ABC Mathseeds

Pot Plant Project

Teacher Workbook

— Foundation —

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Contents

Introduction 01

Understanding the Student Workbook 02

What is in the Student Workbook? 02

What is ABC Mathseeds? 02

Getting started with ABC Mathseeds 03

Print off student login details 03

Getting your students on to ABC Mathseeds 04

ABC Mathseeds lessons 05

Assigning ABC Mathseeds lessons 05

Previewing ABC Mathseeds lessons 06

Rewarding and recognising achievements 07

Using ABC Mathseeds outside the Pot Plant Project 08

Lesson Plans: The Student Workbook 09

- Activity 1: Choosing your pot 09
- Activity 2: Make it your own 10
- Activity 3: Water your seed 12
- Activity 4: Watering chart tracker 13
- Activity 5: Watch it grow 14
- Activity 6: How many? 15

Dear teacher,

On behalf of the Mathseeds team we would like to thank you for taking on the **ABC Mathseeds Pot Plant Project** with your class.

The **Pot Plant Project** is a fantastically unique and exciting way for your students to develop a love of maths, while they work on an enjoyable class project. This project, with your support and guidance will take your students on a phenomenal journey, where not only will they develop and strengthen fundamental numeracy skills, but will begin to understand the importance of working in a team. As students work through the different stages of growing a plant they will be introduced to new mathematical concepts with ABC Mathseeds lessons and workbook activities, which all link back to the specific stage of growing a plant your students are at.

This **Teacher Guide** provides you with all the essential information to smoothly run this project with your students. The first couple of pages will guide you on how to get set up on ABC Mathseeds, with the later pages providing you with complete lesson plans of each activity in the Student Workbook.

So, what's next? It's time to get started! Just turn to page 2 of this Teacher Guide.

We hope you and your students enjoy the ABC Mathseeds Pot Plant Project.

Warm regards,

The ABC Mathseeds Team

Understanding the Student Workbook

The student workbook is a 16-page activity book that your students will progress through as they work on their class project. The workbook consists of 6 unique activities that both complement the plant growth component of the Pot Plant Project and develop your students numeracy skills and mastery.

What's in the Student Workbook?

- **The ABC Mathseeds lessons**

  At the start of every activity is a specific 'ABC Mathseeds Rewards' space. This area highlights the particular ABC Mathseeds lessons that set up the essential concept knowledge and skills required for the upcoming workbook activities.

- **The workbook activities**

  The workbook includes 6 different activities. Within each activity the questions vary in style. These activities help further reinforce the maths skills covered in the ABC Mathseeds lesson presented at the start of each new activity worksheet.

- **And let's not forget…**

  The Student Workbook also doubles as a complete colouring book. When students have completed their assigned activities they can keep enjoying themselves and bring all the ABC Mathseeds characters to life!

What is ABC Mathseeds?

ABC Mathseeds is designed specifically to teach the core maths and problem-solving skills that learners in F-2 need to be successful at school. It has been developed by a highly experienced team of educators, publishers and web developers who brought you the award-winning ABC Reading Eggs. The program is packed full of wonderful lessons, activities, songs and rewards, making learning interesting, enjoyable and rewarding, so students will learn more, achieve more and retain skills in the long term!

Real learning, real maths, really fun! That's our motto, and when you try ABC Mathseeds you will see that we really deliver on this promise.

Getting started with ABC Mathseeds

Once your Pot Plant Project access is set up, you will be able to log in to your Teacher Dashboard.

1. On the ABC Mathseeds homepage (www.mathseeds.com.au) click LOGIN.
2. Enter your login and password.
3. Once you have logged in to your account, you will arrive at your ABC Mathseeds Teacher Dashboard. From here you have access to all the fantastic teacher features of ABC Mathseeds.

Teacher Toolkit

Find big books, posters and additional printable lesson plans and worksheets.

