



Resource Guide

For Educators & Facilitators

Prepared by:



Math Interactive Learning Experience (MILE) **(Original Version)**

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Funding for the original development of the Math Interactive Learning Experience provided by the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

Math Interactive Learning Experience (MILE) **(Adapted Version)**

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Funding for developing the Math Interactive Learning Experience (Adapted Version) provided by Kids Brain Health Network.

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MILE Resource Guide (Adapted Version)

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1. MILE Overview

1.1 What is MILE?

The Math Interactive Learning Experience (MILE) is a collection of resources for teaching math in an engaging environment. Students are encouraged to learn the fundamental principles of math through interactive play experiences during instructional lessons. MILE focuses on building the foundations of math skills by advancing children through the curriculum at their own pace using tools and strategies developed to compensate for or address challenges that may impede learning these concepts.

MILE incorporates strategies to assist students who have neurodevelopmental challenges and provides a structured yet flexible approach to student learning. This approach allows for a student-driven pace, educator choice in selecting and applying the resources, and resources that can help engage parents as partners in the learning process.

The MILE program was originally developed for children between the ages of 3 and 10 or those at a Pre-Kindergarten to 5th-grade level. It has since been adapted for use with students of all ages and levels of neurodevelopmental functioning.



Interactive



Engaging



Adaptable

1.2 Who can benefit?

MILE was originally designed for students affected by prenatal exposure to alcohol and specific neurodevelopmental difficulties interfering with learning basic math concepts. In a randomized clinical trial with children with fetal alcohol spectrum disorder (FASD), MILE was successful in facilitating math development when used in a targeted and individualized setting.

Building on this success, MILE has been extended to support applications with all learners. This guide presents this updated MILE resource. Additionally, the MILE program can now be used during whole-class and small-group instruction.

1.3 How can MILE help teachers?

MILE is designed to assist teachers in understanding core math concepts and continuously evaluate their students' skills. Additionally, MILE empowers teachers to tailor their instructional approaches based on students' errors during the learning process.

Data collected from teachers and students indicates that MILE improves teacher self-efficacy and positively influences student math outcomes. Data collected from teachers has demonstrated that teachers reported significantly higher levels of perceived self-efficacy after completing MILE training and implementing the program with their students. Teachers felt more confident in their ability to teach students math effectively and believed that their teaching would positively affect their students' success in math (see Figure 1).

In addition, the math scores of students in the MILE program followed an increasing trend (see Figure 2). Over one school year, students in the MILE program achieved an average increase of 14% on a math performance measure compared to 6% for those not in MILE.

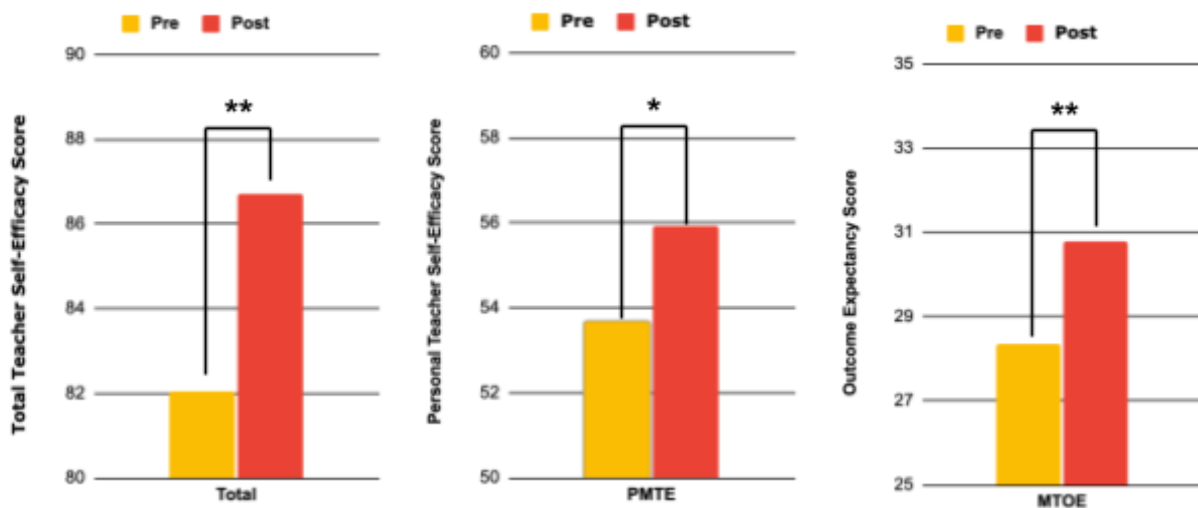


Figure 1: Changes in teacher self-efficacy scores following MILE training and implementation. Teachers reported significant increases in their total self-efficacy scores (graph 3), confidence in their ability to teach math effectively (TE - graph 2), and their

belief that their teaching will positively influence student math achievement (OE - graph 1).
* $p < .05$, ** $p < .01$

