline with the teaching content, to make sure teachers are well supported and able to draw on the program's VPC and ELSPA frameworks.

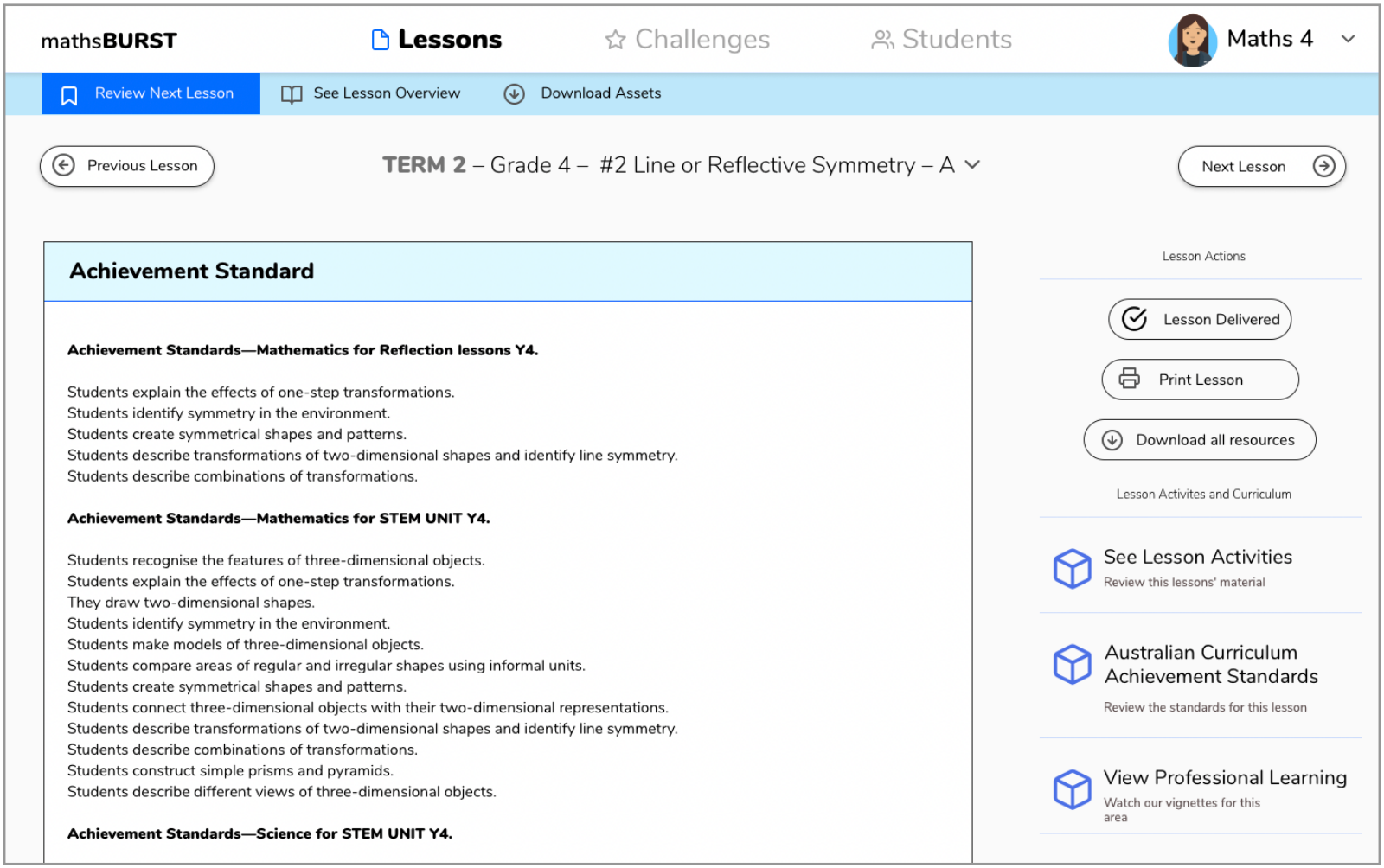
Resources for the lessons can be downloaded in a single click, in printable formats. The lesson plans themselves can be downloaded for teachers to review offline.

Curriculm is clearly outlined against the lesson content to help Teachers document outcomes.



