



# **Guide for Teachers and Parents**



*Maths Invaders* Guide for Teachers and Parents

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EdAlive

Ph: +61 2 67760200

Email: [info@edalive.com](mailto:info@edalive.com)

147 Faulkner St

Armidale NSW 2350

Australia




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Armidale NSW 2350







This manual is designed for use with Maths Invaders, [www.mathsinvaders.com](http://www.mathsinvaders.com). It is to be read in conjunction with the EdAlive Central Guide for Teachers and the EdAlive Central Guide for Home Users. For more information go to [central.edalive.com](http://central.edalive.com).

EdAlive Central is the foundational resource from which Maths Invaders and EdAlive's other Web Apps draw resources.

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# About Maths Invaders



## What is Maths Invaders

*Maths Invaders* is a resource of unparalleled power and capacity for teachers of mathematics.

*Maths Invaders* is concurrently:

- A tables/maths fact teaching environment.
- An Adaptive Learning System that automatically manages student's progression.
- A real-time, interactive, multiplayer game.
- A comprehensive mastery learning programme.
- A massive Printable Maths Practice Worksheet Generator.



Not only does *Maths Invaders* teach tables and maths facts through repetition and sequencing but it also develops mental maths agility and fluency, and teaches mental maths patterns, tricks and strategies through the built in progressions that will stay with a student for a lifetime.

No other maths program packs so much into such an easy-to-use and motivational system. Its focus on developing critical maths facts and computational maths skills is laser sharp and incredible value for any school or family.

# Maths Content Summary

*Maths Invaders* starts with kindergarten level counting and simple addition, and builds through to addition, subtraction, multiplication and division tables all the way to challenging Year 10 calculations including powers and square roots. Throughout this journey it comprehensively covers computational maths and will foster a mathematical mind-set in students.

Covers: Addition • Subtraction • Multiplication • Division • Fractions • Decimals • Percentages • Numeration • Counting • Squares • Square Roots • Powers • Directed Numbers and more!

Age	5	6	7	8	9	10	11	12	13	14	15+
Numeration	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Times tables	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Addition/subtraction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Multiplication/division			✓	✓	✓	✓	✓	✓	✓	✓	✓
Powers/roots							✓	✓	✓	✓	✓
Fractions/decimals				✓	✓	✓	✓	✓	✓	✓	✓

## Children learn best when they are having fun

The fast and furious games built into *Maths Invaders* engage and motivate students to master mental maths.

- Carefully sequenced to build mental maths ability step-by-step.
- Little-by-little as skills increase the maths gets harder.
- The children are having so much fun they don't even realise they are learning.
- Players tackle 100s of questions in minutes.

## Enhanced power

The new *Maths Invaders* is built on the rich, multi-award-winning pedigree of the original *Maths Invaders CD Edition*. It has been upgraded and transformed to create a hugely powerful maths mastery learning system! The new capabilities include:

- Flexible, Internet delivery enabling integration between home and school.
- *EdAlive Adaptive Learning System* that automatically manages student's progress.
- *Space Rescue* real-time interactive, multiplayer game
- *Galactic Campaign* mastery learning system.
- Direct curriculum correlation
- Massive Printable Maths Practice Worksheet Generator.
- Printable certificates



# Individualised learning

The design of *Maths Invaders* enables each student to progress at their own pace and at their own level.

- Enables teachers and students to choose the number facts to be practised and then allows for repetition until mastery is achieved.
- Focus on areas needing attention or extension by selecting the same topic at a lower or higher level.
- Extends the gifted and supports those for whom learning maths is a struggle.




## Created by highly experienced teachers

Through multiple iterations from floppy disk to CD and finally to *Maths Invaders*, it has been a journey of over 25 years. Our team of highly experienced maths teachers has produced a masterpiece!

## Ease and power for teachers and parents

The Teacher/Parent Management sections put teachers and parents in control. It is powerful yet quick and simple to operate.

1. Powerful, flexible content selection allows activity to be focused according to the individual student's needs.
2.  Allocate the same content settings to the whole class
3. Historical reports to quickly give an understanding of how each child is progressing.
4. Swiftly identifies each student's strengths and weaknesses.

## Builds maths fact fluency - automaticity

Tables and number facts fluency is the quick and effortless (automatic) recall of basic math facts from long-term memory without conscious effort or attention. Every child should instantly recall that  $6 \times 8 = 48$  without counting on their fingers or in their heads. Table (maths fact) fluency is an essential life skill that should be achieved before a child leaves primary school.

*Maths Invaders* builds maths fact fluency enabling students to move maths fact processing out of their working memory so they can focus their mental capacity on operating mathematically.

## Intrinsic motivators

As students progress in their learning journey *Maths Invaders* provides instant dynamic feedback reinforcing progress question by question. The intrinsic motivation is amplified through progress reports, attainments, certificates and more.

## Extrinsic motivators

In addition to the intrinsic motivation of success there are multiple extrinsic motivators and motivational systems built into *Maths Invaders*. Extrinsic motivators include: the Defender Level system, progression through *Galactic Campaign*, the single and triple star systems in *Galactic Campaign* that denote mastery of a Topic, the counters at the top of the Main Menu Screen and the *Space Rescue* game.

## Research

Over the years we have amassed a compelling body of research that clearly demonstrates that students using Maths Invaders on a regular basis make significant progress. This holds true regardless of the age and starting level of the student. For the [full research](http://www.edalive.com/math-invaders/) go to: [www.edalive.com/math-invaders/](http://www.edalive.com/math-invaders/) and click on the Research Tab.



### Very significant boosts

The research has found that with regular use once or twice a week and with minimal teacher supervision the use of Maths Invaders results in:

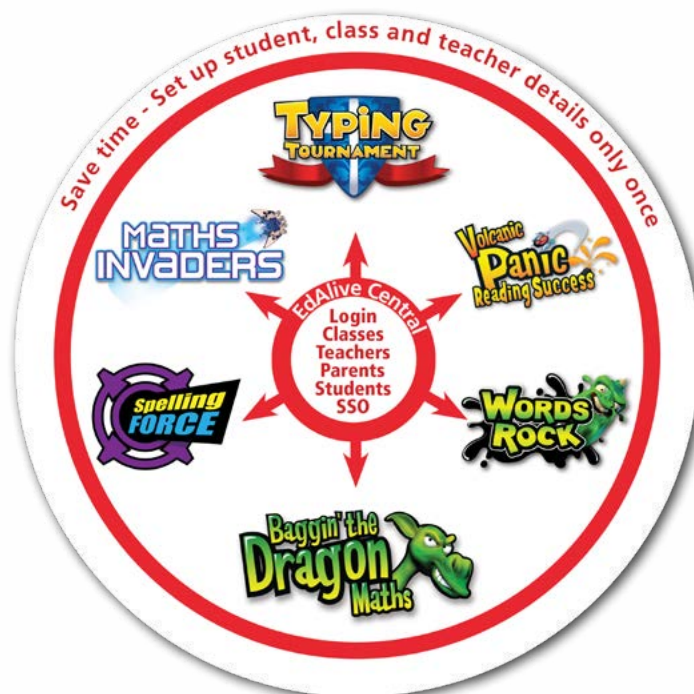
- An increase in your class' average maths age by up to 3 years in 1 year.
- A steady increase answer speed (confidence).
- A boost to maths fact fluency (confidence) by 12 months in just 1 term.
- Results that hold true regardless of age or ability.
- A steady rate of increase in attainment and answer speed (confidence) with no fall off over time indicating that the ongoing use of Maths Invaders will result in even greater gains.

In a world first (to our knowledge) the research has also demonstrated a high correlation between increase in attainment level and an increase in answer speed (confidence) both of which then correlate strongly with NAPLAN results.

# Interaction with EdAlive Central

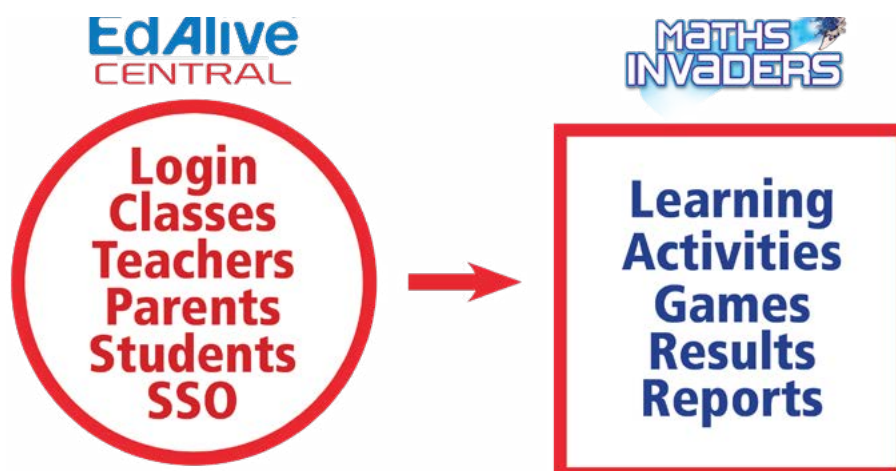
*Maths Invaders* is part of the *EdAlive Central Learning Environment*.

*EdAlive Central* is the ground-breaking innovation that unites *EdAlive's* Web Sites (Web Apps) into one seamless system.



## Dynamic interaction

Each of the *EdAlive Central* linked Web Sites draws resources and services from *EdAlive Central*.

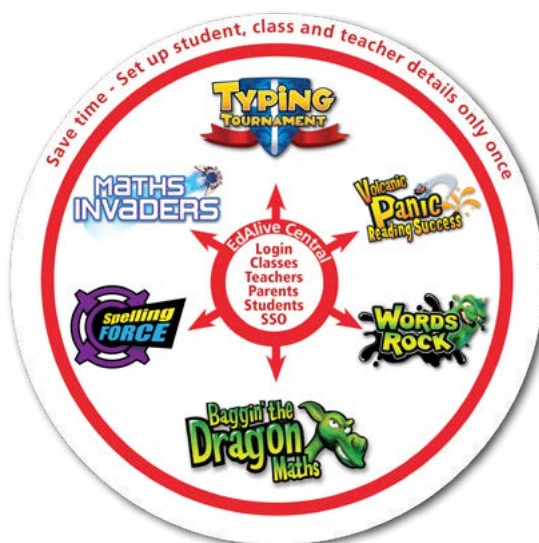


# Quick Start Guide

## Step 1 - Set up EdAlive Central

In order to access *Maths Invaders*, you'll first need to register an *EdAlive Central Account* for either *Home* or *School* use.

The user-friendly management system at [central.edalive.com](http://central.edalive.com) is the core of the *EdAlive Central* suite of websites(*Web Apps*) and provides a unified interface for administering *Classes*, *User Accounts*, *Subscriptions* and other shared data across all of the *Web Apps*.



### Locate the EdAlive Central School Use Guide

To find the *EdAlive Central School Use Guide* go to [help.edalive.com](http://help.edalive.com) and scroll to the bottom of the screen.

Go to the *Getting Started* section of the [EdAlive Central School Use Guide PDF](#) and follow the instructions to establish your account, link your school, set-up your class and add students.

### Locate the EdAlive Central Manual for Parents

To find the *EdAlive Central Home Use Guide* go to [help.edalive.com](http://help.edalive.com) and scroll to the bottom of the screen.

Go to the *Getting Started* section of the [EdAlive Central Home Use PDF](#) and follow the instructions to establish your account and create accounts for your family.

## Step 2 - Start using the chosen Web App

Once you have set up your account for home or school you are ready to start using any of the chosen *EdAlive Central Web App* for which you have an active subscription or a free trial.

### Locate the relevant Home/School Use Guide

To get the most from each *EdAlive Central Web App* we recommend that you consult the relevant *EdAlive Central Web App Guide*. To find the *Guides* go to [help.edalive.com](http://help.edalive.com) and scroll to the bottom of the screen.



# Navigating in Maths Invaders

## Go back to Teacher Management or Parent Management

You can navigate back to the *Teacher* or *Parent Management* screen at any time by selecting *Teacher Management* or *Parent Management* from the *Account Menu* that displays towards the top right of most screens.

## The Main Menu Screen

Use the *Main Menu* screen to navigate quickly to all of the key *Maths Invaders* functions.

The screenshot shows the Maths Invaders Online Main Menu. At the top, there is a header bar with the following information: 'Answers: 234', 'Defender Level: 7', and the user name 'Graham'. A 'Menu' button is located in the top right corner. The main menu features several buttons: 'Space Rescue', 'Galactic Campaign', 'Maths Invaders', 'Adaptive Learning', 'Logout', 'Print Worksheets', and 'All Results'. On the right side, there are three panels: 'Defender Level' (Level 7, Space Cadet - Novice), 'Space Rescue' (Average Step 38, Games Played 0), and 'Galactic Campaign' (3 stars, 1 star, Step 2 - Zone 1). Red arrows point from various text labels to specific elements on the screen.

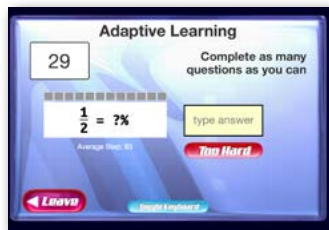
Annotations and their corresponding elements:

- Total questions answered from all activities** points to the 'Answers: 234' header.
- Defender Level achieved** points to the 'Defender Level: 7' header.
- Name of User** points to the 'Graham' header.
- Account Menu** points to the 'Menu' button.
- Each question answered counts towards your Defender Level** points to the 'Defender Level' panel.
- Progress towards your next Defender** points to the progress bar in the 'Defender Level' panel.
- Adaptive Learning Average Step** points to the 'Average Step 38' in the 'Space Rescue' panel.
- Games of Space Rescue Played** points to the 'Games Played 0' in the 'Space Rescue' panel.
- Stars earned** points to the stars in the 'Galactic Campaign' panel.
- Current Step and Zone** points to 'Step 2 - Zone 1' in the 'Galactic Campaign' panel.
- Real-time multiplayer Space Rescue game with adaptive learning** points to the 'Space Rescue' button.
- Galactic Campaign progresses users through Steps and Tests** points to the 'Galactic Campaign' button.
- Maths Invaders game with 118 progressive Steps and 10 Tests** points to the 'Maths Invaders' button.
- Adaptive Learning - Activities Only** points to the 'Adaptive Learning' button.
- Print worksheets for Topics and Tables** points to the 'Print Worksheets' button.
- View progress from all activities through Topics and Tables** points to the 'All Results' button.



## Key components

There are four main components each designed to give users access to the maths content in different presentation modes. The choices range from automated adaptive learning to full manual selection. All sections then interact with the curriculum correlations, printable worksheets, reports and Defender Levels.



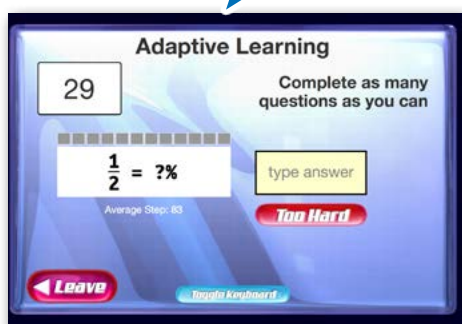
Real-Time, Multiplayer, Interactive game powered by the EdAlive Adaptive Learning system.



Mastery Learning progression. Starting point is determined by age. Allows unlimited repetition of questions.

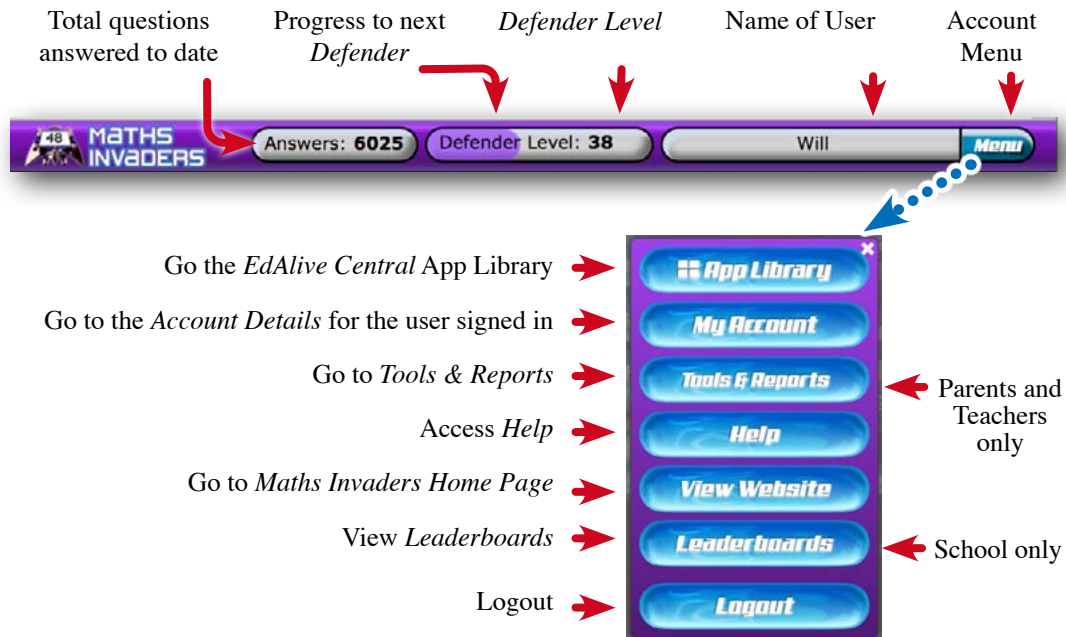


Adaptive Learning in questions only mode.



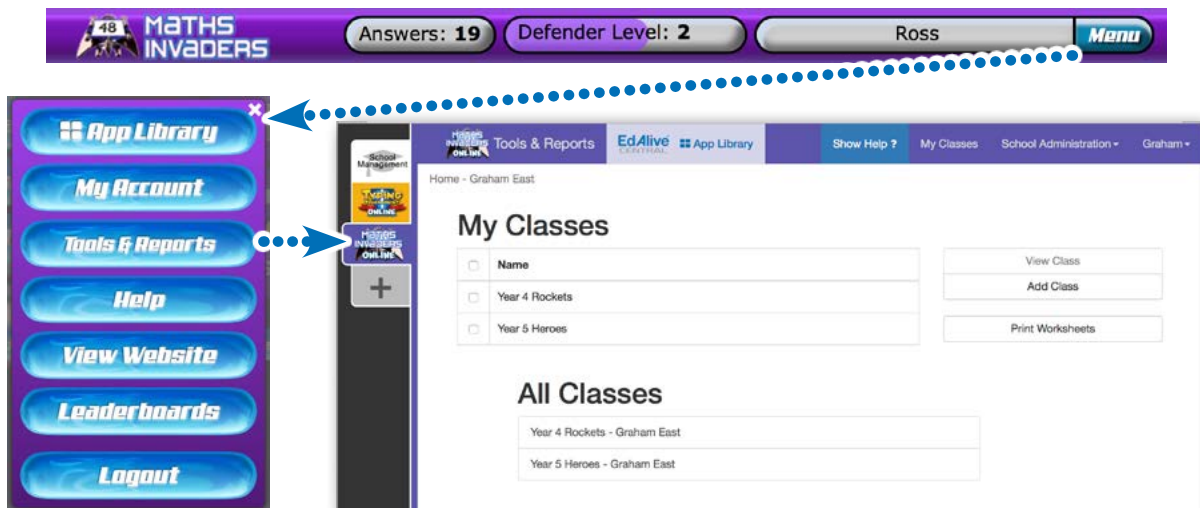
Manually choose maths content, and play the fast paced game with up to 1800 Questions and hour.