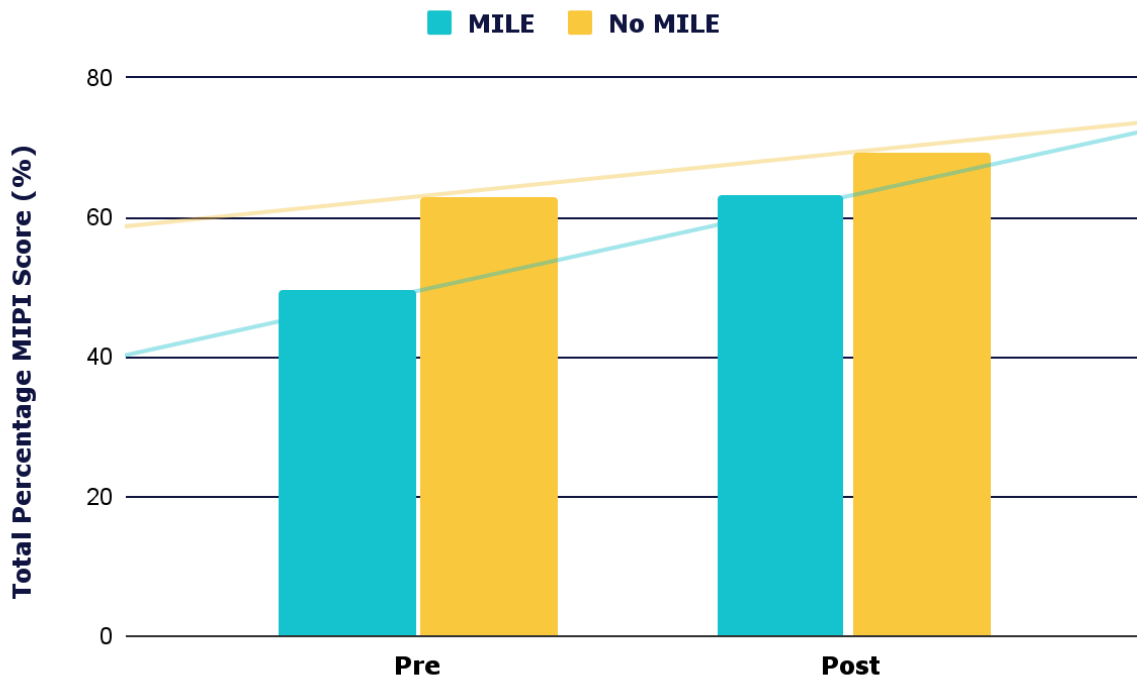
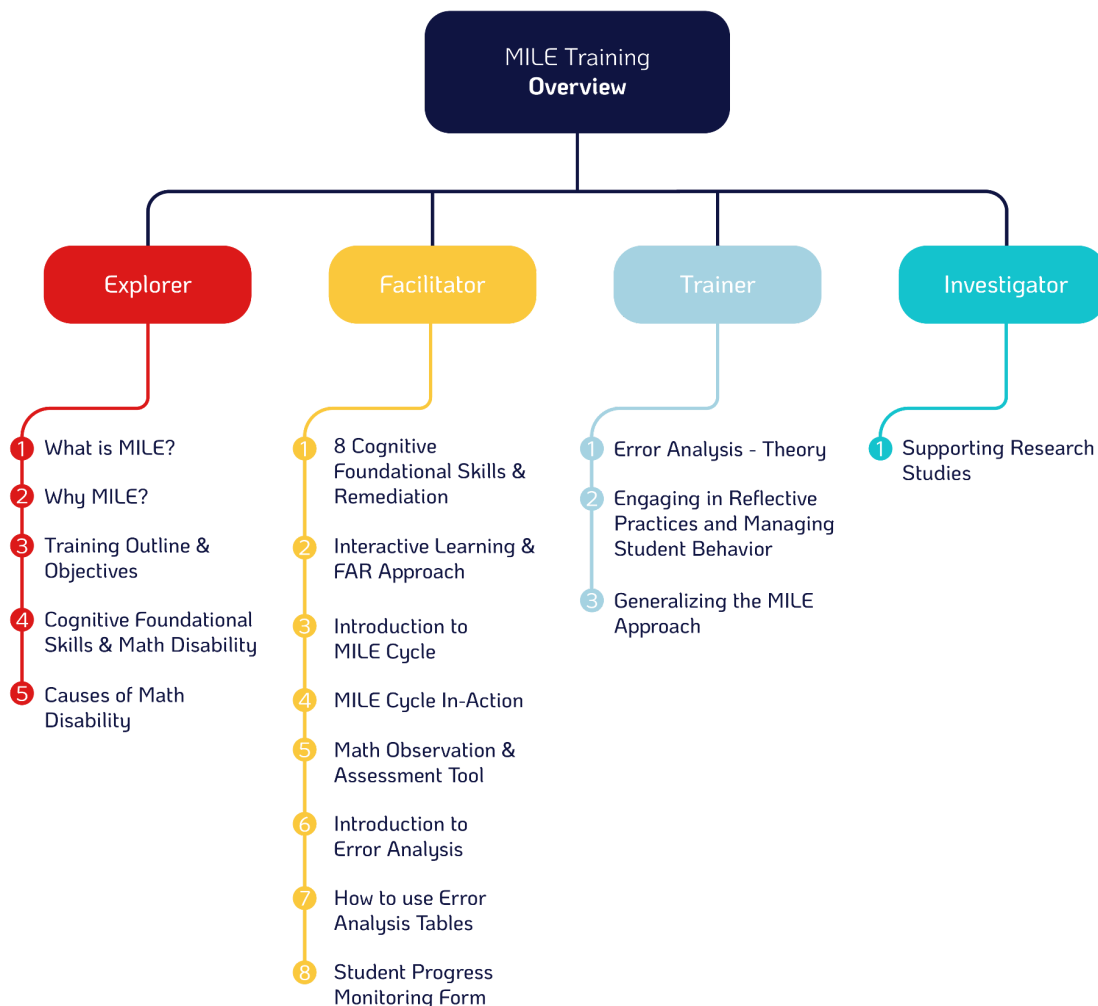