Manage Class

Here you can add and remove students, as well as print certificates and login details. You can also restrict students' access to the games and Playroom.

Lessons

Here you can preview all of the lessons on the Mathseeds program. You also have access to downloadable lesson plans and student worksheets for each lesson.

You can also manage classes and assign books and lessons to students and view quiz results.

Reports

Here you can access detailed reports of each student's progress and results on the Mathseeds program.

Quick Links

Easy access to Research Reports which give a detailed review of the research that supports the program, Curriculum maps, teacher guides and brochures, subscription order forms and the 'Tell a Colleague' function.

Haven't got access to ABC Mathseeds?

You will have received an email welcoming you to your ABC Mathseeds Pot Plant Project. Within the email you would have been given directions on how to set up your access and your class.

If you did not receive this email, please contact us at customerservice@3plearning.com.au or 1300 850 331.

Print off student login details

Once your students have been added to your class, you can print off their login details to use in the classroom or hand out individual logins to students.

1. Select **Manage Class** on the left side navigation bar of your Teacher Dashboard.
2. Click on **Class logins** to download your student login details.
3. Print out and use in your classroom as needed.

Getting your students onto ABC Mathseeds

Now that you have your students login details ready to go, you can easily get your students into ABC Mathseeds.

Here's how…

1. On the ABC Mathseeds homepage (www.mathseeds.com.au) click LOGIN.
2. Students will enter their unique login and password in to the ABC Mathseeds login page.
3. Once students have logged in to their account, they will arrive at their ABC Mathseeds Student Dashboard. From here they have access to all the fantastic student features of ABC Mathseeds.

Awards

This is where the student certificates are located. Students can print their certificates to take home or display in the classroom.

Lessons

This is the heart of the program, the Maths lessons. Students progress through lessons as their maths skills increase, earning golden acorns and pets as rewards!

Driving Tests

Over 340 highly motivating tests that assess students skills and knowledge with a fun reward game!

Play

This is the playroom, which consists of seven sections with over 120 activities. Your student can access the playroom at any time simply by clicking on the Play icon.

Shop

Students can buy items from the shop using their golden acorns earned by completing lessons. These items can be used to decorate their Treehouse.

Arcade

Students can reward themselves by playing an arcade game. Each game cost 10 acorns.

Treehouse

Each student can visit their Treehouse and find rewards earned or items bought from the shop. Students use these items to decorate their Treehouse.

ABC Mathseeds lessons

ABC Mathseeds lessons teach core numeracy skills through a motivating cycle of teaching and guided practice that actively rewards student progress, keeping them engaged and eager to learn.

Each lesson begins with a focused step-by-step demonstration of a key maths skill. Students then apply the newly learnt skill to a range of short, guided interactive activities, which vary in format. Every lesson captures the attention of students with a multi-layered reward system that keeps them motivated and making progress. Teachers are provided with timely and useful feedback on students performance and achievements, enabling you to quickly identify the strengths and weaknesses of students.

Here's exactly how each ABC Mathseeds lesson works…

1. **Teaching sequence**
   The ABC Mathseeds characters explain a maths concept and discuss how to solve a problem using this concept.

2. **Student practice**
   Interactive screens give students the opportunity to practice new skills.

3. **ABC Mathseeds songs**
   Many of the lessons include a memorable song that helps reinforce the newly introduced maths concept.

4. **ABC Mathseeds activities**
   Each ABC Mathseeds lesson includes a set of nine interactive activities. There are over 350 unique activities within the program!

5. **The e-book**
   Every lesson ends with an e-book that includes full audio support. These books reiterate the main lesson points and are designed to consolidate new concepts and skills.

6. **Earning a reward**
   Students earn golden acorns for all activities completed. As a bonus, a cute pet hatches at the end of every completed lesson. This pet appears on their map and they progress to the next lesson.

Assigning ABC Mathseeds lessons

At the start of every activity in your students' workbooks, there is a specific 'ABC Mathseeds Rewards' space. This space highlights specific ABC Mathseeds lessons that complement the upcoming workbook activity.