## Menu Bar navigation



## Tools & Reports

You can access the *Tools & Reports* screen at any time by selecting *Tools & Reports* from the *Your Name* menu that displays towards the top right of most screens.

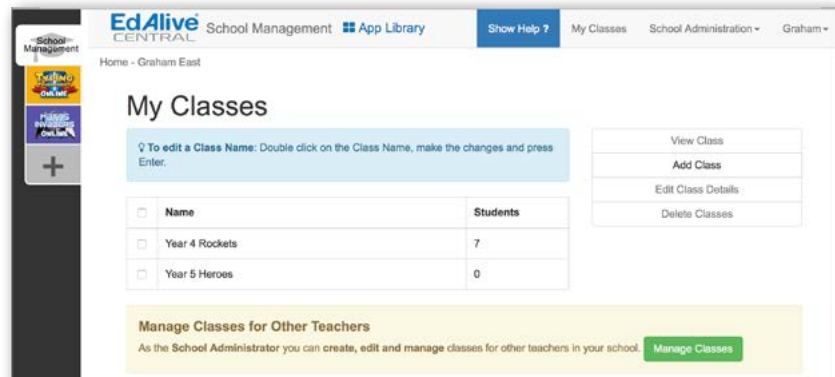




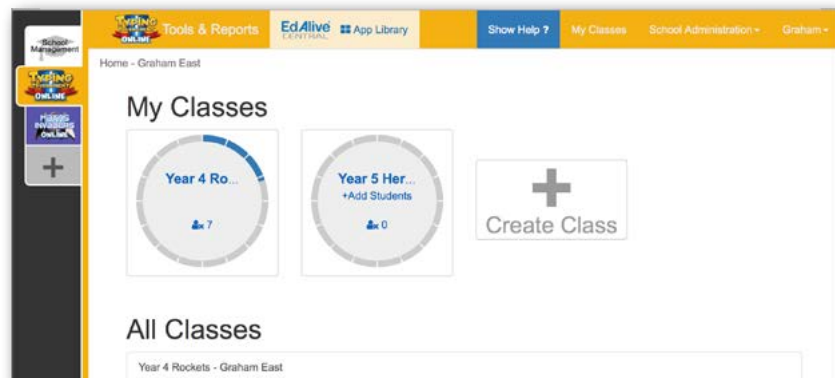
## Switch between EdAlive Web Apps and Management

Switch quickly between the *EdAlive Web Apps* for which you have active subscriptions or current trials and the *School or Family Management* sections.

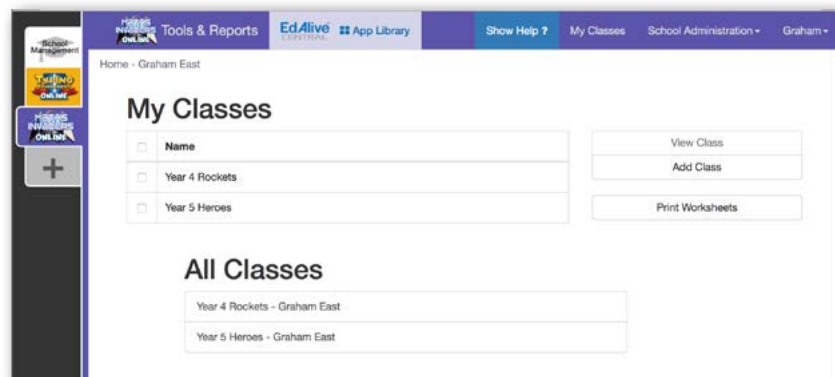
Click the tab to access



Click the tab to access



Click the tab to access

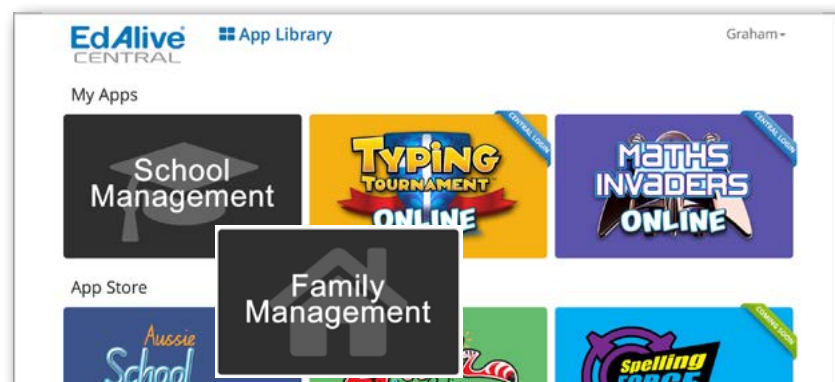


Click the tab to access



Goes to the *EdAlive App Library* from where you can add new apps.

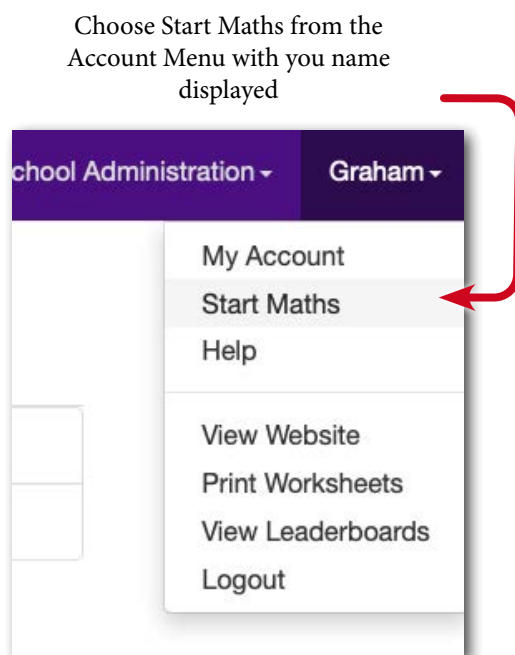
Add new subscriptions here as required.



# Special access for teachers

## Teacher Access to Maths Invaders

Teachers can access a special *Teacher Access* version of *Maths Invaders* from within the *School Management* section. This special version allows teachers to experiment with *Maths Invaders* without the need for a separate login. To access the *Teacher Access* version:



1. Choose *Start Maths* from the *Account Menu* in the top right hand corner of the *School Management* screen.

# Maths Content

The *EdAlive* design team created the core teaching sequence at the heart of *Maths Invaders* by de-constructing the teaching of computational maths into a series of 850 carefully crafted activity types or *Units*. We then programmed 850 individual algorithms to create an endless stream of questions for each of the activity types. The resulting fine-grained sequential learning progression comprehensively covers numeration and most aspects of computational maths and works towards math fact fluency and mental maths agility.

The endless stream of levelled, sequenced *Questions* that is generated by the algorithms is fed into *Maths Invaders* to create the waves of descending Invaders in the Maths Invaders Game and the EdAlive Adaptive Learning System that controls the presentation of questions in *Space Rescue*.

## Organisation of the Maths Content

### Overview

The maths content in *Maths Invaders* is organised into 850 *Units* which are grouped into 128 sequential *Steps* including 10 *Level Tests*. The *Steps* are organised into the *All Topics* matrix by *Levels* and *Topic*. An additional specialised algorithm, with variable inputs, generates a massive range of multiplication and division tables.

### Years 1 – 10

*Maths Invaders* starts with Year 1 counting and simple addition and builds up to more complex addition, subtraction, multiplication and division tables all the way to challenging Year 10 calculations including powers and square roots.

From beginning to end *Maths Invaders* comprehensively covers computational maths and fosters the development of a mathematical mind-set in students.

## Maths skills covered include:

- Lower Primary activities: counting & numeration, addition, subtraction.
- Middle Primary activities: numeration (place value), addition, subtraction, tables (multiplication facts), multiplication extension, division, fractions, squares, square roots, decimals.
- Upper Primary/Lower Secondary activities: numeration, addition, subtraction, tables, multiplication & division, fractions, decimals, percentages, powers, squares & square roots, directed numbers.

Age	5	6	7	8	9	10	11	12	13	14	15+
Numeration	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Times tables	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Addition/subtraction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Multiplication/division			✓	✓	✓	✓	✓	✓	✓	✓	✓
Powers/roots							✓	✓	✓	✓	✓
Fractions/decimals				✓	✓	✓	✓	✓	✓	✓	✓

## 128 Steps over 10 Topics and 10 Levels

The *All Topics* matrix is displayed in multiple locations within *Maths Invaders*. Depending on the context, it can be used to select content, display progress or access reports.

10 Maths Topics

10 Levels covering 10 Years of maths

Level: 1 2 3 4 5 6 7 8 9 10

All Topics

Counting

Addition

Subtraction

Mixed Times Tables

Extension Multiplication

Extension Division

Fractions

Decimals Add & Subtraction

Decimals Division & Multiplication

Percentages

Squares & Square Roots

Directed Numbers

Powers

Step 1 - Counting 1a

- Count groups of objects to 5
- Numbers (1 to 4) + 1
- Numbers (2 to 5) minus 1

Example:  
 $2 + 1$

Back

CHOOSE YOUR CONTENT

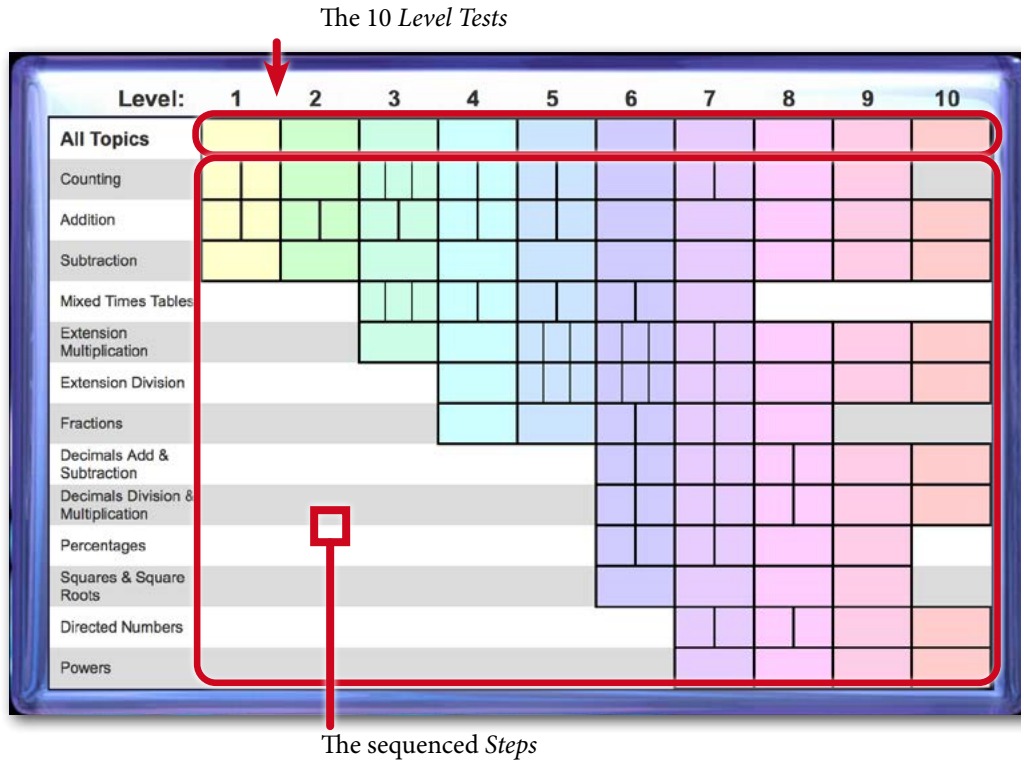
Play

128 Steps including 10 Level Tests.

Mouse over a Topic to see the Units.

## Steps and Level Tests

The 128 *Steps* including the 10 *Level Tests* are organised into a sequenced progression used in the *Topic Selection Matrix*, *Galactic Campaign* and the *EdAlive Adaptive Learning System*. At the end of each of the 10 *Levels* there is a *Level Test* which is incorporated into the *Step* numbering system.



# The Adaptive Learning System

## Automatically optimises each child's progression

Maths Invaders is powered by the advanced EdAlive Adaptive Learning System.

The system uses complex algorithms to automatically create and maintain an optimised learning pathway for each child.

- Analyses each student's responses in real-time.
- Rapidly establishes each student's base learning level.
- Automatically challenges and progresses each student.
- Frees teachers and parents from the tedium of analysing children's responses and manually creating learning sequences.
- Acts as an intelligent, dedicated tutor, continually monitoring and progressing each child.
- Teachers can set up an entire class in a matter of moments and be confident that each child is progressing at their optimal rate
- Liberatingly simple to use



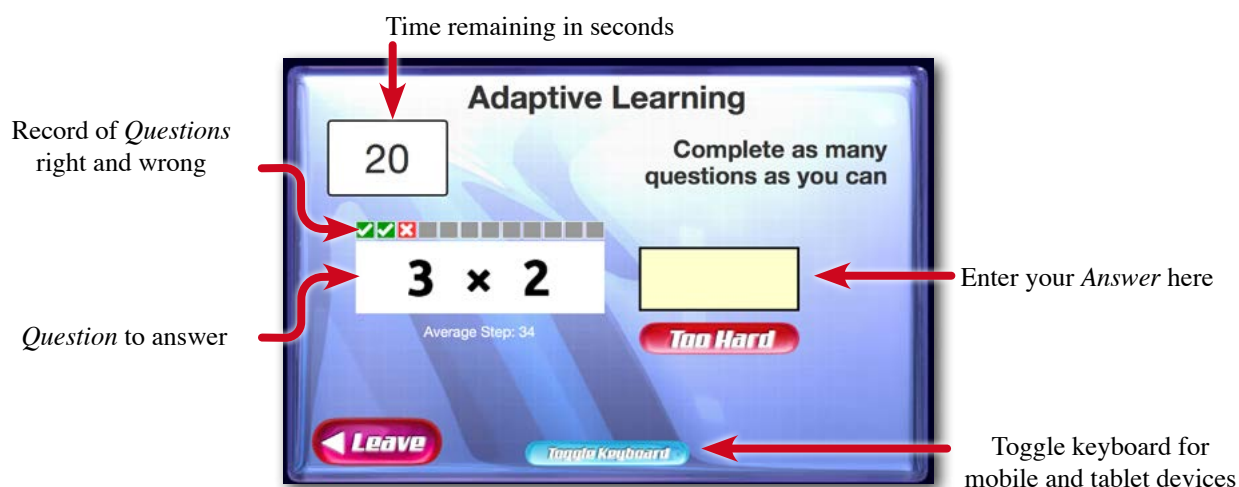
## Constant automatic levelling

At the commencement of each round of *Questions* the *EdAlive Adaptive Learning System* analyses the student's recent results and then automatically chooses the new content to present. The questions will come from a range of *Steps*. Correct answers enable *Questions* to be drawn from more difficult *Steps*. Incorrect answers or the use of the **Too HARD** button will reduce the difficulty of the *Steps* from which the *Questions* are drawn. The system will gradually introduce more difficult content as students prove that they are ready for it. It is designed to challenge students whilst building their confidence.



## The Adaptive Learning Question Screen

The *Adaptive Learning Question Screen* displays in the question rounds in the *Space Rescue* game and in *Adaptive Learning* option.





## Adaptive Learning Result Summary

At the conclusion of each Adaptive Learning session a review screen is generated showing the student's answers, whether the answers were answered correctly or incorrectly and if required, the correct answer. Each Question is directly linked to a printable practice worksheet

Result Summary from the *Adaptive Learning* option

**Adaptive Learning Results**

Question	Your Answer	Answer	Print Worksheet
2 groups of 10	20	✓	<a href="#">Step 27 - Extension Multiplication 4</a>
$6 \times 3$	18	✓	<a href="#">Step 37 - Mixed Times Tables 5a</a>
$16 + 21$	36	✗ 37	<a href="#">Step 35 - Addition 5a</a>
$3 \times 2$	6	✓	<a href="#">Step 15 - Mixed Times Tables 3a</a>
4 times 8	32	✓	<a href="#">Step 46 - Extension Multiplication 5c</a>

Buttons: [Leave](#), [Toggle Keyboard](#), [Again](#)

Below the results is a screenshot of the **Maths Invaders Online Worksheet** for Step 35 - Addition 5a - All Outcomes, showing 12 addition problems. A dotted arrow points from the incorrect answer in the results screen to this worksheet.

Result Summary from *Space Rescue*

**Results**

Question	Your Answer	Answer	Print Worksheet
$6 \div 10$	0.6	✓	<a href="#">Step 85 - Decimals Division &amp; Multiplication 7b</a>
$23 \div 10$	2.3	✓	<a href="#">Step 79 - Counting 7a</a>
$67.2 \times 10$	672	✓	<a href="#">Step 85 - Decimals Division &amp; Multiplication 7b</a>
$5.8 \div 2$	2.95	✗ 2.9	<a href="#">Step 78 - Decimals Division &amp; Multiplication 7a</a>
$\frac{1}{2} = \frac{?}{8}$	4	✓	<a href="#">Step 75 - Fractions 7a</a>
$0.9 \times 100$	90	✓	<a href="#">Step 85 - Decimals Division &amp; Multiplication 7b</a>
$0.9 = ?\%$	90	✓	<a href="#">Step 78 - Percentages 7a</a>

Buttons: [View Questions Answered](#), [Incorrect](#), [Correct](#), [All](#), [Close](#)



## Inputs to the EdAlive Adaptive Learning System

The EdAlive Adaptive Learning System is constantly evaluating the inputs from the students. Accordingly it dynamically adjusts the level of content being presented. The algorithm that controls the function of the EdAlive Adaptive Learning system is complex and takes account of a range of factors including the history of correct and incorrect answers, the use of the Too HARD button and use over time.

- Unanswered *Questions* have no effect of the levelling.
- If, as sometimes happens, another party operates in a student's account (like an older sibling or parent demonstrating their maths prowess) then the system will quickly reset to the student's level once they resume use of the account.