Figure 2: Changes in Math Intervention/Programming Instrument (MIPI) among students in MILE and those not in MILE. Pre-scores were collected at the beginning of the school year and post-scores were collected towards the end of the school year.

1.4 The MILE Training Process

The MILE training process provides a comprehensive, asynchronous, and user-friendly approach to understanding the program and its implementation. It is structured into four sections, each comprising 3-4 modules. Each module includes videos, MILE OnTheGo files, and relevant resources that follow a structured format designed to help educators learn and implement MILE with individual students, in small groups, or in classrooms. The training aims to provide teachers with the necessary knowledge and skills to effectively utilize the MILE program and help their students succeed in math.



2. Math Skills and Goals

2.1 Importance of Preliminary Math Skills

When a child reaches school age, it is often taken for granted that they have the preliminary skills required for academic work. However, this is not true for all children, including those with neurodevelopmental challenges or cognitive delays. These children need a more focused approach to teach them the skills that may seem to “happen” in students without learning difficulties. This is also true for students in higher grades who experience difficulties with learning. Students with math difficulties may have gaps in their understanding of pre-math concepts. These foundational gaps make it difficult to develop solid math skills and can result in continuous difficulties as students progress throughout their schooling.

Before students can tackle concrete math problems, they must possess specific preliminary math skills. These skills are developed through systematically exploring the environment with the help of adults mediating the student's experiences. For example, recognizing an object's size and shape is a prerequisite for developing sorting and categorizing skills. These basic conceptual skills form the foundation for students to grasp higher-order numeracy concepts/skills, such as addition, subtraction, multiplication, division, and eventually, algebra and geometry.

Besides the preliminary math skills, the student must have adequate basic cognitive foundation skills. Cognitive foundation skills include, for instance, the ability to (a) attend to more than two pieces of information at the same time, (b) attend to relevant information, and (c) make inferences. These skills may be prerequisite skills for manipulating pieces of information, later required for more complex math skills.

During math sessions, it's essential to help students develop the preliminary math skills and cognitive foundation skills that they may need help with. The MILE program allows teachers to discover each student's knowledge gaps to identify specific activities that can be completed to practice and strengthen those skills.

2.2 Preliminary Math Skills and Students with Neurodevelopmental Challenges

The MILE program emphasizes teaching problem-solving skills, understanding the concepts, and “filling the skill gaps” before math fact drills are utilized, essentially meeting students where “they are at.” Rote memorization of math facts may be deemed sufficient in the early grades. However, many may lack a genuine understanding of math concepts. Consequently, students may struggle to acquire future skills that require a solid understanding of these lower-level skills. We can help by providing a comprehensive approach to math instruction that includes developing preliminary and problem-solving skills.