Clear outline for teachers
Our lesson plans are easy to access and presented in sequence.




mathsBURST
Lessons
Challenges
Students
Maths 4
Review Next Lesson
See Lesson Overview
Download Assets
Previous Lesson
TERM 2 – Grade 4 – #2 Line or Reflective Symmetry – A
Next Lesson
Achievement Standard
Achievement Standards—Mathematics for Reflection lessons Y4.
Students explain the effects of one-step transformations.
Students identify symmetry in the environment.
Students create symmetrical shapes and patterns.
Students describe transformations of two-dimensional shapes and identify line symmetry.
Students describe combinations of transformations.
Achievement Standards—Mathematics for STEM UNIT Y4.
Students recognise the features of three-dimensional objects.
Students explain the effects of one-step transformations.
They draw two-dimensional shapes.
Students identify symmetry in the environment.
Students make models of three-dimensional objects.
Students compare areas of regular and irregular shapes using informal units.
Students create symmetrical shapes and patterns.
Students connect three-dimensional objects with their two-dimensional representations.
Students describe transformations of two-dimensional shapes and identify line symmetry.
Students describe combinations of transformations.
Students construct simple prisms and pyramids.
Students describe different views of three-dimensional objects.
Achievement Standards—Science for STEM UNIT Y4.
Lesson Actions
Lesson Delivered
Print Lesson
Download all resources
Lesson Activites and Curriculum
See Lesson Activities
Review this lessons' material
Australian Curriculum Achievement Standards
Review the standards for this lesson
View Professional Learning
Watch our vignettes for this area

☆ Challenges

Students enjoy our challenges because they are engaging to play, while providing scaffolded mastery.

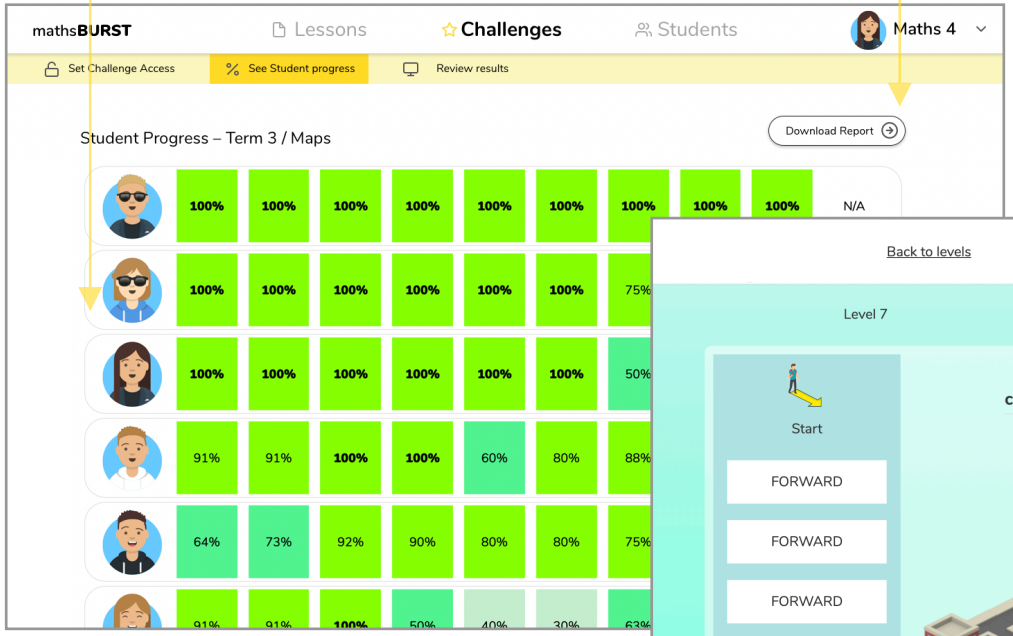
In terms 2 and 3 teachers have access to 10 graded challenge levels that pair with the term's program. Teachers have flexibility on when they use the challenges in the classroom. Each challenge level can be played in 10 mins, on a touchscreen or with a keyboard and mouse.

Teachers can easily review progress across the class, and also review indvidual student progress. Teachers can also review their student's responses for any given Challenge item.

Students love our challenges because they're simple to play, and quickly become rewarding to master. All of our challenges feature clear animated responses for when students get a incorrect answer. Students who struggle at a Challenge level are encouraged during the challenge to seek teacher assitance.

Real-time oversight
Teachers can see their student's mastery of each challenge level.

Download your reports
Class reports are easy to download for record keeping.



Fun and engaging
Our Challenges are highly interactive, with animated results.

Clear Feedback
A student's avatar animates to reflect their progress in the Challenges, encouraging engament and self-relection.

Students

Enrolling Students in the mathsBurst program is quick and simple.

Once a teacher has been enrolled in mathsBURST they can create classes and enroll their students in their class. We need a student's first name, last name and email address to enroll a student. This can be provided via a spreadsheet.

Teachers can then download printable mathsBURST passes for their students to use when logging in.