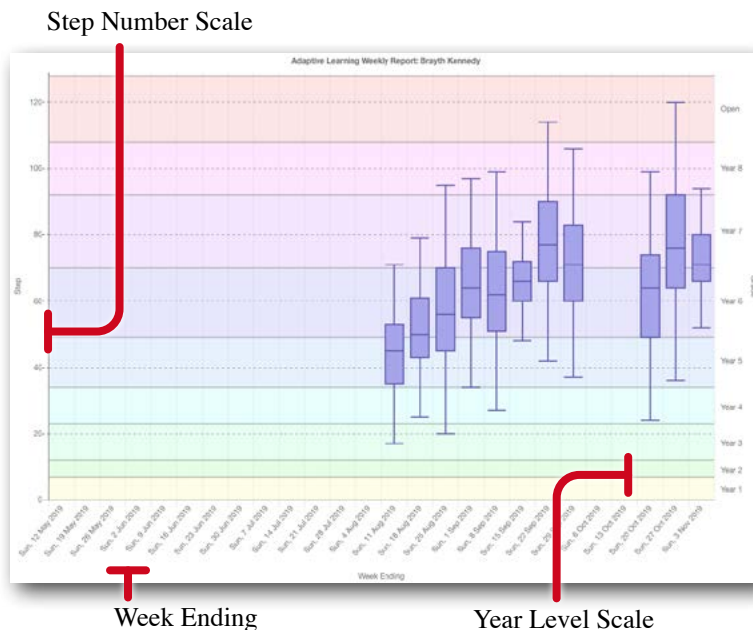
## Adaptive Learning - Student report

This report reflects work completed in both the *Adaptive Learning* option and from the operation of the *Adaptive Learning System* when playing the *Space Rescue* game and the straight Adaptive Learning mode.

### To select the Adaptive Learning report

From the *Maths Invaders Tools and Reports* section select the *Class* and the Student(s) for whom you wish to view the Adaptive Learning report. Click the ADAPTIVE LEARNING button.

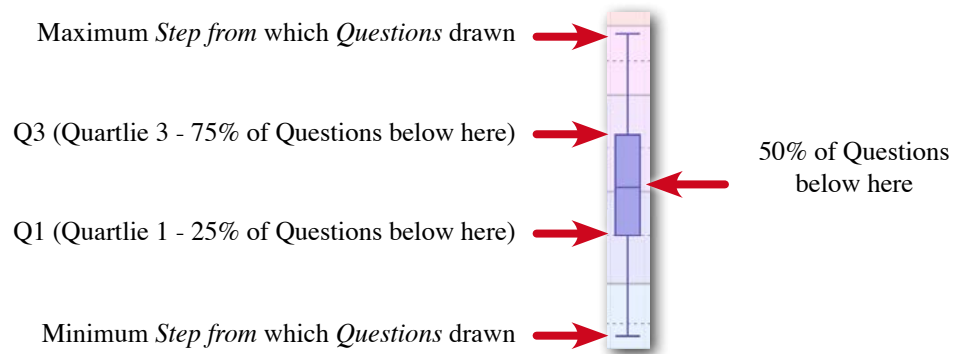
The following report will appear:



Shows results from *Space Rescue* and Adaptive Learning mode.

Select Content
Unlock Content
Student Reports
Galactic Campaign
All Results
Daily History
Adaptive Learning
Practice Report
Class Reports
Galactic Campaign
Weekly
Daily
Leaderboards
Add/Move Students
Edit Student Details
Manage Class

The following information is shown week by week for the selected student.



# Curriculum Correlations

## How the curriculum correlations work

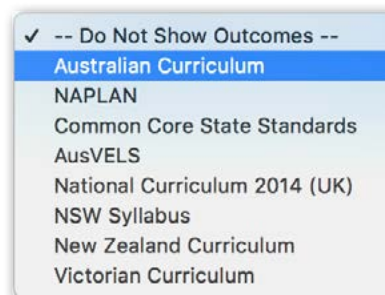
Each of the 850 *Units* that underpin the 128 *Steps* including 10 *Level Tests* that form the 10 *Levels* in *Maths Invaders* are correlated against the relevant curriculum outcomes for the curricula covered. The display of the curriculum correlations can be toggled on and off. When toggled on the outcomes fulfilled by the selected *Units* are displayed when viewing relevant locations and on the bottom of the printed worksheets.



The individual correlations are accessible from the *Teacher Management Module* and are displayed wherever the *Steps* and *Units* occur in *Maths Invaders* including all relevant printed reports and worksheets. This tight integration between *Maths Invaders* and the curricula allows teachers to use *Maths Invaders* to use students' achievements as evidence of mastery of an outcome.

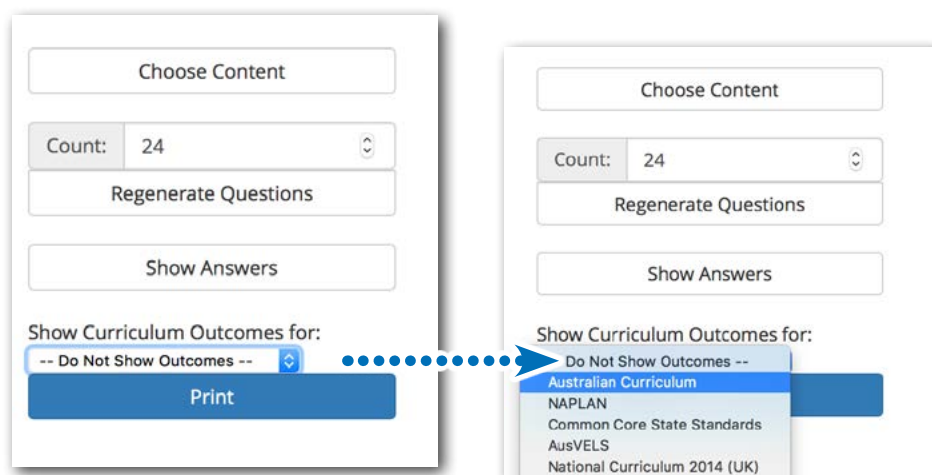
## Curricula covered

1. The Australian Curriculum.
2. NAPLAN.
3. Common Core State Standards (USA).
4. National Curriculum (UK).
5. NSW Syllabus 2014.
6. New Zealand Curriculum.
7. The Victoria Curriculum.



## Changing the displayed curriculum

To toggle the curriculum display on and off and to change the displayed curriculum, select from the *Curriculum Pop Up* menu.



## Printed Worksheet and Curriculum Correlations

Wherever the *Print Worksheets* dialogue is accessible it is possible to select from the range of curricula against which to correlate.

The screenshot shows the EdAlive Maths Invaders Online interface. The main area displays a worksheet titled "Maths Invaders Online Worksheet" for Mr. East, focusing on "Extension Multiplication 3 - Double numbers (1 to 10)". The worksheet contains 15 problems, each labeled "Double" followed by a number (e.g., Double 4, Double 7, Double 5). To the right, there is a "Choose Content" section with a "Count" of 24, a "Regenerate Questions" button, and a "Show Answers" button. Below these, a "Show Curriculum Outcomes for:" dropdown menu is open, showing a list of curriculum standards including "Australian Curriculum", "New Zealand Curriculum", and "Victorian Curriculum". A blue dotted arrow points from the dropdown menu to the bottom of the worksheet, indicating the correlation process.

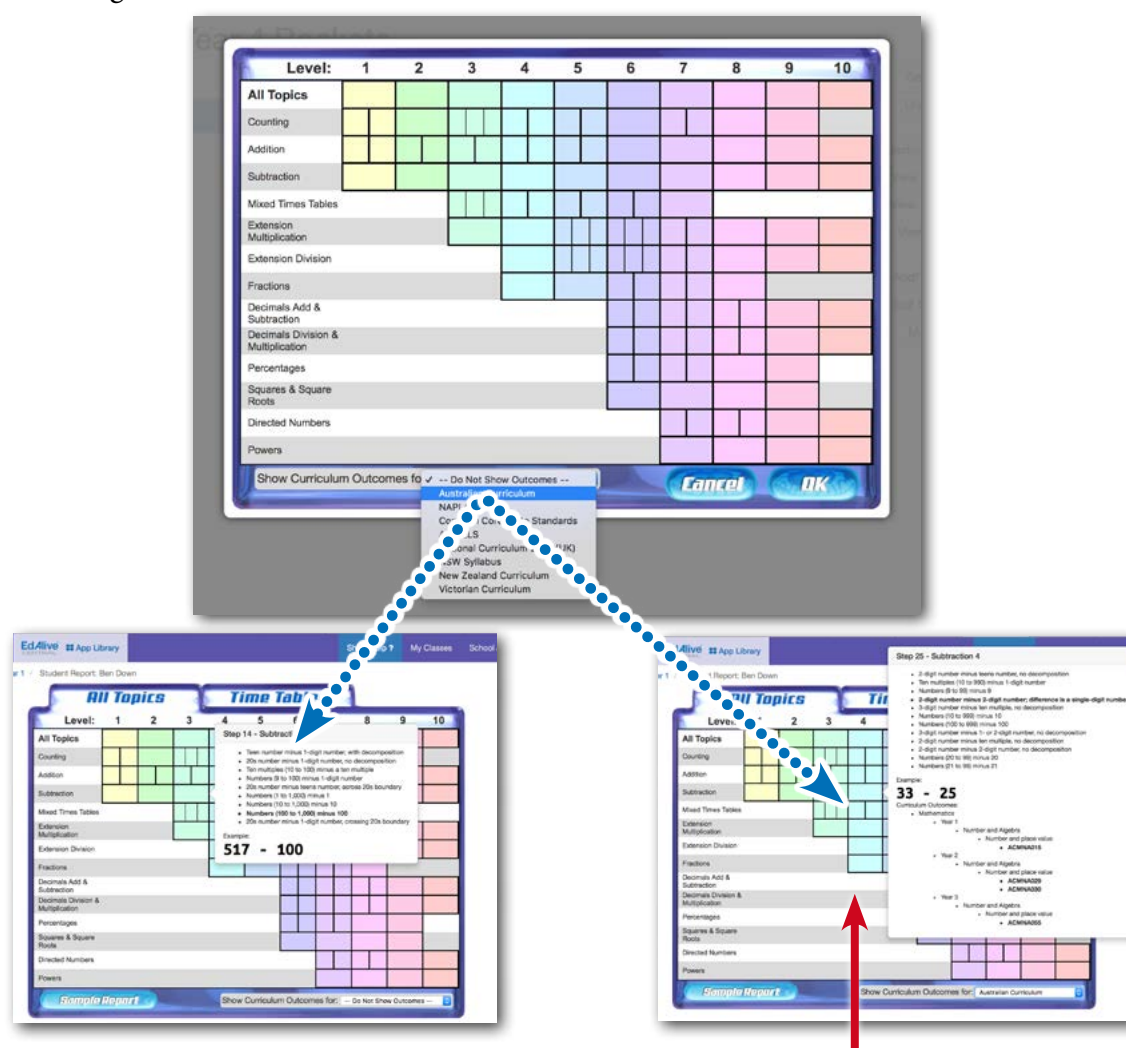
Below the main interface, two examples of printed worksheets are shown. The left worksheet is titled "Printed 24/04/2019" and shows 24 problems, each with a "Double" label (e.g., Double 4, Double 7, Double 5). The right worksheet is titled "Printed 24/04/2019" and shows 24 problems, each with a "Double" label (e.g., Double 4, Double 7, Double 5). Both worksheets have a red arrow pointing to the bottom, indicating the location of the curriculum outcomes.

No outcomes printed on the bottom of the worksheet

Outcomes printed on the bottom of the worksheet

## Topic Selection dialogue and Curriculum Correlations

Wherever the *Topic Selection* dialogue is accessible it is possible to select from the range of curricula against which to correlate.



Roll over to see content - no outcomes displayed

Roll over to see content - outcomes displayed

# Maths Invaders game



The Maths Invaders game allows the targeting of specific maths skills.

- *Students* can complete up to 1,800 maths questions per hour. That's one every 2 seconds!
- *Students* can choose their own maths content, game mode and speed.
- Parents and *Teachers* can set and lock maths content.
- All correct answers add to the  $\sqrt{\text{Answers}}$  total.

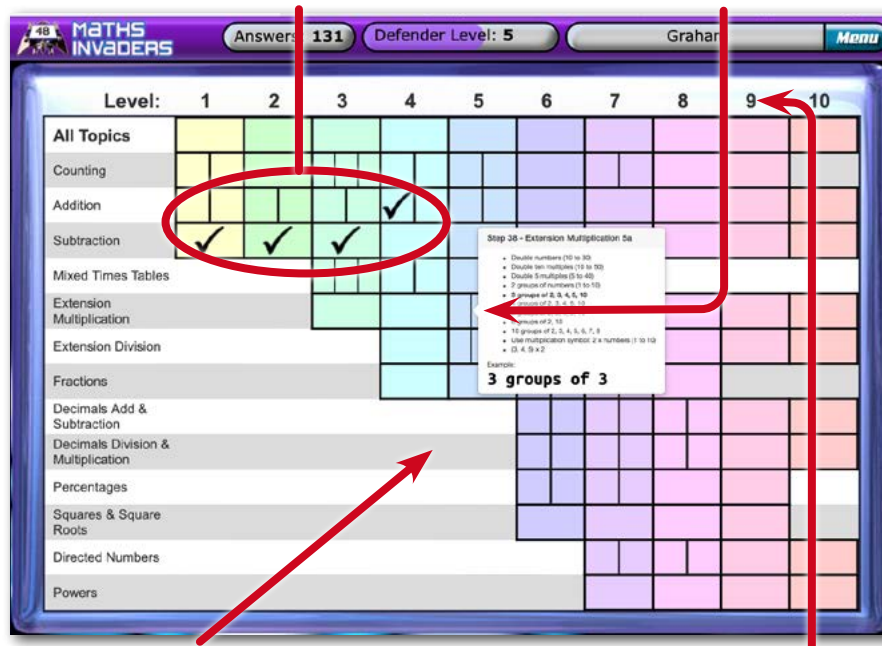
## Massive maths content to choose from

The maths content is sequenced into 128 graded *Steps*, starting with kindergarten level counting and simple addition, and builds through to Year 10 calculations which, when done at speed will test the mathematical ability of any adult.

Covers: Addition • Subtraction • Multiplication • Division • Fractions • Decimals • Percentages • Numeration • Counting • Squares • Square Roots • Powers • Directed Numbers and more!

Select 1 or multiple cells  
(*Steps*) from any *Level*

Hover over a cell (*Step*) to  
see the content



128 graded *Steps* + All Topic Tests

Each *Level* approximates 1 academic year



# Starting and finishing Maths Invaders

To start choose the *Maths Invaders* game from the *Main Menu*

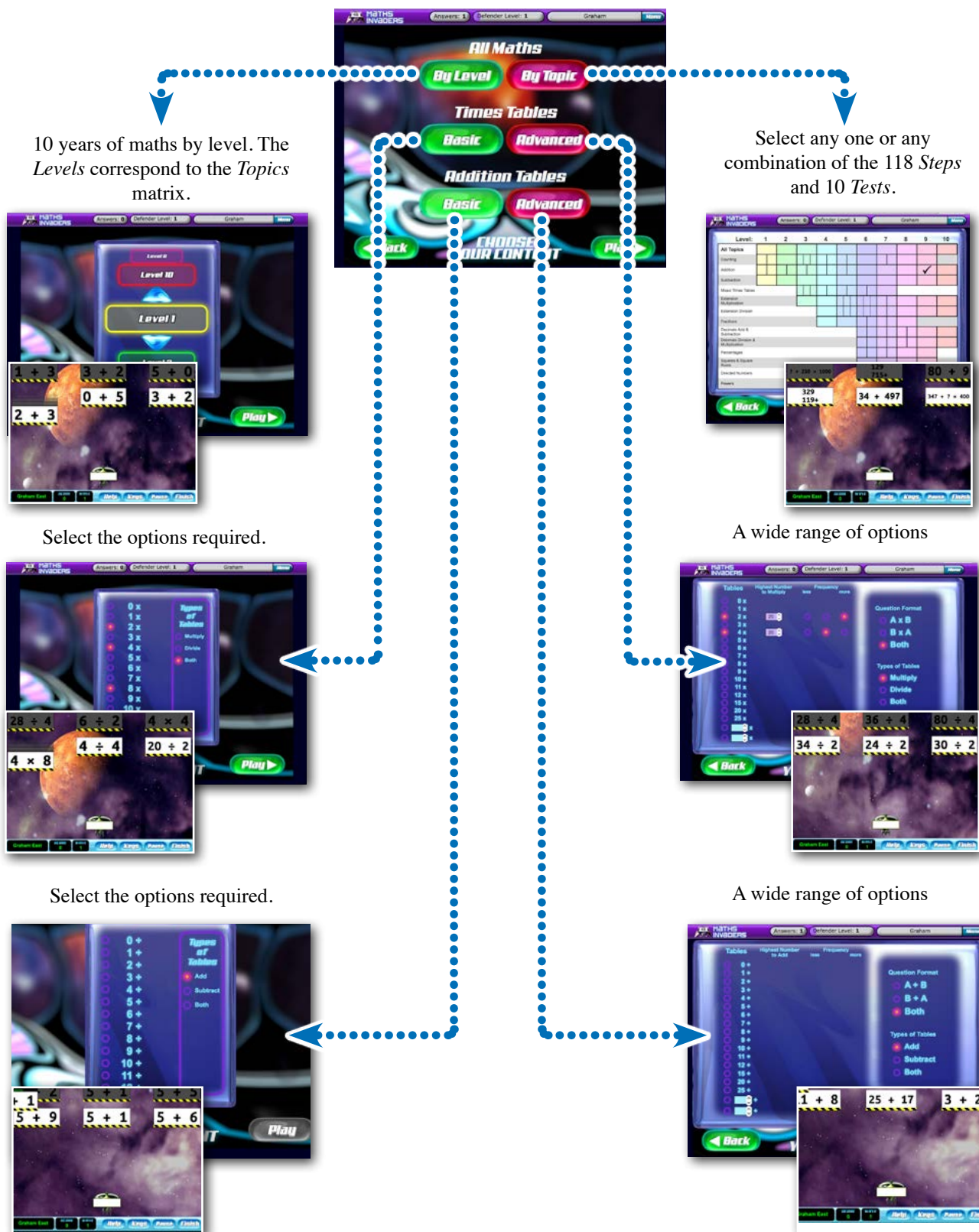


During the game waves of maths questions (Invaders) descend the screen. The player repels the questions by firing the correct answer at each question. A game finished if one of the Invaders reaches the bottom of the screen.