To assign these specific lessons…

1. Select **Lessons** on the left-hand navigation bar.
2. From the drop-down menu select **Manage Assignments**.
3. Filter by class, year level or type in a student's name to find and select students to add to your assignment.
4. Select the start and finish dates.
5. Choose the appropriate lesson and click **Create this assignment**.

Teacher Tip!

Carefully select the start and finish dates, as they can't be changed once the assignment has been created.

Navigation within the Student Dashboard will be restricted until the assigned lessons have been completed.

Previewing ABC Mathseeds lessons

Preview Lessons enables you to preview each ABC Mathseeds lesson before you assign them to your students.

1. Simply click **Lessons** from the left-hand navigation bar, and then select **Preview Lessons**.
2. To view the lesson, click **Preview**, the lesson will appear as your student would see it.
   Note: You can also work through the lesson as your students would!

Additional resources

Each lesson is also accompanied by additional resources for both teachers and students. The student resources include a range of additional work sheets, and the teacher resources give teachers extra classroom activities which are all linked to the specific ABC Mathseeds lesson.

To view these, click on **Resources** under each lesson.

Rewarding and recognising achievements

Students learn best when they are having fun, and the ABC Mathseeds Pot Plant Project makes learning maths easy and enjoyable for all your students.

How do we keep your students excited and eager to learn?

- **Golden Acorns**

  When students complete the ABC Mathseeds lessons highlighted in their Student Workbooks they will be rewarded with golden acorns! Students love collecting these as they can later be spent on a variety of awesome items for their treehouse and avatar, and at the arcade.

- **Building their own avatar**

  Students can personalise their avatar by shopping for fun costumes with their golden acorns. The more acorns they collect, the more items they can buy.

- **Designing their Treehouse**

  Students can shop for decorations with their acorns and personalise their treehouse. This is where they can also view all the rewards they have earned and be proud of their achievements.

- **Playing arcade games**

  Students are motivated to make real progress through the gamified experience ABC Mathseeds provides. The games are educational and fun and include leader boards that encourage students to work hard and try again.

- **Stickers**

  Each activity in the Student Workbook has a designated sticker space. We encourage you to recognise your students progress and achievements at the completion of each workbook activity by rewarding them with an achievement sticker to complete their activity page.

Using ABC Mathseeds outside of the Pot Plant Project

ABC Mathseeds provides teachers with an academically rigorous maths program that students love, and outside of the Pot Plant Project there any many other great ways the program can be implemented into your classroom teaching and learning.

1 Differentiate your students' learning

The ABC Mathseeds placement test places each student where they need to be, meaning that struggling students can build their basic skills while higher-ability students can extend and deepen their understanding and problem-solving skills. Teachers also have the flexibility to change students levels at any point in time and can set specific groups of students tasks based on specific needs.

2 Complement your numeracy program

All the content available within ABC Mathseeds is aligned to the Australian Curriculum, and with comprehensive curriculum maps located in the **Teacher Toolkit** we make it super easy for you to find a specific lesson to match your learning outcome. The program can both be used to introduce a new mathematical concept to your entire class in a front-of-class approach, or to reinforce and consolidate existing skills and knowledge.

3 Assess and monitor students numeracy progress

ABC Mathseeds makes it very easy for you to continuously be on top of your students' progress and performance by providing instant feedback on student growth and achievements in our comprehensive suite of instant reports. The program has been designed in a way that provides multiple informal assessment opportunities through its variety of engaging interactive activities, meaning your students are being assessed without you needing to do a thing. How fantastic!

Lesson Plans: The Student Workbook

For each of the below lessons follow these steps

1. **Establish students prior knowledge on the focus areas/ briefly introduce the concept:**
   Bring your entire class together and have a brief discussion on the focus areas of the lessons. Do students already have some knowledge? Provide definitions and examples of all concepts.