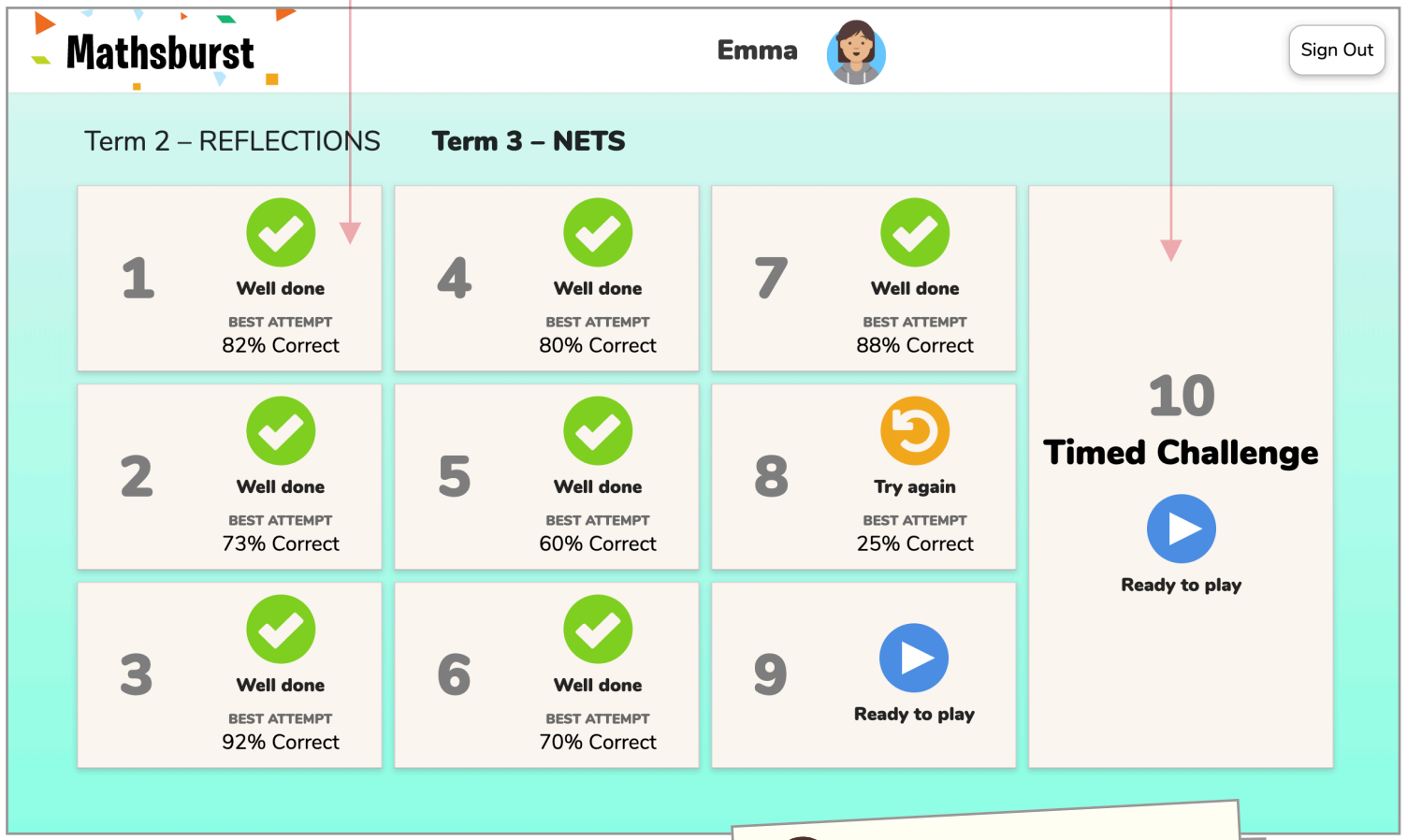
When Students login, they have access to all open Challenge levels, as set by the Teacher. Students can see their best previous attempt at a challenge level. If there's a Assessment under way, then they'll be invitied to undertake it. Students can easily log out, which is important if they're sharing devices within the classroom.

Have another go

Students are encouraged to demonstrate their mastery over time, with options to reinforce understanding.

Timed Challenges

Level 10 provides a timed challenge against a selecition of previous levels.



Simple Sign In

Our printable mathsBURST passes make it easy for students to access the site.

Assessment

The online assessment tools have been psychometrically validated.

When your school commences the MathsBURST program we're able to baseline your student's numeracy and visual spatial ability through an online standardised test.

Towards the end of the program Students are again invited to complete the test. These test results, and previous controlled studies provide you with the context you need to evaluate student's improvement.

Our tool saves students answers in realtime and offers a robust experience, as even when students exit the test, they can resume progress when they next login.

Support

Teachers can contact our support team via phone, email or web chat. We also have video walk throughs for key features, and provided training for the website during our professional development sessions.

Timed Test

Students have a time limit for each section and will be locked out when it has elapsed.