# Choose maths content

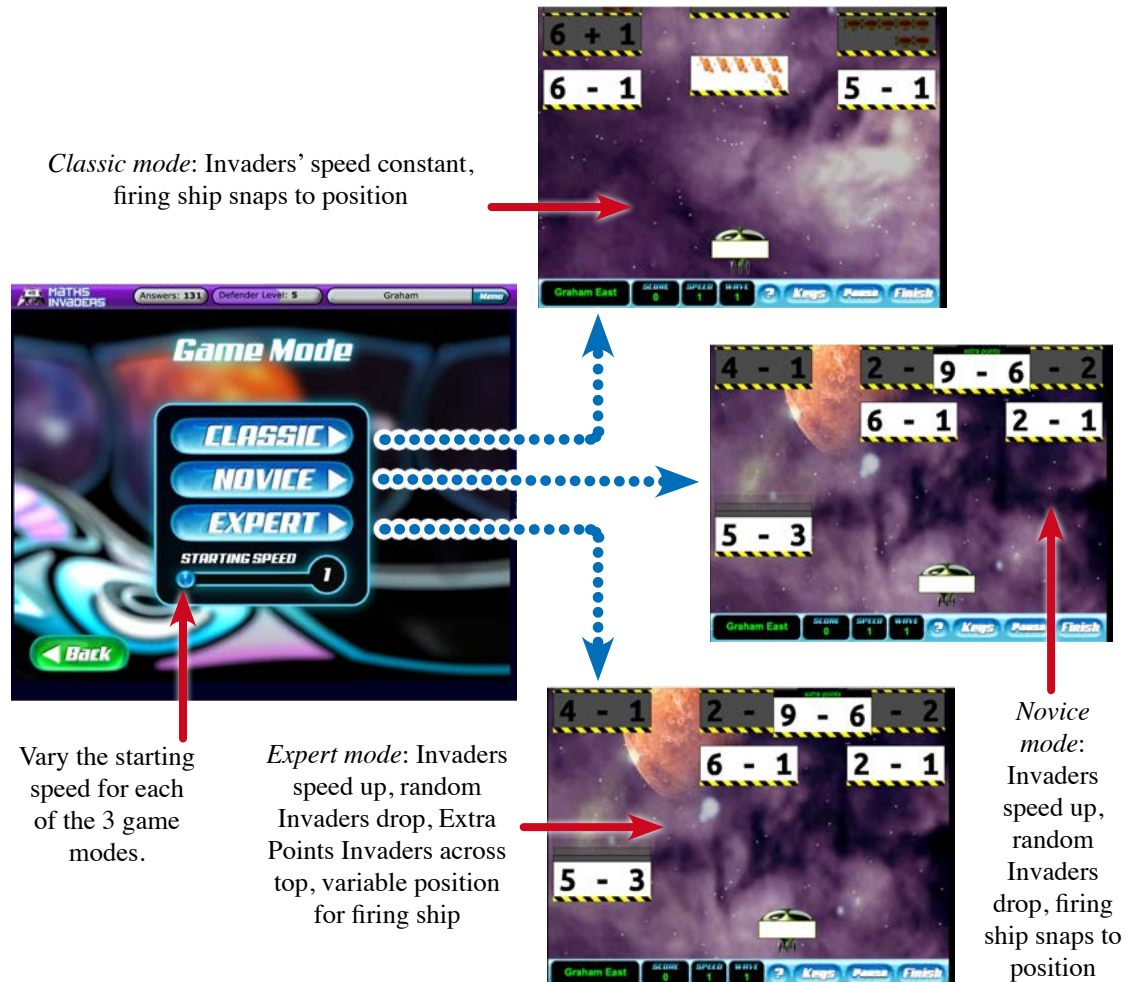
Content for the Maths Invaders game can either be chosen by the *Student* as they start the *Maths Invaders* game or set by the *Parent* or *Teacher* (See - Set Content section).





## Choose Game Mode

Multiple game modes of increasing complexity and speed dynamic are provided to accommodate the capabilities of a range of students. The Classic mode is particularly suited for students for whom it is important that the rate of question presentation does not accelerate and that the starting speed is slow.



	Classic	Novice	Expert
Max of 8 waves of Invaders	√		
Unlimited waves until Invaded		√	√
Each new wave accelerates		√	√
Firing ship snaps to column	√	√	
Firing ship variable position			√
Random Invaders drop down		√	√
Extra Points Invaders move across top			√
Set starting speed of first wave	√	√	√

*Features of the various Game Modes*


# Setting (Locking) Maths Invaders Content

Teachers and parents can set and lock student content for the Maths Invaders game using the *Select Content* option located in *Tools and Reports*.

1. Content can be selected from any of the *Topics* or *Times Tables*.
2. Once *Content* is set a student signing in will be prevented from attempting any other content or activity within *Maths Invaders* for the duration of the set time.
3. *Selected Content* can be unlocked using the UNLOCK CONTENT button.

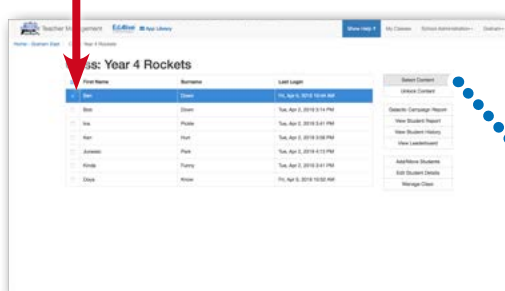
Parents and teachers can use the *Select Content* option to direct a single child or group of students to work on a nominated maths skill. Perfect for setting classroom work!

## To Set Content

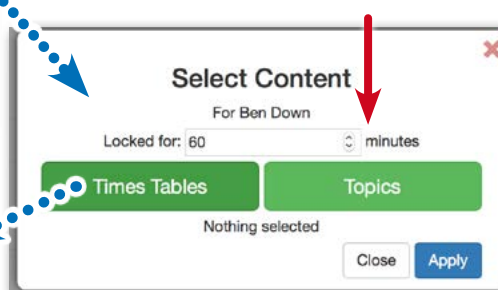
 Teachers access the *Select Content* dialogue from the class list in the *Maths Invaders Teacher Management* screen.

 Parents access the *Select Content* dialogue from the *My Children* screen.

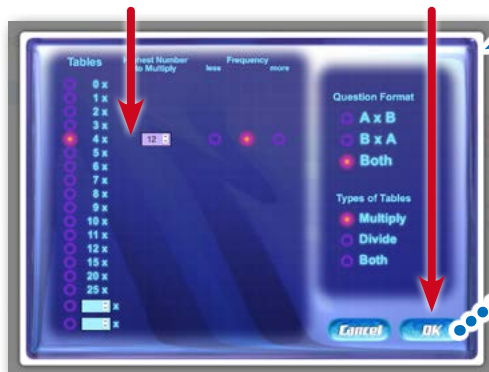
To set content, select the student or students and click on the SELECT CONTENT button



Set the time for the selected content to endure. The set time frame commences immediately.



Choose the content and press the OK button



Selected students will be locked to the selected content, and will only be able to work on this content until the expiration of the nominated time.

# To Unlock Content



Teachers access the *Unlock Content* function from the class list in the *Maths Invaders Teacher Management* screen.



Parents access the *Unlock Content* function from the *My Children* screen.

To cancel set content, select the student or students and click on the **UNLOCK CONTENT** button.



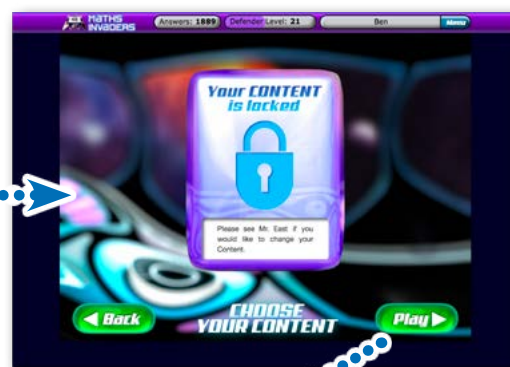
## What Students/Children see

Once the *Set Content* option has been activated the students/children will only be able to play the Maths Invaders option and then only with the Selected Content for the designated time. Once the designated time has expired, the function returns to normal.

*Maths Invaders* is the only visible option. All others are greyed out.

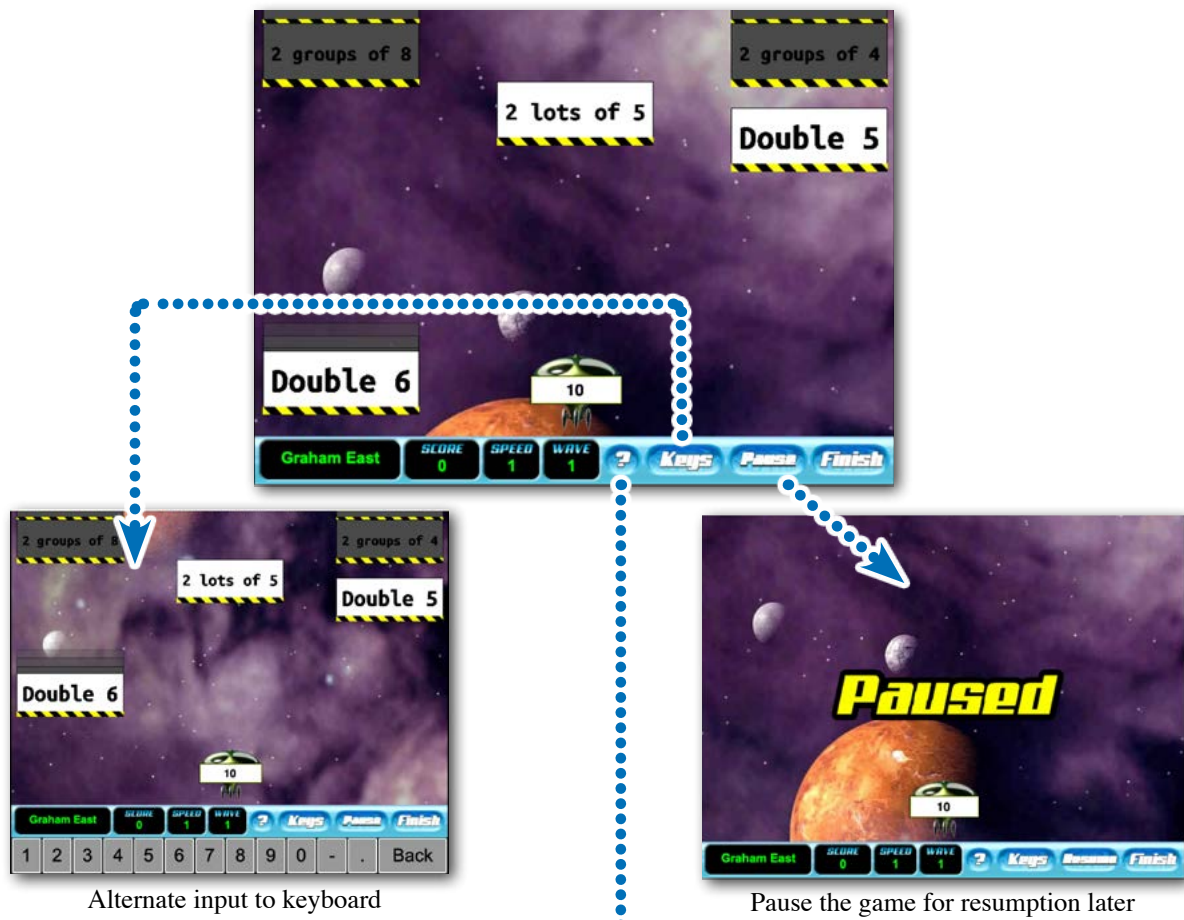


*Content* is locked to the selection made by the teacher for the nominated time.





# Maths Invaders Help screen and on-screen Keys



# Galactic Campaign - Mastery Learning Mode

*Galactic Campaign* embeds the *Maths Invaders* game in a mastery learning system that automatically guides students through the 118 carefully graded *Steps* and 10 *Level Tests*, covering 10 years of maths from Year 1 to Year 10.

1. Students can begin in *Zone 1* (Year 1) or use the *Skip Here* pre-test to commence at a higher grade.
2. Students then start choose between progressing to the next *Step* at the *Basic Speed* or staying on the same *Step* and repelling the Invaders at faster speeds.
3. At each *Step* students can produce PDF worksheets targeted to the concepts related to the maths being worked on.
4. At each *Step* and *Galactic Campaign Stars*, *Triple Stars*, and the *Step* attained
5. Students are rewarded with points towards their *Defender Level*.
6. Enables the students to progress with little teacher input. The teacher does not have to adjust their *Level* and only needs to intervene when and where the *Report* shows a need.



# Starting Galactic Campaign

To start choose the *Galactic Campaign* game from the *Main Menu*



# Unlock the Steps to view maths content

The special *Teacher Access* version of *Maths Invaders* enables teachers to enter all of the 128 *Galactic Campaign* 128 Steps including 10 *Level Tests* so that they can preview the activities in each Step.

To access this special version of *Maths Invaders* log in as a teacher using your user name and password and choose *Start Maths* from your *Name* menu at the top right of the screen. For full details see the entry under: *Special access for teachers*

The screenshot shows the 'Galactic Campaign' map with various steps represented by stars and planets. A red arrow points from a text box to the 'Unlock All' button, which is labeled 'Teachers only'. Another red arrow points from a text box to step 24, indicating that clicking on a step when unlocked will show sample content. A third red arrow points from a text box to the 'Unlock All' button. A blue dotted arrow points from step 24 to a sample addition activity window.

**Teachers only**

The LOCK/UNLOCK ALL button grants teachers access to all Galactic Campaign Steps

When unlocked click any of the Defender Levels to see sample content

**Zone 4 - Aqualis**  
**Zone 3 - Lilypad**

**Addition 4a**

Number pairs totalling up to and including 20	8 + 2	4 + 14	2 + 17	3 + 5
	3 + 15			
Ten multiples totalling 0 to 100	20 + 20	70 + 20	80 + 20	
	10 + 90	30 + 30		
Doubles of any numbers up to 20	18 + 18	10 + 10	8 + 8	5 + 5
	17 + 17			
Addition of 3 numbers, totals up to and including 30	7 + 1 + 0	0 + 28 + 2	9 + 7 + 0	
	0 + 2 + 28	8 + 9 + 1		
Addition of 3 ten multiples, totals up to and including 100	0 + 60 + 20	0 + 20 + 80		
	30 + 10 + 10	20 + 30 + 10		
	20 + 10 + 60			
Pairs of ten multiples totalling 100	? + 70 = 100	? + 20 = 100		
	? + 0 = 100	10 + ? = 100		
	20 + ? = 100			
Teens number + twenties number, no regrouping	10	21	14	17
	23+	10+	25+	22+
			21	14+

Show Curriculum Outcomes for: -- Do Not Show Outcomes --

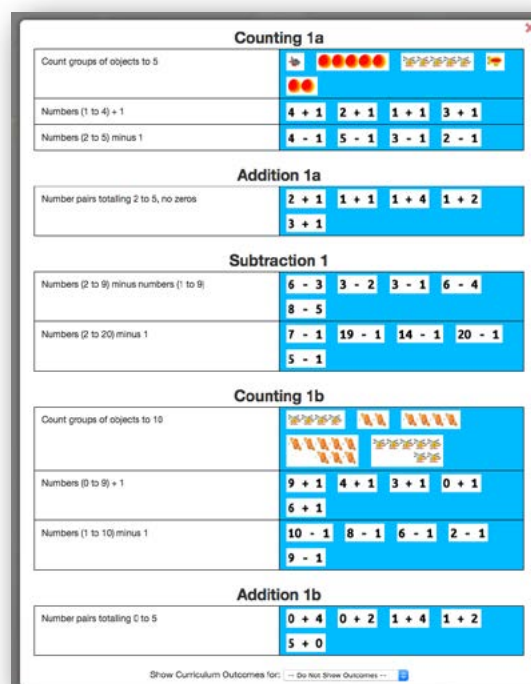


## First use

The first time a student starts using *Galactic Campaign* they are prompted to select a *Year Level* appropriate to their approximate maths capability.

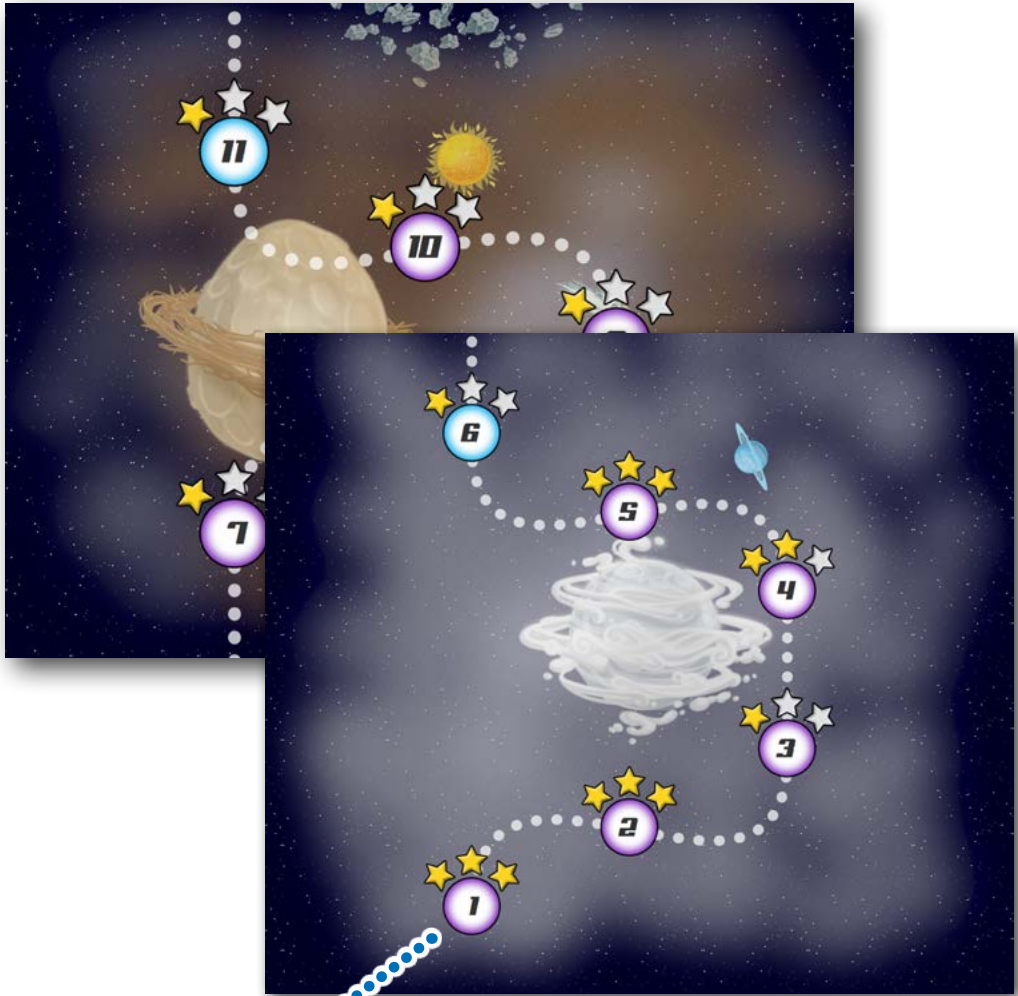


The EXAMPLE QUESTIONS button will show examples of the kinds of maths questions they will encounter at the selected *Year Level*.





Click on a *Galactic Campaign Step* to see the progress to date.



Zone 1   Cumulus Nebula   Year 1				
Step	Maths Topic			Progress
1	Counting 1a	Example Questions	Print Worksheets	★ ★ ★
2	Addition 1a	Example Questions	Print Worksheets	★ ★ ★
3	Subtraction 1	Example Questions	Print Worksheets	★
4	Counting 1b	Example Questions	Print Worksheets	★ ★ ✖
5	Addition 1b	Example Questions	Print Worksheets	★ ★ ★
6	Zone Summary	Example Questions		★

# The Galactic Campaign report

Students can access directly access The Galactic Campaign report which gives them a summary of their progress and lets them print worksheets to practice concepts that are shown as needing attention. The report only shows the results from questions answered in the Galactic Campaign.