2. **ABC Mathseeds lesson:**
   Set students the ABC Mathseeds lessons highlighted in each lesson plan. Do this through the **Manage Assignments** feature on your Teacher Dashboard.
   Note: To refresh your memory on this process turn back to page 6.

3. **Workbook activity:**
   Once students have completed the activities assigned to them on ABC Mathseeds, get them to work through the activities in the Student Workbook. Once completed award them with their 'completed' stickers.

4. **Project task:**
   Some of the activities will also have a step on what to do next with the plant growing project. Look out for these!

Activity 1: Choosing your pot

Complete in week 1 of the project

Context

This first activity looks at the idea of selecting an appropriate flower pot. Students work through a series of questions that encourage them to think about the concepts of big, small, heavy and light.

Focus	Australian Curriculum Links	Learning Objectives
Big and Small *Measurement & Geometry*	ACMMG006, ACMNA002, ACMNA005	• Identify items which are big and small. • Order objects by size. • Recognise the words big and small.
Heavy and Light *Measurement & Geometry*	ACMMG006, ACMNA002, ACMNA005	• Identify items which are heavy and light. • Differentiate items by weight. • Recognise the words heavy and light.

ABC Mathseeds lessons to assign

Lesson 13: Big and Small *Measurement & Geometry*	Compare objects. Use measurement language to describe objects.
Lesson 29: Heavy and Light *Measurement & Geometry*	Compare and order which is heavier or lighter using everyday language. Use comparative language: big, small, heavy, light, heavier, lighter.

Additional ABC Mathseeds resources

Further extend your students learning with these related Mathseeds activities, interactives, books and resources.

Lesson 13: Big and small			
Playroom	**Big Books**	**Posters**	**Worksheets**
Pegboard: **What Fits?**	• Big and Small • Big • Big dog, small dog • Let's Measure • Little or big? • One big fish	• Measurement	**Worksheet 1** – Big and small **Worksheet 2** – Vocabulary **Worksheet 3** – Sorting by size **Worksheet 4** – Check
Lesson 29: Heavy and Light			
Playroom	**Big Books**	**Posters**	**Worksheets**
Pegboard: **Balance Scales**	• Heavy or light? • Let's Measure • You Can Measure	• Measurement • Comparisons	**Worksheet 1** – Heavy and light **Worksheet 2** – Vocabulary **Worksheet 3** – sort by weight **Worksheet 4** - Check

Activity 2: Make it your own

Complete in week 1 of the project

Context

This activity gets students to think about the different shapes surrounding us. Students work through a series of questions that develop their understanding of circles and squares. Using this knowledge, students then move onto patterns, and using shapes to create patterns.

Project task:
Hand out a pot to each group (or each student if they are working individually). Give students some time to replicate their workbook pattern on their pots.

Focus	Australian Curriculum Links	Learning Objectives
2d Shape – circle *Measurement & Geometry*	ACMMG009, ACMNA002, ACMNA003, ACMNA005	• Identify circles. • Recognise the word circle. • Count and recognise groups of 1, 2 and 3.
2d shape – square *Measurement & Geometry*	ACMMG009, ACMNA002, ACMNA003, ACMNA005	• Identify squares. • Recognise the word square. • Draw squares. • Count and recognise groups of 1, 2, 3 and 4
Patterns *Number & Algebra*	ACMNA005, ACMNA001	• Identify colour, shape and number patterns. • Complete and continue patterns.

ABC Mathseeds lessons to assign

Lesson 4: Circles *Measurement & Geometry*	Name circles in the environment. Sort shapes. Name circles in different orientations and sizes.
Lesson 6: Squares *Measurement & Geometry*	Name squares in the environment. Sort shapes. Name squares in different orientations and sizes.
Lesson 27: Patterns *Number & Algebra*	Copy, continue and create patterns. Identify colours. Match objects to colour names.