This may entail working on a lesson at the Kindergarten level with a student who is in 3rd grade to build the necessary skills. The creators of MILE recommend using tools such as flashcards and minute-math only after the student demonstrates an understanding of the math concepts.

2.3 Suggestions for setting SMART math goals:



- Choose goals that cover multiple weak skills and address fundamental concepts.
- Base goals on skills the student struggles with and those they are starting to grasp.



- Prioritize goals that allow for early success, boosting student motivation.
- Start with basic skills like shape recognition before advancing to more complex concepts like patterns.



- Set goals that are achievable with a student’s skill level
- Encourage students to set achievable and realistic goals, considering their current skill level.



- Goals must meaningfully contribute to a student’s larger math learning objectives.
- Older students may want to target grade-level goals, but it’s crucial to align goals with their current math skills to avoid frustration.



- Set math goals with a shorter time frame.
- Aim for a four-week timeframe to avoid goals being too easy or difficult.

3. Behaviour Regulation

3.1 What is behaviour regulation?

Behavioural regulation involves adapting our behaviour to meet the demands of a situation. Challenges with behavioural regulation often reflect the interaction between the unique needs of individual students and situational expectations.

3.2 What is arousal regulation?

Behaviour regulation is closely tied to arousal regulation. Arousal regulation may occur if students are either hyper-aroused (crying or temper tantrum), under-aroused (drowsy or sleeping), or have difficulty transitioning between arousal levels. Students who are over-aroused or under-aroused may have difficulty with behaviour regulation. It's crucial for students to be in a calm-alert state to benefit from learning experiences. As a teacher or caregiver, supporting students to be in a calm-alert state increases their readiness for learning and their ability to engage effectively in learning processes.

3.3 Controlling your surroundings

One way to support students in attaining calm-alert readiness of learning is to be aware of antecedents. Antecedents are the surroundings, events and behaviours that precede a reaction and may trigger the problem behaviour. Many behavioural management programs tend to focus on the behaviours and the consequences rather than the antecedents. Teachers can create a setting that supports calm-alert readiness by being strength-based and encouraging during the instructional session, having well-suited expectations about their students, and creating a classroom setting that aligns with student needs.

3.4 Helping students regulate their behaviour

We cannot always anticipate and prevent dysregulation. As such, when working with a student, teachers can be vigilant for any signs of frustration or over/under-arousal that may lead to dysregulated behaviour. Indicators of dysregulation may include fidgeting, staring into space, refusal to engage, or disruptive behaviour. Knowing what dysregulation looks like in each student is an important starting point supporting early identification. Once early indicators of dysregulation are observed, there is an opportunity to provide proactive support that may facilitate regulation. There are many ways to do this, including simply providing a break for the student. Depending on the student's age, regulation strategies may be co-created - providing an opportunity for student learning and

strengthening the teacher-student relationship (see below for the F-A-R model). Caregivers may also be a valuable resource in helping identify or generate effective regulatory strategies. Adopting proactive and supportive approaches to regulation reflects an understanding of the brain-based nature of the arousal processes. It also supports a strengths-based and promotive framework which can catalyze student growth.

3.5 Tools and suggestions for behaviour regulation

The following are some tools and suggestions that can be used to regulate a student's behaviour and help them learn to self-regulate. Although many of the following tools are discussed in the context of working with neurodivergent students, these strategies can be effectively used with all students to promote positive behaviour and engagement.



Focus & Plan

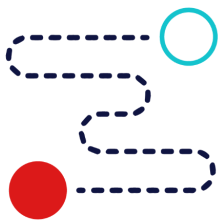
Many students, especially those with neurodevelopmental issues, often feel like they have no control over their learning.

This feeling can lead to frustration, discouragement, and reactive/avoidant behaviour. However, the MILE program provides a solution by actively involving students in their learning process.

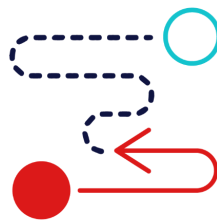
The Focus and Plan-Act-Reflect (F-A-R) model

is a great way to get the student's input on what will be done during the session, and can create shared space for the co-creation of strategies.

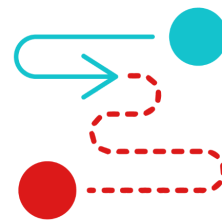
The FAR model allows teachers to offer carefully constructed choices to students - creating a framework by which they can facilitate structured autonomy with the student. Once the student has made a choice, it becomes a contract between the teacher and the student.