Student access to the Access Galactic Campaign Report

**Galactic Campaign | Summary**

Stars Earned: 4/20  
Steps Mastered: 4/8  
Highest Step Reached: Step 16, Zone 2

**Zone 1 | Curulus Hecula | Year 1**

Step	Maths Topic	Progress
1	Counting 1a	☆☆☆☆
2	Addition 1a	☆☆☆☆
3	Subtraction 1	☆☆☆☆
4	Counting 1b	☆☆☆☆
5	Addition 1b	☆☆☆☆
6	Zone Summary	☆☆☆☆

**Zone 2 | Feather System | Year 2**

Step	Maths Topic	Progress
7	Counting 2	☆☆
8	Addition 2a	☆☆
9	Subtraction 2	☆☆
10	Addition 2b	☆☆
11	Zone Summary	☆☆

**Sample Individual Galactic Campaign Report**

This report shows the student's progress through the Galactic Campaign. Each row in the "Progress" column of the report will fill with stars to indicate completion of each speed level in the step. Once all 3 speed levels are completed, the student will have demonstrated maths fluency in the topic and the step will be considered Mastered.

Crosses indicate topics where a student is struggling to complete the maths activities at the selected speed. We recommend printing Worksheets containing activities from such topics to allow the student to work through the questions with a teacher, parent or guardian.

**Galactic Campaign | Summary**

Stars Earned: 4/20  
Steps Mastered: 4/8  
Highest Step Reached: Step 16, Zone 2

**Zone 1 | Curulus Hecula | Year 1**

Step	Maths Topic	Progress
1	Counting 1a	☆☆☆☆
2	Addition 1a	☆☆☆☆
3	Subtraction 1	☆☆☆☆




The Maths topic covered in each step is described here. This report shows the student's progress towards mastery of each topic.

Legend:

- ☆☆☆☆ Stars are awarded for successfully completing a speed level in a step
- ☆☆☆☆ Crosses indicate that a student is struggling with the topic in a step
- ☆☆☆☆ Three stars indicate Maths Fluency and mastery of a specific topic

Counting 1a

Count groups of objects to 5

Numbers (1 to 4) + 1

4 + 1

2 + 1

1 + 1

3 + 1

Numbers (2 to 5) minus 1

4 - 1

5 - 1

3 - 1

2 - 1

Addition 1a

Number pairs totalling 2 to 5, no zeros

2 + 1

1 + 1

1 + 4

1 + 2

3 + 1

Subtraction 1

Numbers (2 to 9) minus numbers (1 to 9)

6 - 3

3 - 2

3 - 1

6 - 4

8 - 5

Numbers (2 to 20) minus 1

7 - 1

19 - 1




14 - 1

20 - 1

5 - 1

Counting 1b

Count groups of objects to 10

Numbers (0 to 9) + 1

9 + 1

4 + 1

3 + 1

0 + 1

6 + 1

Numbers (1 to 10) minus 1

10 - 1

8 - 1

6 - 1

2 - 1

9 - 1

Addition 1b

Number pairs totalling 0 to 5

0 + 4

0 + 2

1 + 4

1 + 2

5 + 0

Show Curriculum Outcomes for: ☐ Do Not Show Outcomes ☒

# Galactic Campaign and the Curriculum Correlations

The *Steps* within the *Galactic Campaign* correspond to the *Topics* in the *Topic Selection* dialogue. *Curriculum Correlations* can be displayed for each *Step*.

The diagram illustrates the relationship between the Galactic Campaign map, a specific step, and its curriculum correlations. The map on the left shows a path of stars numbered 12, 13, 14, 15, and 16. A dotted arrow points from star 14 to a box titled 'Step 14 - Zone 3 - Lilypad Cluster'. This box contains 'Subtraction 3' and three difficulty levels: 'Basic', 'Expert Speed', and 'Master Speed'. Another dotted arrow points from the 'Basic' level to a 'Subtraction 3' curriculum correlation table. This table lists various subtraction problems categorized by type (e.g., 'Teen number minus 1-digit number, with decomposition') and includes a dropdown menu for 'Show Curriculum Outcomes for:' with options like 'Australian Curriculum', 'NAPLAN', 'Common Core State Standards', etc.

*Curriculum Correlations* can also be displayed in the *Galactic Campaign* report.

The screenshot shows the 'Galactic Campaign | Summary' report in the Maths Invaders interface. It displays 'Stars Earned', 'Steps Mastered', and 'Highest Step Reached' (Step 1, Zone 1). Under 'Zone 1 | Cumulus Nebula | Year 1', there is a table with columns for 'Step', 'Maths Topic', and 'Progress'. Step 1 is 'Counting 1a' and Step 2 is 'Addition 1a'. For each step, curriculum correlations are listed, such as 'Australian Curriculum Outcomes: Mathematics - Foundation Year - Number and Algebra - Number and place value'. A text box highlights a specific outcome: 'Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point'.



# Space Rescue

*Space Rescue* is an Interactive Real-Time, Multiplayer Game that is fully integrated into *Maths Invaders*.

*Space Rescue* harnesses the appeal of online gaming and teams it with the EdAlive automated *Adaptive Learning System* to motivate students and engage them with maths questions that are just right for them.



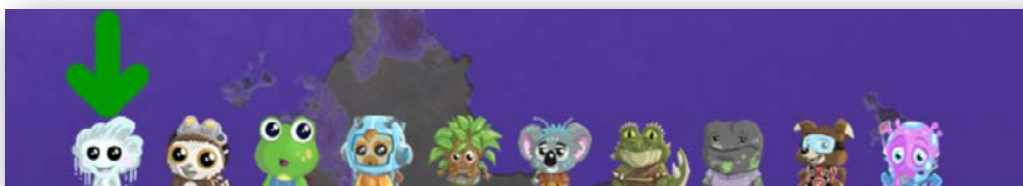
## The Game Scenario

Players compete against each other or *Smart Computer Players* to rescue stranded ships, lost in space. To charge their *Rescue Scanner* they must answer *Questions* presented to them by the *EdAlive Adaptive Learning System*. The innovative turn-based design maximises the time doing educational content and minimises time waiting for other players.



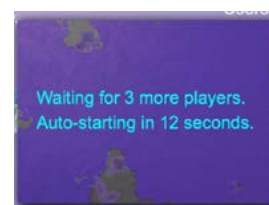
## It all Happens in Real-Time:

- All interactions within the game happen instantly and each player is immediately aware of other player's moves.
- The answers to *Questions* are scored immediately and a *Question and Answer Summary* is displayed at the conclusion of each game.



## Multiplayer Engagement:

- Students play against the computer or up to 3 other students selected from their class, or anywhere the world.
- To play against students in their own class students can initiate a game of *Space Rescue* as the *Host* and then invite others to join them.



## Smart Computer Players

- When there are insufficient human players to join a game, the computer generates players to compete against.
- The computer generated players use dynamic feedback from the game to auto-level their ability to match the capability of the students. This ensures that human players of various abilities are actually able to win the game (but not always).

## Interactive Fun:

- *Space Rescue* is not just a first past the post race. It's a full on, real-life tussle with the other competitors with incredible motivational appeal.
- The choices made by one player dynamically effect the game-play for all. As in games like Chess and Monopoly each move immediately effects the options for others. This dynamic interaction greatly boosts the engagement of the students.

## Adaptive Learning:

- The automated EdAlive Adaptive Learning system ensures that each student is presented with maths content that has just the right level of challenge for them.
- Teachers can be confident that students are always working on content that is targeted just for them without having to monitor and adjust settings.





# Starting Space Rescue

To start choose the *Space Rescue* game from the *Main Menu*



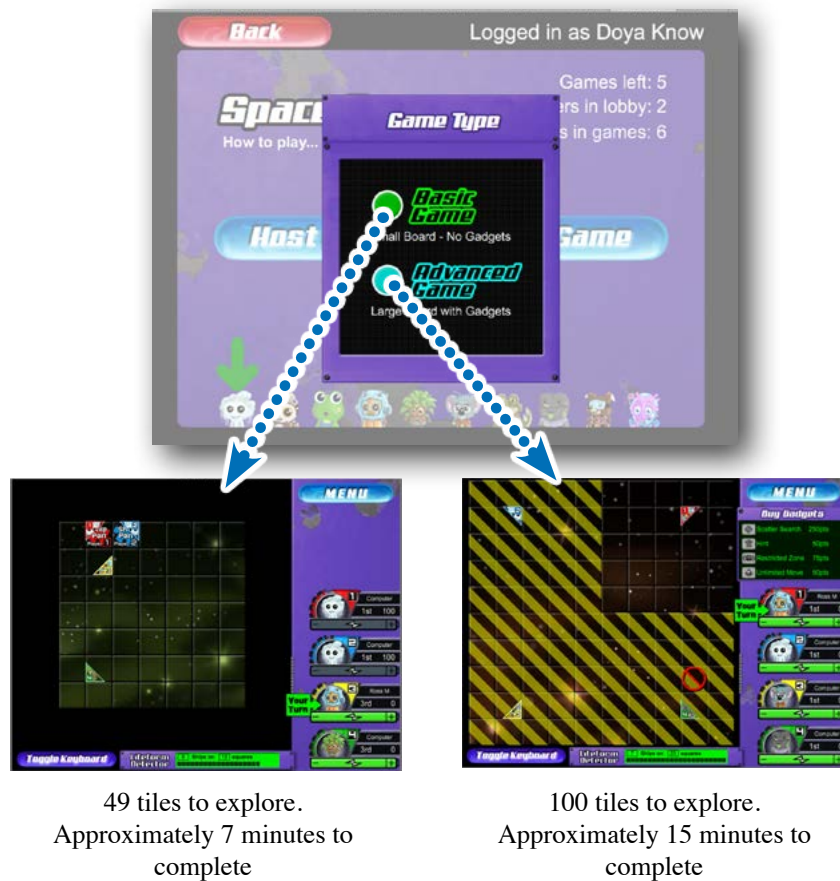
# Playing Space Rescue

*Space Rescue* can be played by a student on their own or in a group. It is easy to start, join or host a game. The system automatically does all of the hard work for teachers and parents. It concurrently manages the game play, recalculates the options for each player and automatically delivers maths optimised for each student and then reports on *Questions* completed.

## Choose a game complexity

To get started students click on the SPACE RESCUE button on the *Home Screen* and select either the *Basic* or the *Advanced Game*.

- The *Basic* game is suitable for younger students and is quicker to play
- The *Advanced Game* is more complex and has more tiles to explore. It features a range of gadgets that students can use to effect the gameplay of others. It takes a little longer to play.



## Choose to play alone or with others

Join a game with other players  
randomly selected from  
around the world

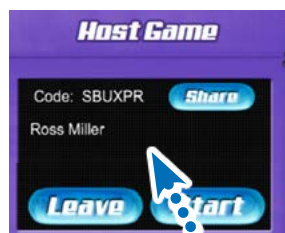
Join a game hosted by  
another player



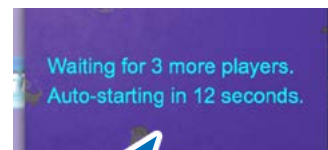
Commence a game as  
a *Host*

Play against 3 *Smart  
Computer Players*

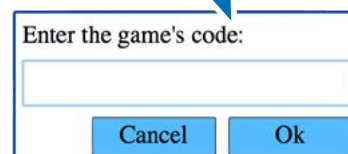
Share this code with others  
you know to host a game



Waiting for players to  
join your game



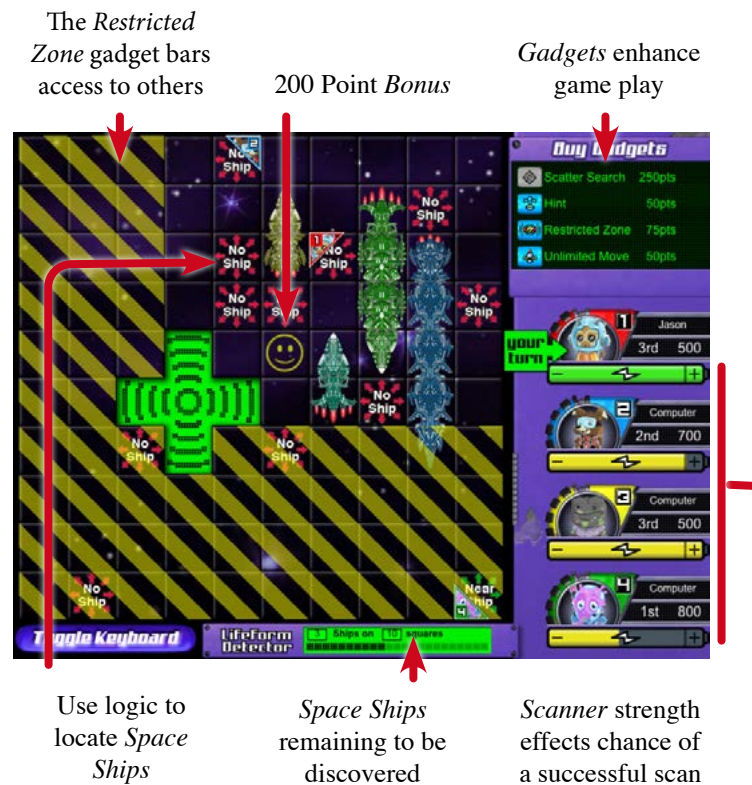
The *Smart Computer Players*  
appear immediately



Enter a code that a *Host*  
has shared with you.

## Use logic and deduction to play the game

To play *Space Rescue* students must use logical and deduction to predict the location of the parts of the *Space Ships*. The game strategy is ever changing as other players discover parts of the ships. To succeed players must develop and constantly reevaluate their strategy as other players make their moves.

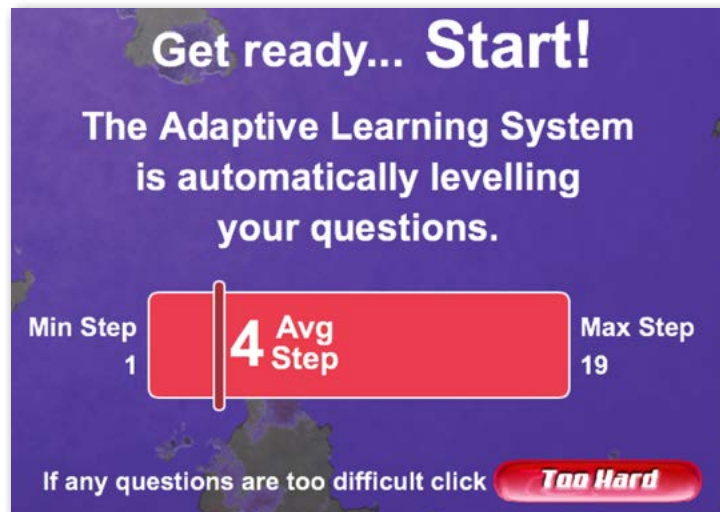


## Questions from the EdAlive Adaptive Learning System

Between each round of game play students must answer a series of *Questions* as determined by the *EdAlive Adaptive Learning System*.

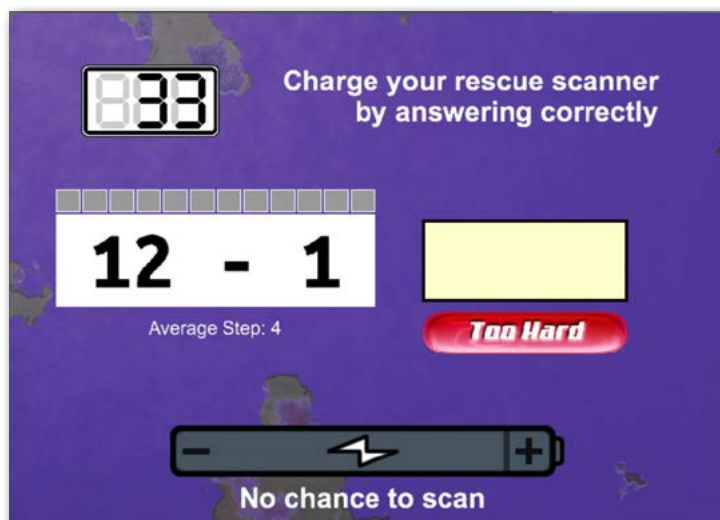
For details of the operation of the *Adaptive Learning System* see the relevant section of this publication.

The System starts by reviewing the student's results and then automatically choosing fresh optimised content.



Up to 12 levelled questions are then presented.

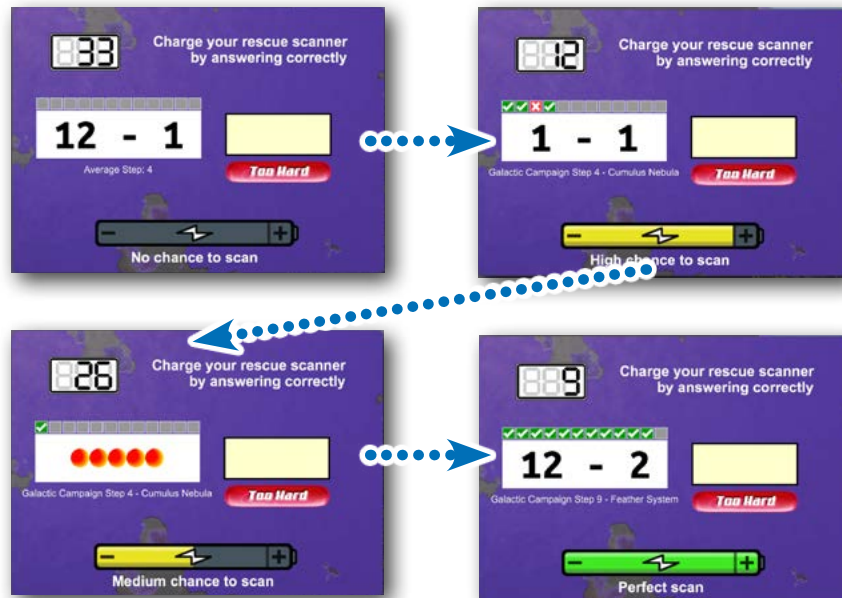
- The student completes as many *Questions* as possible in the allocated time.
- Even though there is a timer running there is no penalty for unanswered questions.