Additional ABC Mathseeds resources

Further extend your students learning with these related ABC Mathseeds activities, interactives, books and resources.

Lesson 4: Circles			
Playroom	**Big Books**	**Posters**	**Worksheets**
Scribbleboard: Draw a Shape Shape Pictures Line Pictures Playmat: Geoboard Shapes Shape Sorting	• Circles • Shapes • Sides and Corners • Circles	• 2D Shapes	**Worksheet 1** – Shape recognition **Worksheet 2** – Handwriting **Worksheet 3** – Sorting Shapes **Worksheet 4** – Check
Lesson 6: Squares			
Playroom	**Big Books**	**Posters**	**Worksheets**
Scribbleboard: Draw a Shape Shape Pictures Line Pictures Playmat: Geoboard Shapes Shape Sorting Pattern Beads Play kitchen: Fairy Bread	• Squares • Sides and Corners • Shapes	• 2D Shapes	**Worksheet 1** – Shape recognition **Worksheet 2** – Writing and drawing **Worksheet 3** – Sorting shapes **Worksheet 4** – Check
Lesson 27: Patterns			
Playroom	**Big Books**	**Posters**	**Worksheets**
Playmat: Pattern Beads Book shelf song books: I Can Sing a Rainbow Birthday Candles	• Shape Patterns • Playing with Shapes • Shapes	• Patterns	**Worksheet 1** – Pattern recognition **Worksheet 2** – Making patterns **Worksheet 3** – Continuing patterns **Worksheet 4** – Check

Activity 3: Water your seed

Complete in week 1 of the project

Context

This activity introduces the notion of capacity, enabling students to think about an appropriate vessel to for carrying water to water their seed. Students work through a series of questions to help them develop an understanding of the concepts of full, empty, half full, more and less, and learn to differentiate items by volume and size.

Project task:
Work with your students to plant, water and place their seeds in a location where they will get sunlight.

Focus	Australian Curriculum Links	Learning Objectives
Capacity *Measurement & Geometry*	ACMMG006, ACMNA002, ACMNA003, ACMNA005	• Identify containers which are empty and full. • Recognise which container would hold more or less. • Differentiate items by volume.

ABC Mathseeds lessons to assign

Lesson 38: Capacity *Measurement & Geometry*	Use comparisons to decide which holds more or less. Use comparative language: full, empty, big, small, short, tall.

Additional ABC Mathseeds resources

Further extend your students learning with these related ABC Mathseeds activities, interactives, books and resources.

Lesson 38: Capacity			
Playroom	**Big Books**	**Posters**	**Worksheets**
Play kitchen: Fairy Bread Making a Cake Baking Cookies Chopping Salad Pegboard: Fill the Jug Balance Scales What Fits?	• Full or Empty • Let's Measure • Let's bake a cake • You Can Measure	• Capacity	**Worksheet 1** – Full or empty **Worksheet 2** – Sorting containers **Worksheet 3** – More or less **Worksheet 4** – Check

Activity 4: Watering chart tracker

Complete over weeks 2-8 of the project

Context

This activity introduces the concept of time, events and days of the week. Students will learn to tell time on the hour with an analogue clock, recognise the days of the week, and compare the duration of events. These skills will then be used in the context of tracking their plant.

Project task:
Work with your students to determine a watering schedule for their plants. This is important as they will need to keep track of how many times they water their plant.

Focus	Australian Curriculum Links	Learning Objectives
Time	ACMMG007, ACMMG006, ACMMG010, ACMNA001	• Sequence events in order of time. • Show the hour on analogue clocks. • Recognise that some activities take a longer time than others.
Days of the week	ACMMG007, ACMMG008, ACMMG006, ACMMG010, ACMNA002	• Recognise the days of the week. • Identify the weekend days and the weekdays. • Learn the order of the days in the week.