## Scanner Strength

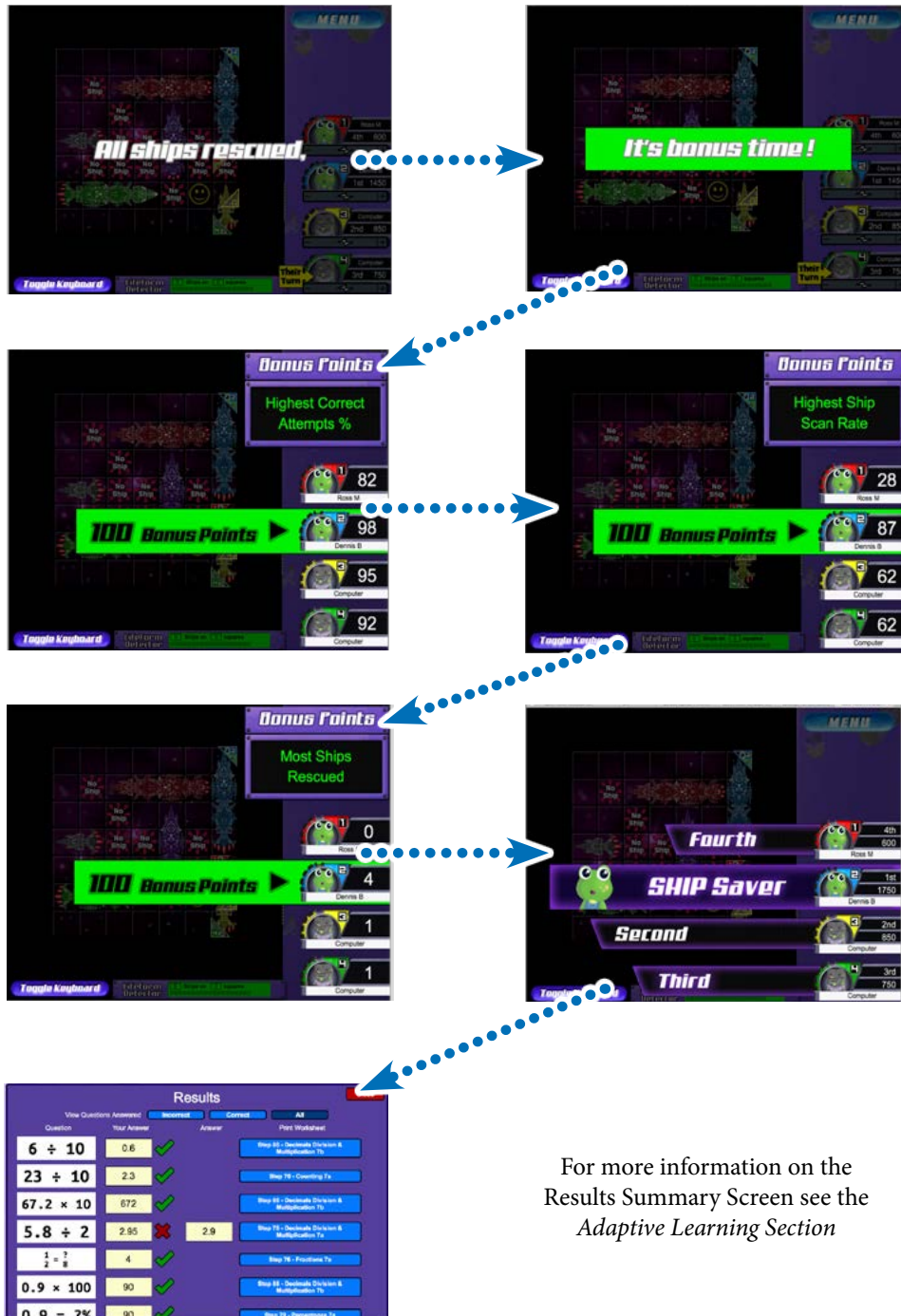
The more *Questions* that are answered correctly the stronger the *Scanner Strength*. The higher the *Scanner Strength* the greater the possibility that, when playing the game and scanning a *Tile*, that the scan will be successful in revealing the presence or otherwise of a *Space Ship* in the *Tile*.



## Finishing Sequence

After the last ship is found *Space Rescue* allocates point credits for the winners of a range of criteria. All the points are then tallied and a winner declared.

A *Results Summary Screen* is then displayed.



# Defender Level and Total Correct Answers

The *Defender Level* and the *Total Correct Answers* counter systems are designed to reward students for effort independently from mathematical achievement. They reward tenacity and commitment to the task. Some students have to exert much effort to master maths with the intrinsic reward from so doing not sufficient to keep them on task.

Each *Question* answered correctly within any section of *Maths Invaders* feeds into the student's *Defender* total and to the *Total Correct Answers* counter and accrues towards the next *Defender*.

- Rewards students for each question answered.
- 180 *Defenders* with each one requiring extra questions to be answered over the previous one.
- The images and names are designed to fascinate and motivate students to answer more and more questions.

Click DEFENDER LEVEL button to display. Correct answers required for the award of the next *Defender*.

Total Correct Answers

Defenders earn't.

Printable Award or Colouring in Poster.

1. Space Cadet - Novice  
For correctly answering 200 questions

1. Space Cadet - Novice  
For correctly answering 200 questions

# Printable Practice Worksheets

An unlimited number of *Printable Practice Worksheets* can be generated either by a student as they work or by a teacher from the *Teacher Management Module* or a parent from the *Parent Management Module*. Throughout *Maths Invaders* there are multiple points of access to the *Printable Practice Worksheets*.

1. Each *Worksheet* is specific to one of the 118 *Steps* (*the Level Tests are not included*) or, if required, the 850 *Units*.
2. The *Questions* for each *Worksheet* are generated on-the-fly meaning that each *Worksheet* is unique and the number of variants unlimited.
3. *Answer Sheets* can be printed.
4. Correct answers and fulfilled *Curriculum Correlations* can be appended to the bottom of each *Worksheet*.

Details of the individualised Worksheet.      Corresponding Galactic Campaign Step.      Content Selection controls.

The screenshot displays the Maths Invaders Online interface. On the left, a worksheet titled 'Maths Invaders Online Worksheet' is shown, featuring a grid of subtraction problems. A red box highlights the title, and a red circle highlights 'Step 25'. In the center, a 'Schedule' button is visible. On the right, the 'Content Selection' panel is shown, with a red box highlighting the 'Choose Content' section, which includes a 'Count' dropdown set to 24, a 'Regenerate Questions' button, and a 'Show Answers' button. Below this, a 'Show Curriculum Outcomes for:' section has a dropdown menu set to 'Do Not Show Outcomes' and a 'Print' button. Red arrows point from the descriptive text to these specific elements. To the right of the interface, two text annotations with red arrows point to the 'Show Answers' and 'Print' buttons respectively.

Toggle *Answers* on and off.

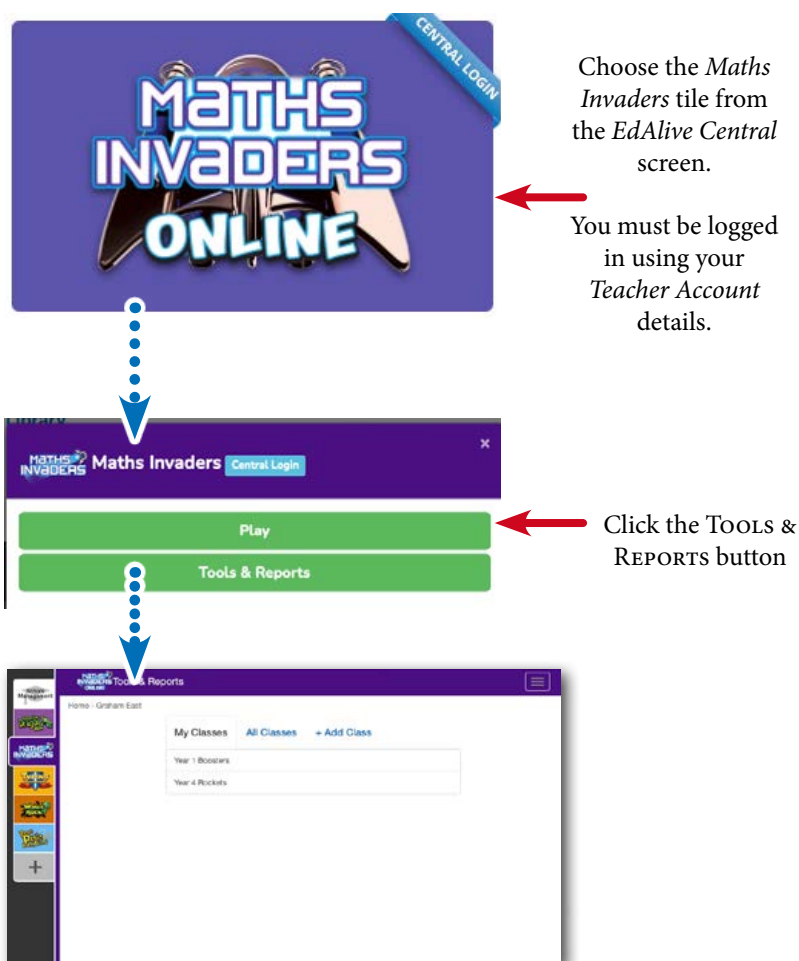
Toggle *Curriculum Outcomes* on and off.

# Reporting

The reports relating to each student's activity within *Maths Invaders* are accessed from the *Tools and Reports* screen. (**NB** These reports cannot be accessed from the *EdAlive Central School Management* or *Family Management* screens).

## Access Tools and Reports - School use

To access the *Maths Invaders Tools and Reports* screen and thence the reports go to *central.edalive.com* and login as a Teacher. Click on the *Maths Invaders* tile.





Select the class you wish to access the reports for and click on the VIEW CLASS button. The following will appear:

Time when Student last logged in

Total correct answers from Maths Invaders, Galactic Campaign, Space Rescue, and Adaptive Learning

First select a *Student* to access these reports.

Click the report to view it.

First Name	Surname	Last Login	Correct Answers
<input type="checkbox"/> AJ E.	Gater	Thu, Feb 2, 2023 5:20 PM	199
<input type="checkbox"/> Arty	Fiachel		0
<input checked="" type="checkbox"/> Ben	Down	Thu, Jan 4, 2024 10:51 ...	2085
<input type="checkbox"/> Bob	Down	Tue, Apr 2, 2019 3:14 PM	249
<input type="checkbox"/> Doy	Know	Thu, Nov 10, 2022 6:14 ...	176
<input type="checkbox"/> Grace	East	Thu, Jan 4, 2024 10:39 ...	0
<input type="checkbox"/> Holly	Wood	Thu, Dec 15, 2022 1:22 ...	1065
<input type="checkbox"/> Ina	Pickle	Wed, Jun 29, 2022 2:15...	343
<input type="checkbox"/> Jurassic	Park	Thu, Dec 22, 2022 9:31 ...	3401
<input type="checkbox"/> Ken	Hurt	Wed, Jul 20, 2022 2:11 ...	462
<input type="checkbox"/> Kinds	Funny	Wed, Nov 30, 2022 2:3...	679
<input type="checkbox"/> Knew	Bee	Wed, Nov 16, 2022 1:1...	1343
<input type="checkbox"/> Nova	Scotia	Tue, Sep 6, 2022 11:40 ...	42
<input type="checkbox"/> Sapu	Reach	Tue, Nov 22, 2022 5:36	1284

The *Last Login* column shows the time and date of each student's last login. This is helpful if you are monitoring homework use or want to see which children haven't used the system for a while.

## Access Tools and Reports - Home use

To access the reports:

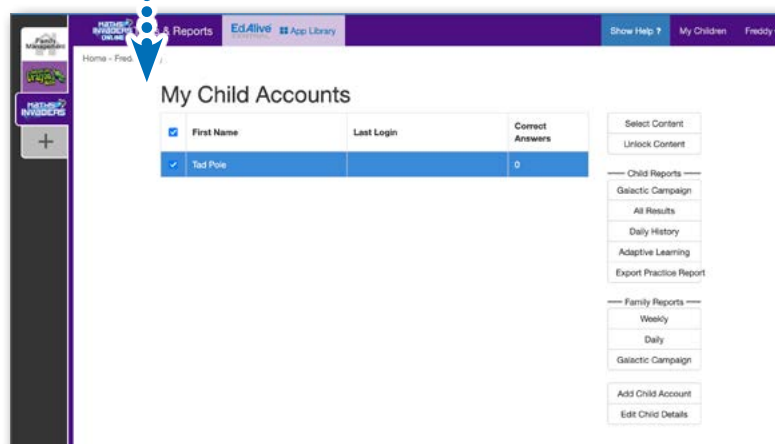


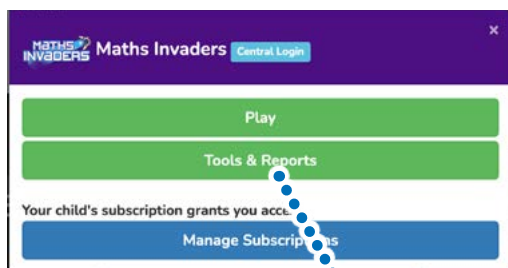
Choose the *Maths Invaders* tile from the *EdAlive Central* screen.

You must be logged in using your *Parent Account* details and not as a student or child.

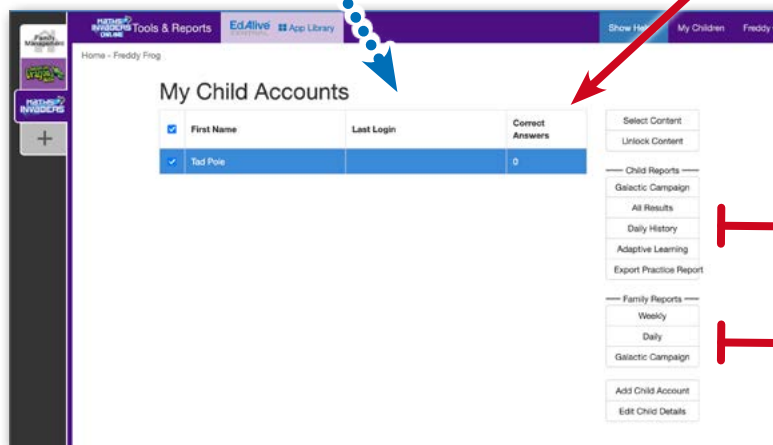


Click the **TOOLS & REPORTS** button





Total correct answers from  
Maths Invaders, Galactic  
Campaign, Space Rescue, and  
Adaptive Learning

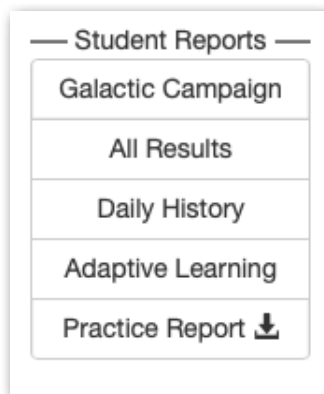


First select a *Child* to  
access these reports.

Click the report to  
view it.

## Student Reports

The *Student Reports* give detailed information regarding the progress of an individual student. To access a report you must first select the *Student* and then click on the name of the report to the right.



### The Galactic Campaign - Student report

This report shows the Student's progress through the 118 Steps of the *Galactic Campaign*. It is the same report that students can access from within the Galactic Campaign game. Full details of this report are available in the section on the *Galactic Campaign* game.

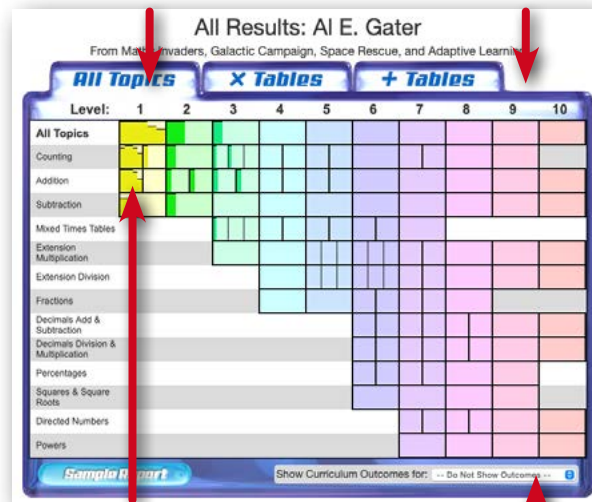
## All Results - Student report

The *All Results* Report shows the student's progress *Topic-by-Topic* and for the *multiplication and division* and the *addition and subtraction* options.

- All results from all *Topic*-based work completed in any part of *Maths Invaders* is displayed in this report including results from the *Maths Invaders*, *Galactic Campaign* and *Space Rescue* games and *Adaptive Learning*.
- The *X Tables* tab displays the results from the *Maths Invaders* multiplication and division option
- The *+ Tables* tab displays the results from the *Maths Invaders* addition and subtraction option

Click *All Topics* tab to display.

Displays progress in all of the 118 Steps and 10 Tests.

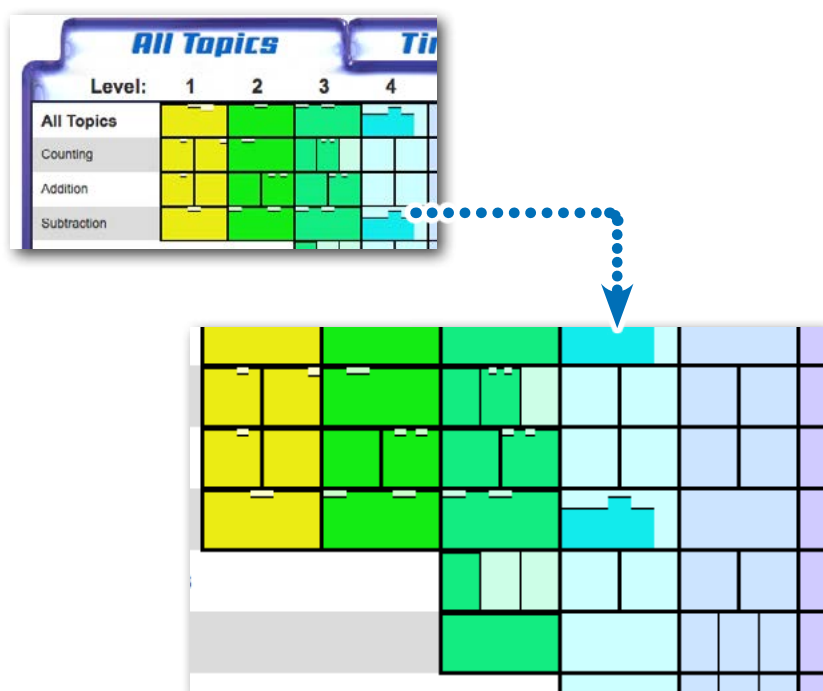


Roll over each cell to see the *Question* content.

Click the pop up menu to display *Curriculum Correlations*.

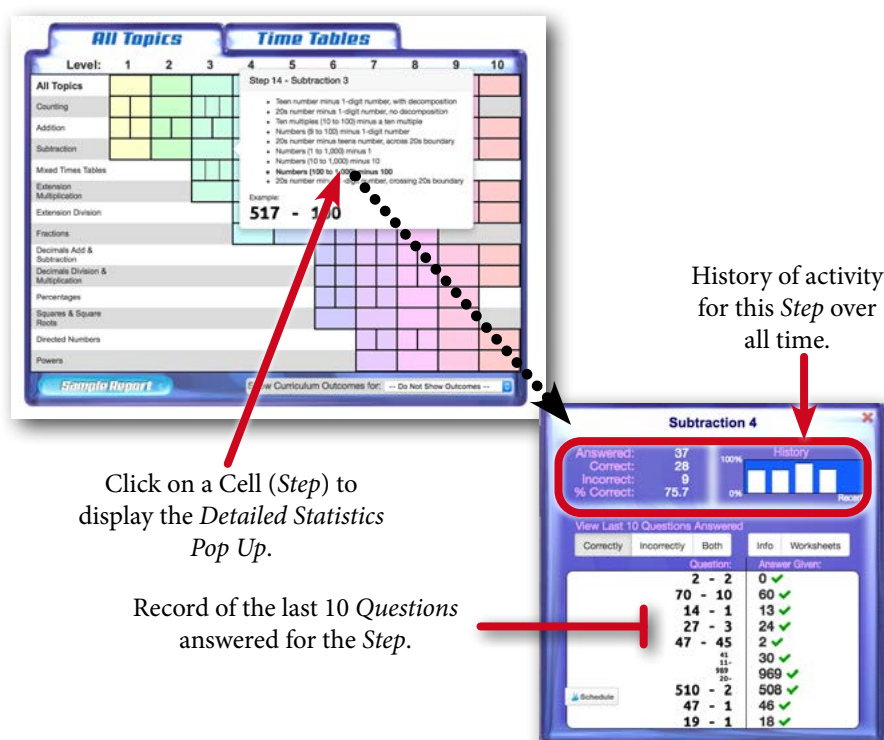
## All Results Report Mini Graphs

Each cell in the *All Results* report includes a column graph representing up to 50 of the student's most recent *Questions* divided into groups of 10. Click on a column graph to view more statistics and the actual answers given for the last 10 *Questions*.