ABC Mathseeds lessons to assign

Lesson 39: Time *Measurement & Geometry*	Compare and order events using the everyday language of time.
Lesson 42: Days of the Week *Measurement & Geometry*	Connect days of the week to familiar events and actions.

Additional ABC Mathseeds resources

Further extend your students learning with these related ABC Mathseeds activities, interactives, books and resources.

Lesson 39: Time			
Playroom	**Big Books**	**Posters**	**Worksheets**
Pegboard: Clock Book shelf song books: Sally Go Round the Sun Birthday Candles	• What Time is it? • Let's Measure • O'clock clocks • The dots • You Can Measure	• Time • O'clock	**Worksheet 1** – Time **Worksheet 2** – Clocks **Worksheet 3** – Length or Time **Worksheet 4** – Check

Lesson 42: Days of the week			
Playroom	**Big Books**	**Posters**	**Worksheets**
Pegboard: Clock Fill the Jug Balance Scales What Fits? Book shelf song books: Sally Go Round the Sun Birthday Candles	• My Busy Week • Let's Measure • What Time is it? • You Can Measure • Grandma on Board • Frankie's Week • Our School Week	• The Seasons	**Worksheet 1** – The week **Worksheet 2** – Handwriting **Worksheet 3** – The days **Worksheet 4** – Check

Activity 5: Watch it grow

Complete in week 6 or 7 of the project

Context

This activity introduces the concept of long and short. Students will work through a series of activities and learn to differentiate between long items and short items and be able to recognise words like short and long. Students will then apply this in a classroom environment and their Pot Plant Project.

Focus	Australian Curriculum Links	Learning Objectives
Long and Short *Measurement & Geometry*	ACMMG006	• Recognise the words short and long. • Identify items which are short and long. • Order objects by size.

ABC Mathseeds lessons to assign

Lesson 26: Long and short *Measurement & Geometry*	Compare and order which is longer or shorter using everyday language. Use comparative language: big, small, short, tall, tallest, longest, shortest.

Additional ABC Mathseeds resources

Further extend your students learning with these related ABC Mathseeds activities, interactives, books and resources.

Lesson 26: Long and short			
Playroom	**Big Books**	**Posters**	**Worksheets**
Playmat: Shape Sorting Puzzle table: Domino Match Pegboard: What Fits?	• How Long? • Let's Measure • Tall or small? • You Can Measure	• Measurement • Comparisons	**Worksheet 1** – Long and short **Worksheet 2** – Vocabulary **Worksheet 3** – Sorting by size **Worksheet 4** - Check

Activity 6: How many?

Complete over weeks 2-8 of the project

Context

This activity gets students to revise numbers 1 through to 20. With the help of pre-existing knowledge students will work through a series of questions identifying these numbers, matching numerals to number words and recognising which numbers are smaller and larger.

Focus	Australian Curriculum Links	Learning Objectives
Revision to 20 *Number & Algebra*	ACMNA001, ACMNA002, ACMNA003, ACMNA289, ACMNA004	• Revise numerals and number words to 20. • Count groups up to 20. • Recognise and add doubles to 10.

ABC Mathseeds lessons to assign

Lesson 50: Revision 0-20 *Number & Algebra*	Count to 20. Know, read and write numbers to 20. Read number words to twenty. Compose and decompose teen numbers into tens and ones. Use comparative language: smaller, larger. Sequence numbers, count forward and backwards.

Additional ABC Mathseeds resources

Further extend your students learning with these related ABC Mathseeds activities, interactives, books and resources.

Lesson 50: Revision 0-20			
Playroom	**Big Books**	**Posters**	**Worksheets**
Funhouse: Counting Clown Coconut Count Puzzle table: Domino Match Book shelf song books: One Potato Five Bears in the Bed	• At the Park • More Than ten • Adding • Doubles • Add to Ten	• Doubles to 10	**Worksheet 1** – Number match 1 **Worksheet 2** – Number match 2 **Worksheet 3** – Addition **Worksheet 4** – Check

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