For example, if a student, John, were to answer ten Addition & Subtraction *Questions* with 7 correct and 3 incorrect, the bar would be three-quarters full showing a 70% correct rating.

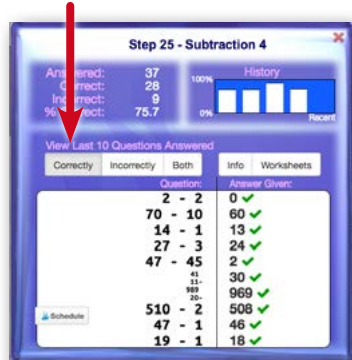
## All Results Report Detailed Statistics Pop Up



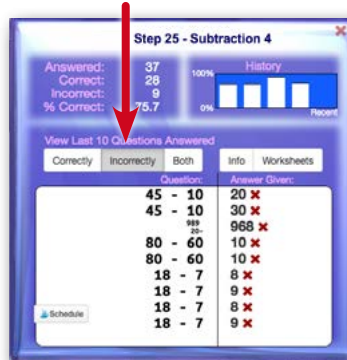


## All Results Detailed Statistics Pop Up - Last 10 questions

Last 10 correct.



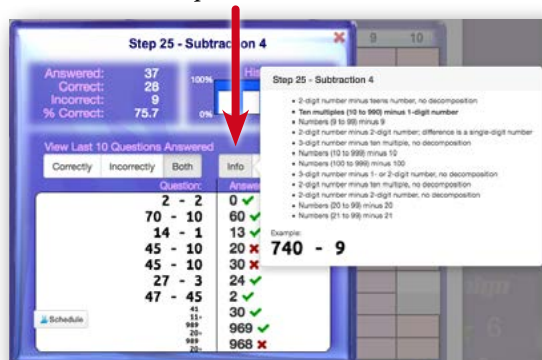
Last 10 incorrect.



Last 10 correct and incorrect.



Info re the Units comprising the Step.



## Print Worksheets aligned to a Topic from All Results Report

Step 25 - Subtraction 4

Step 25 - Subtraction 4 is Step 25 of Galactic Campaign

Click on the WORKSHEETS button to create a Worksheet for the selected Step

EdAlive App Library

Maths Invaders Online Worksheet

Subtraction 4 - All Outcomes

1. 593 - 10

2. 19 - 8

3. 923 - 20

4. 67 15-

5. 519 10-

6. 35 - 1

7. 35 - 7

8. 57 - 9

9. 25 20-

10. 14 - 2

11. 550 - 3

12. 31 11-

13. 10 - 3

14. 613 1-

15. 68 - 20

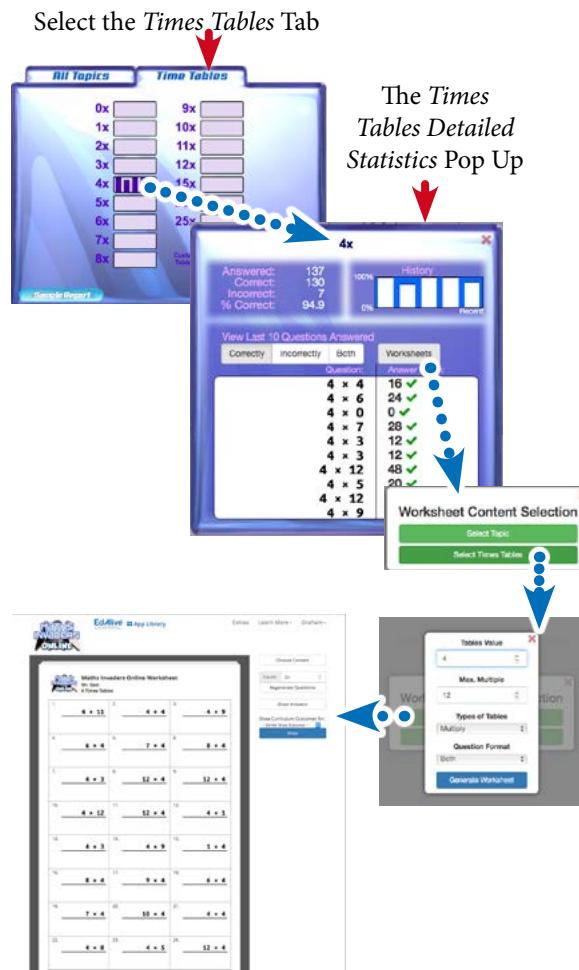
Print

## Times Tables and Addition Tables

The *X Tables* tab displays the results of work done in the *Times Tables Practice* section. The *+ Tables* tab displays the results of work done in the *Addition Tables Practice* section.

Each cell in the report includes a bar graph representing up to 50 of their most recent *Questions* divided in to groups of 10. Click on a bar graph to view more statistics and the actual answers given for the last 10 questions.

The operation of the *Times Tables Detailed Statistics Pop Up* parallels that of the *Detailed Statistics Pop Up*.



## Daily History - Student report

Shows the detailed day-by-day activity for each student. To view the report select the student and click the VIEW STUDENT HISTORY button.

The *Daily History* graph enables teachers to monitor student activity by analysing their activity over time. It also enables the resetting of student data.

Graphically displays activity for the past 12 months.

Click on a specific week's column to display activity detail.

Click to select.

Event by event detail.

Irrevocably delete record of selected activities.

Click on the Show CURRICULUM OUTCOMES pop up to choose various curricula to display with the results.

## View week-by-week activity

Click on a column to highlight the activity for any of 52 weeks. The details display below.

## Delete specific activity history

Situations can arise that require the deletion of history for one or more activities for one or more students. Deleting the history resets the associated record of achievement and settings within *Maths Invaders* enabling students to re-challenge themselves with the same content. This facility is very useful where a family member or other student has been completing activities in the user's account thus skewing their record of achievement.

## Display results against various curricula

*Maths Invaders* is able to correlate student's results against multiple curricula.

The screenshot displays the 'Activities for week 31st March - 7th April 2019' section. It lists two activities: 'Galactic Campaign Game - Cumulus Nebula, Year 1, Step 1' and 'Galactic Campaign Game - Cumulus Nebula, Year 1, Step 1'. Both activities show 'With questions from: Counting 1a', 'Correct: 53' and 'Correct: 52' respectively, 'Incorrect: 0', and 'Percent Correct: 100%'. The 'Curriculum Outcomes' for both are listed as: Mathematics, Foundation Year, Number and Algebra, Number and place value, and Year 1, Number and Algebra, Number and place value. A red arrow points from the 'Curriculum Outcomes' section to a dropdown menu titled 'Show Curriculum Outcomes for:'. The dropdown menu is currently set to 'Australian Curriculum' and shows a list of options: '-- Do Not Show Outcomes --', 'Australian Curriculum', 'NAPLAN', 'Common Core State Standards', 'AusVELS', 'National Curriculum 2014 (UK)', 'NSW Syllabus', 'New Zealand Curriculum', and 'Victorian Curriculum'. Another red arrow points from the 'Activities completed with corresponding Curriculum Correlations.' text to the dropdown menu.

Activities completed with corresponding Curriculum Correlations.

Select the Curriculum against which to correlate.

## Adaptive Learning - Student report

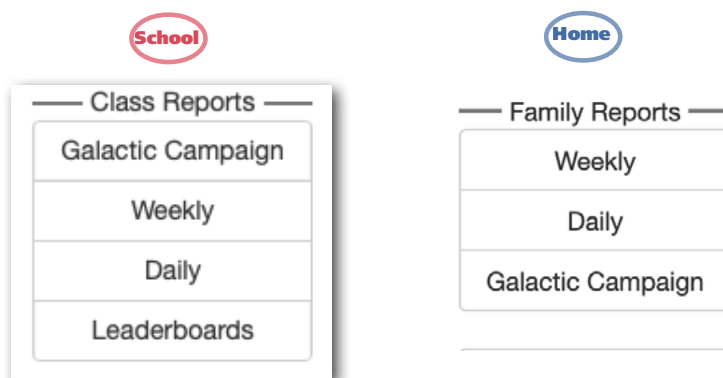
This report reflects work completed in both the *Adaptive Learning* option and from the operation of the *Adaptive Learning System* when playing the *Space Rescue* game and the straight Adaptive Learning mode. For more details see the relevant section under *Adaptive Learning System*.

## Practice Report - Student report

This report is specially formulated to assist some *Maths Invaders* users researching the rate of learning for students. It allows the tracking of user speed and performance for set content over time using the *Maths Invaders* game.

## School Home Class or Family reports

The *Student Reports* give detailed information regarding the progress of an individual student. To access a report you must first select the *Student* and then click on the name of the report to the right.



### Galactic Campaign - Class/Family report

This report shows each student's or child's progress through the *Galactic Campaign*.

To view the report go to the *Class* screen and click the GALACTIC CAMPAIGN button.

1. Only *Questions* completed in the Galactic Campaign show in this report.
2. Each cell in the report fills with stars to indicate completion of each speed level in the *Step*.
3. Once all 3 *Speed Levels* are completed, the student has demonstrated *Maths Fluency* in the topic and the step will be considered *Mastered*.
4. Crosses in the cells indicate *Topics* where a student is struggling to complete the maths activities at the selected speed.
5. *Worksheets* containing activities relating to the *Topics* may be generated and printed.

Zone 1 - Cumulus Nebula Ages 5 - 6					
Step	1	2	3	4	5
Elijah A	★ ★ ★ ✗				
Phillip A	★ ★ ★				
Tamara A	★ ★ ★ ★				
Leilani B	✗				
Liam B	★ ★ ★				

★ Stars are awarded for successfully completing a speed level in a step

✗ Crosses indicate that a student is struggling with the topic in a step

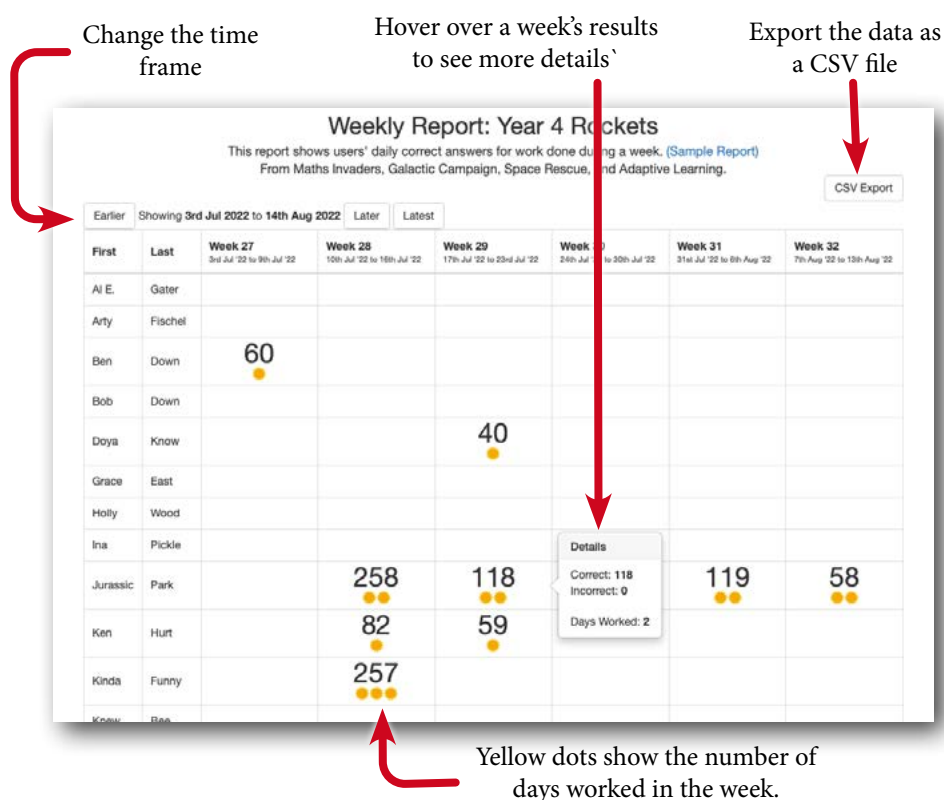
★ ★ ★ Three stars indicate Maths Fluency and mastery of a specific topic



## Weekly - Class/Family report

This report shows users' correct answers for work done during a week from Maths Invaders, Galactic Campaign, Space Rescue, and Adaptive Learning.

To view the report go to the *Class* screen and click the WEEKLY button.



## Daily - Class/Family report

This report shows users' daily correct answers for work done during a week from Maths Invaders, Galactic Campaign, Space Rescue, and Adaptive Learning.

To view the report go to the *Class* screen and click the DAILY REPORT button.

Change the time frame      Navigate between Class reports with tabs      Export the data as a CSV file

The screenshot shows the 'Sample Daily Report' interface. At the top, there is a 'Return to Daily Report' button. Below it are two tabs: 'Weekly Report' and 'Daily Report'. A red arrow points from the 'Daily Report' tab to the text 'Navigate between Class reports with tabs'. Below the tabs, a text box states: 'This report shows users' daily correct answers for work done during a week. (Sample Report)'. A red arrow points from the 'Earlier' link to the text 'Change the time frame'. To the right, a 'Hint: You can export these results to a CSV file for further analysis.' is shown, with a red arrow pointing to the 'CSV Export' button. The main table displays user data for a week from Sunday to Saturday. A tooltip is visible over the Wednesday row for user 'Oscar', showing 'Correct: 12' and 'Incorrect: 4'. A hint box says 'Hint: Hover over a day's result to view more details.'

First	Last	Sunday 16th Aug	Monday 17th Aug	Tuesday 18th Aug	Wednesday 19th Aug	Thursday 20th Aug	Friday 21st Aug	Saturday 22nd Aug
Luke	Johns						12	
Mathew	Marks							
Oscar	Tame				16	9		
Sarah	Baggins							
Stephanie	Wild						15	

# Leaderboards

## About the Leaderboards

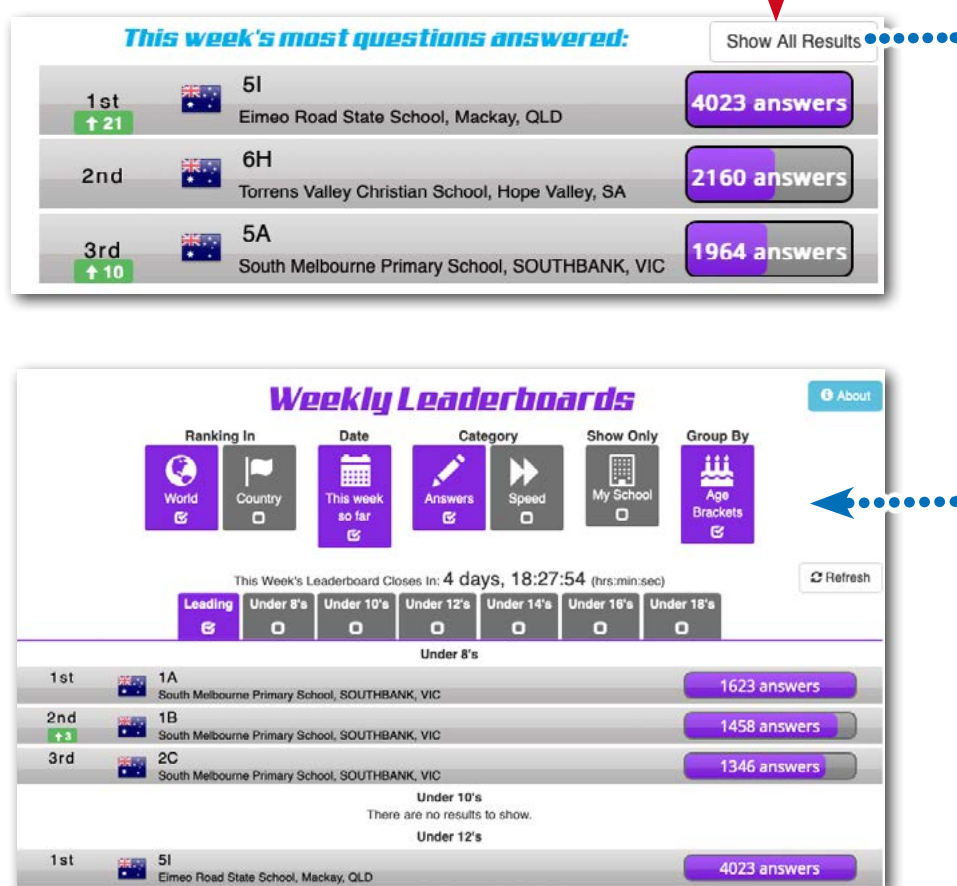
The *Maths Invaders Leaderboards* are designed to boost individual student motivation and team engagement by challenging all members of a class to contribute to the overall ranking on the *Leaderboard*. Many teachers have indicated that working with the *Leaderboards* has had a remarkable effect on the maths performance of their classes.

**Only maths questions completed by Students linked to a Class at a School will contribute to the Leaderboards.**

## To access the Leaderboards

Go to the *Maths Invaders* Home Page and click on SHOW ALL RESULTS to view the Leaderboard summary.

Click *Show All Results* to expand the Leaderboard



The screenshot illustrates the process of expanding the leaderboard. At the top, a red arrow points to the 'Show All Results' button in the summary view. A blue dotted line indicates the transition to the detailed view below. The summary view shows 'This week's most questions answered' with three entries: 1st (5I, Eimeo Road State School, 4023 answers), 2nd (6H, Torrens Valley Christian School, 2160 answers), and 3rd (5A, South Melbourne Primary School, 1964 answers). The detailed view, titled 'Weekly Leaderboards', allows filtering by Ranking In (World, Country, This week so far), Date, Category (Answers, Speed), Show Only (My School), and Group By (Age Brackets). It shows a countdown timer for 'This Week's Leaderboard Closes In: 4 days, 18:27:54'. The detailed view lists results for 'Under 8's' (1st: 1A, 1623 answers; 2nd: 1B, 1458 answers; 3rd: 2C, 1346 answers), 'Under 10's' (no results), and 'Under 12's' (1st: 5I, 4023 answers).

Ranking In	Date	Category	Show Only	Group By
World	This week so far	Answers	My School	Age Brackets

This Week's Leaderboard Closes In: 4 days, 18:27:54 (hrs.min:sec)

Ranking	Team	Answers
1st	1A South Melbourne Primary School, SOUTHBANK, VIC	1623 answers
2nd	1B South Melbourne Primary School, SOUTHBANK, VIC	1458 answers
3rd	2C South Melbourne Primary School, SOUTHBANK, VIC	1346 answers

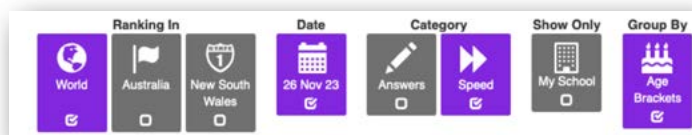
Under 10's: There are no results to show.

Ranking	Team	Answers
1st	5I Eimeo Road State School, Mackay, QLD	4023 answers

## How the Leaderboards work

Moment by moment the *Leaderboards* track and analyse all the correct answers and the speed with which they are completed by each student in every class. The results for both the Questions Answered Leaderboard and the Class Speed Leaderboard are then displayed for those classes that meet the participation criteria. The results refresh every 60 minutes. The *Leaderboards* enable classes to compete across a broad range of criteria thus maximising involvement.

### *Leaderboard options*



The Leaderboard screen allows a wide range of viewing options. Check the tick boxes to isolate different criteria. Students can view the performance of their class by:

- Total Questions Answered by the class or Average Class Speed.
- Country or state.
- Age brackets.
- The results just for your school.

### *Leaderboards only work for Students in Classes*

Only maths questions answered by Students linked to a Class at a School will contribute to the Leaderboards. Results for users with a Home Subscription do not show on the Leaderboards.

### *History is kept*

The *Leaderboard* system archives the results week by week enabling students to retrospectively view the performance of their class.

### *Relative improvement is shown*

Weekly improvements in class ranking relative to other classes is shown by green arrows.



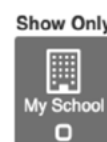
### *For a Class to qualify*

For a Class to qualify and display on a Leaderboard activity and participation thresholds must first be met. For a detailed explanation of the operation of the Leaderboards go to: [www.edalive.com/math-invaders/?leaderboard](http://www.edalive.com/math-invaders/?leaderboard)

### *Leaderboard access*

Users don't need to be logged in to view the Leaderboards - they are publicly accessible.

If a Teacher or a Student is Logged in, they may use the *Show Only* button to display only the results for their school.



### *Leaderboard opt out*

Some schools may prefer that their classes are not displayed on the Leaderboards. If this is the case, the *School Administrator* can simply uncheck the *Participate in Competition* option on the My School screen of the School Administration menu. Please note we cannot remove results retrospectively.

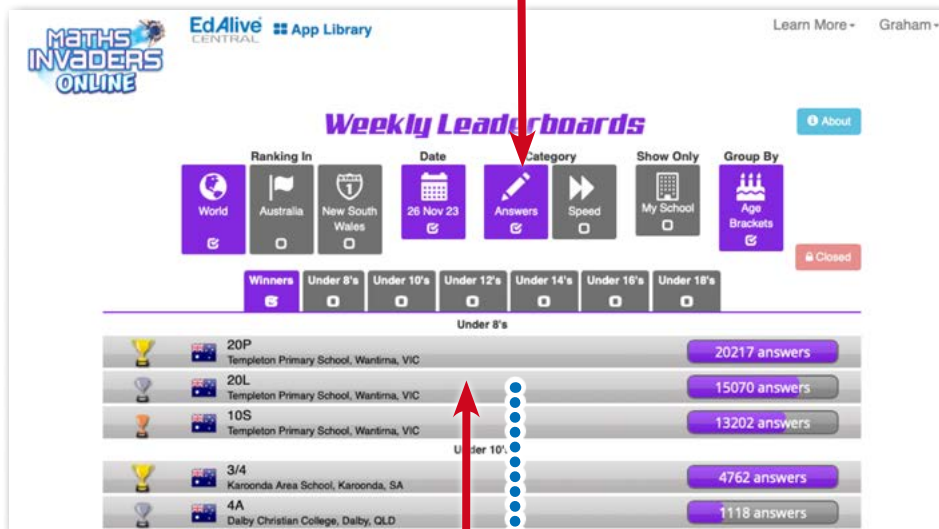
The *Maths Invaders Leaderboards* do not display any *Personal Identifiable Information* for any student. Only aggregated class results are displayed.



## Total Questions Answered Leaderboard

Each correct *Answer* counts towards the weekly class tally. Click on a school record to see the detailed graph of progress over time. *n.b.* the graphs are reset at the commencement of each calendar year.

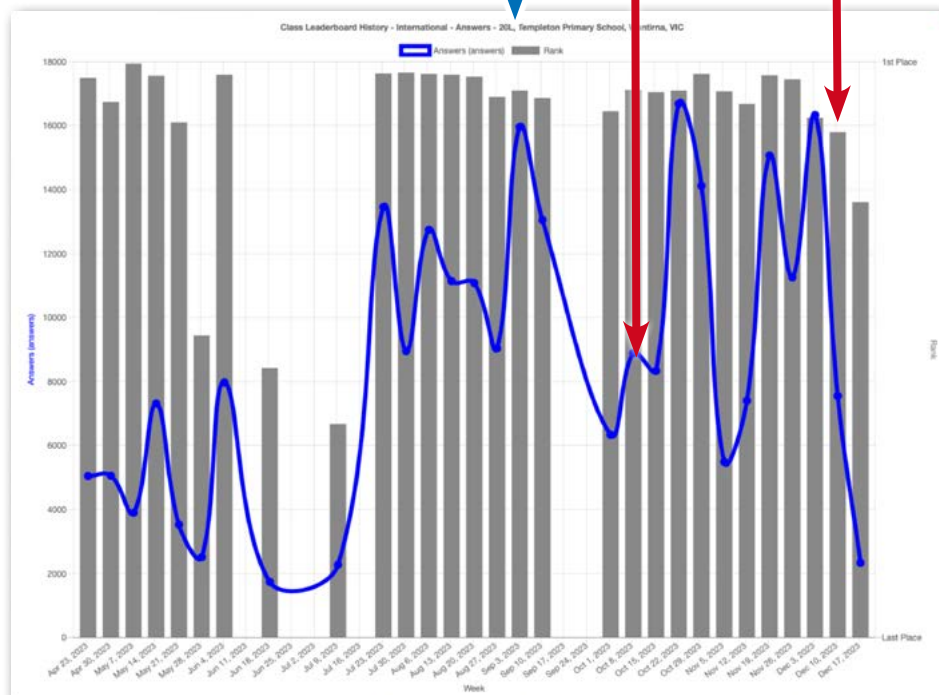
Choose *Answers* to display Questions Answered Leaderboard.



Click on a Class to access a detailed report of questions answered and rank over time.

Blue line - Questions Answered.

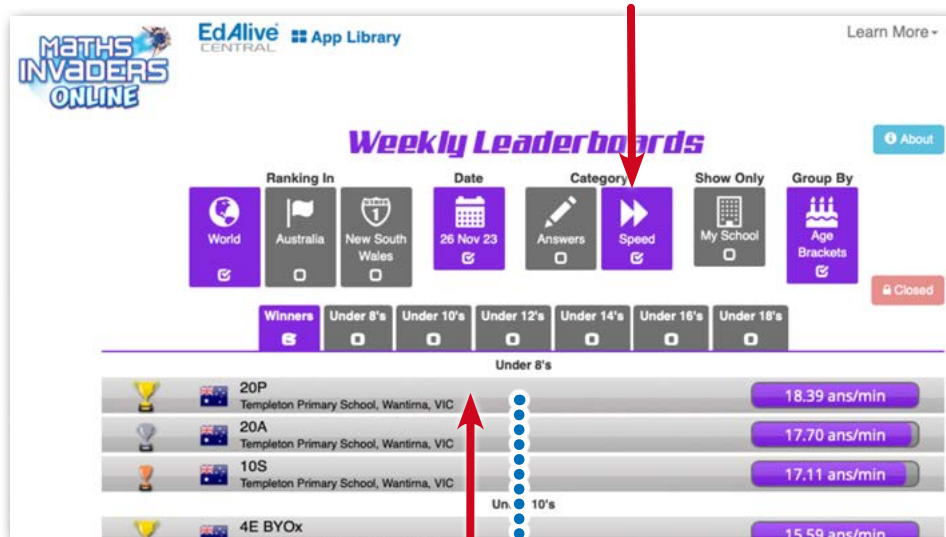
Grey bar - Relative Rank.



## Answer Speed Leaderboard

The time taken to give each correct answer is tallied and averaged for the *Class*. Click on a school record to see the detailed graph of progress over time. *n.b.* the graphs are reset at the commencement of each calendar year.

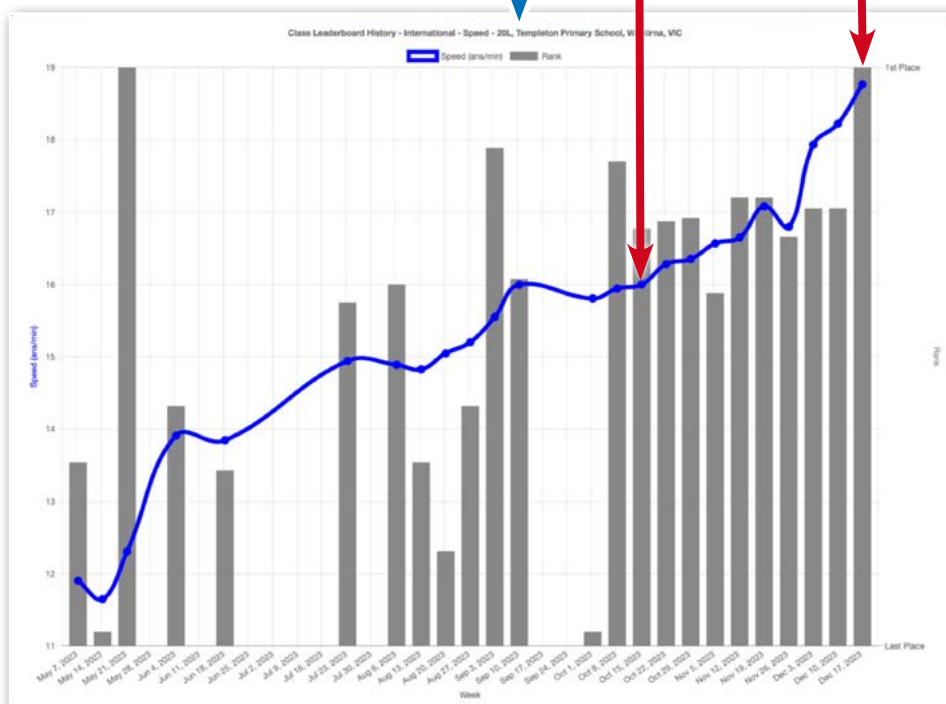
Choose *Speed* to display Class Speed Leaderboard.



Click on a *Class* to access a detailed report of answer speed and rank over time.

Blue line - Average Speed.

Grey bar - Relative Rank.



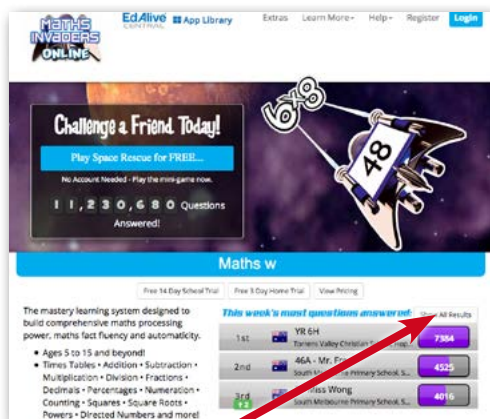
## Leaderboard Certificates

*Leaderboard* participation certificates can be retrospectively printed from the archived history for the whole class.

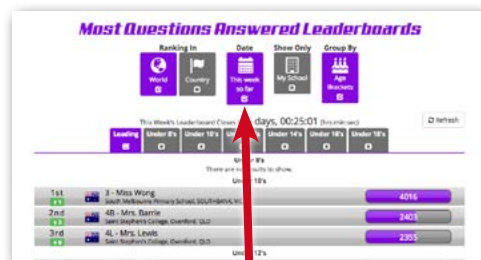


## Leaderboard Certificates and printing

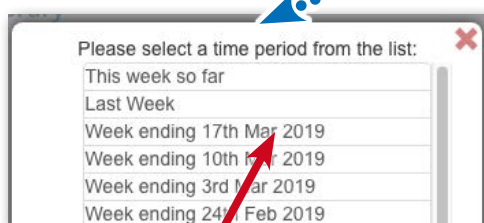
Only teachers logged in to their accounts can access and print *Leaderboard* certificates.



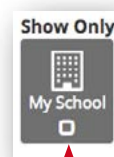
Access the full *Leaderboard* by clicking on the **SHOW ALL RESULTS** button.



Click the *Date Selector* to display the full list of *Leaderboard* weeks.



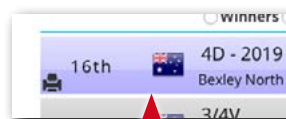
Choose the week to be printed (naturally you cannot print the current week as it is not completed).



To make it easy to find the class tick the **SHOW ONLY MY SCHOOL** button.



Select the age group that the class to be printed is in.



Click on the row of the class to be printed (there is a print icon, but you can click anywhere). A printable PDF will download. Locate the downloaded file and print the certificates.

# Printing

## PDF printing

In order to maximise printing compatibility *Maths Invaders* sends its printed output to PDF files. The PDFs are saved to the default export location for your browser. To print the files open them in a PDF viewer and print.

## Printed output available

### Teachers

Teachers can retrospectively print certificates for work previously completed by their Students.

- *Leaderboard Certificates* from previous weeks on the *Leaderboard*.
- *Worksheets*.

### Parents

- *Worksheets*.

Child/Students/Personal users can print:

- *Worksheets*.
- *Defender Level Awards*.





# Technical Requirements

## System Requirements

Any device, anywhere, anytime



1. All *EdAlive Central Web Apps* work on any device including Windows PCs, Apple Macs, Surface Tablets, iPads, Chromebooks and other Android tablets.
2. Unlimited Access 24/7 wherever there is an Internet connection.
3. No need for the installation of an App as it is fully web delivered.
4. Not supported for Generation 1 iPads (April 2010 - March 2011). NB Although some parts of Maths Invaders may operate not all will do so.

## Supported Browsers

See “Supported Browsers” section in the [EdAlive Central School Guide](#) or go to the [EdAlive Central - System Requirements: Supported Browser](#) entry at [help.edalive.com](http://help.edalive.com).

## Browser Settings

See “Technology Requirements” section in the [EdAlive Central School Guide](#) or go to the [EdAlive Central - System Requirements: Browser Settings](#) entry at [help.edalive.com](http://help.edalive.com).

## Common Troubleshooting

See “Common Troubleshooting” section in the [EdAlive Central School Guide](#) or go to the [EdAlive Central - System Requirements: Common Troubleshooting](#) entry at [help.edalive.com](http://help.edalive.com).

# Whitelisting

## Whitelist required URLs

The following URLs should be whitelisted or unblocked from your network filters and added to Internet Explorer's Trusted Sites list (if used).

### *For EdAlive Central:*

- central.edalive.com
- cdn.central.edalive.com

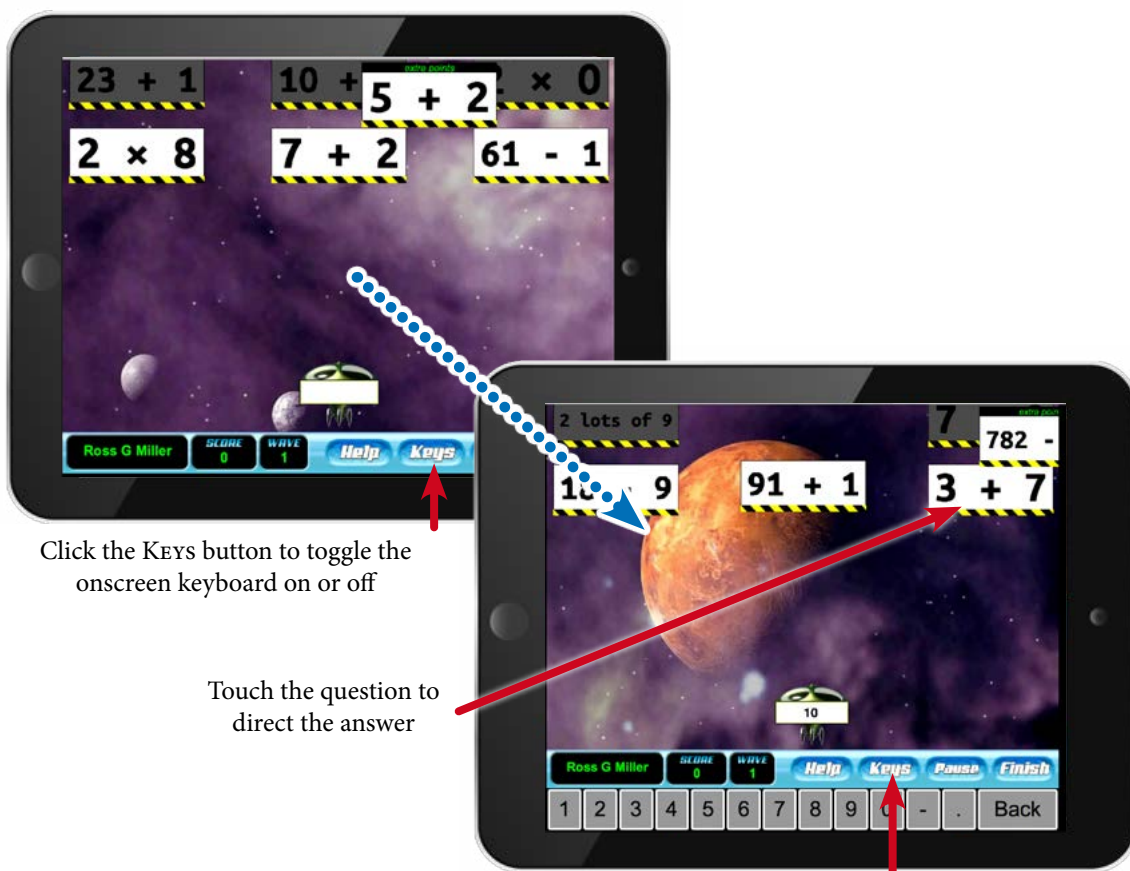
### *Additionally for Maths Invaders*

- www.mathsinvaders.com
- cdn.mathsinvaders.com

## Mobile device input

### Toggle between mobile and computer input

*Maths Invaders* works on any mobile device without the need for an external keyboard. The KEYS button allows users to toggle the onscreen numeric keyboard on and off. The onscreen numeric keyboard can also be used on computer screens with the mouse.



Click the KEYS button to toggle the onscreen keyboard on or off

Touch the question to direct the answer

Click the KEYS button to toggle the onscreen keyboard on or off