Focus & Plan



Act



Reflect

Then both the teacher and the student can support adherence to this plan. To minimize frustration and encourage positive behaviour, it's best to keep the sequence of the math lesson the same for each lesson, allowing students to predict what will happen.



Use of a Timer

Understanding the concept of time can be challenging for some students, especially those with neurodevelopmental differences. To help them, using a countdown timer can be beneficial. By visualizing the passage of time, students can comprehend how long an activity will last—explaining to the students that they will be working on an activity for a set time and receiving a break provides a concrete boundary. This may help students who want to finish quickly (how much longer?), as well as students who do not want the session to end (“no! I’m not done!”). In both cases, using the timer to announce that the session will end soon and counting down the minutes can be helpful, and can help students navigate transitions. Demonstrating the timer and allowing the students to test it themselves can help them understand how it works. Then, you may choose to let them decide how many sessions they want to work on the activity for before taking a break.

Breaks are a great opportunity to encourage students to engage in relaxing activities such as stretching, colouring, or playing with toys. A short break may help to re-engage task focus.



Use of Voice

Use of choice may be considered within activities. This provides students with some sense of control over their learning. When providing choices to students, offering two options rather than an open-ended “what do you want to do” can help to structure their decision-making.

When students stop paying attention or “zone out,” your voice is an excellent tool for returning them. Do not raise your voice, but drop it. When you start whispering, the student becomes curious about what you are saying and may start listening. A student may also tune out when you speak too fast. Many students with neurodevelopmental difficulties cannot deal with more than one piece of information at a time.

For instance, you may say something like this:

We are going to do some addition today. Let's take these counters and put three red ones on this side and then put two blue ones next to it. How many counters do you have now?

To the student, this might sound something like this:

We are going to do some addition today let's take these counters and put 3 red ones on this side and then put 2 blue ones next to it how many counters do you have now?

Would you still be listening? Would you be frustrated? When you speak, pace the instructions by allowing breaks in speech. So, the above instructions should be placed as follows:

We are going to do some addition . . . let's take these counters . . . put three red ones on this side . . . then put two blue ones next to it . . . how many counters do you have now?

This approach to slower paced, and precise communication, is not only constructive for neurodivergent students, but can also benefit all students.



Use of Language

Students with neurodevelopmental difficulties may have difficulty understanding language that contains figures of speech or innuendos. They can take words literally and may not comprehend the intended meaning. For example, if you say, "It's raining cats and dogs," they may expect to see animals falling from the sky.

Use of straightforward and clear language can help avoid confusion or misunderstanding. For instance, instead of asking, "Could you write down 2 plus 2?" tell them, "Write down 2 plus 2". The latter is a clear instruction, whereas the former can be interpreted as a question to which they may respond negatively.



Use of Facial Expressions

Language is also an opportunity to set a collaborative tone, that may reduce the possibility of a power struggle. For instance, beginning a request with "Let's try to" rather than "I want you to...." can shift the message received by the student.



Ignore Behaviour

Our facial expressions are another form of communication that can support student regulation. Upon recognition of early indicators of dysregulation, educators can employ facial expressions - such as surprise - that may be unexpected to the student and create an opportunity for distraction and re-regulation. Awareness of the impact of our facial expressions also equips us to recognize ways in which non threatening and calm expressions can reduce perceived threats by the student - again another opportunity to avoid a power struggle and foster positive relational engagement.



The Energy Meter

Knowing which behaviours to ignore can be helpful when dealing with student behaviour. For example, if a student prefers to stand beside the table while working instead of sitting in a chair, this behaviour can be ignored as long as they pay attention to the lesson. Moreover, this may also provide an opportunity to later acknowledge the way in which this strategy worked well for the student. Generally, any behaviour that doesn't disrupt the lesson or pose a danger to anyone or anything can be ignored - and even reframed as a constructive strategy.

Just as environmental or situational changes can positively impact student regulation, increasing student self awareness may help build their internal resources, to enhance further their ability to achieve calm-alert readiness. A valuable tool that may help students better recognize their arousal levels is an "energy meter." To make an energy meter, you can cut a semi-circle out of cardboard and attach an arrow with a butterfly pin. When the student becomes too aroused, you can push the arrow to the "too wild" area and indicate to the student that they need to make the arrow go back to the middle. With time students may learn to use the meter themselves to help communicate with others as they work to manage their energy levels effectively.



Use of Praise

Students with neurodevelopmental difficulties may have encountered many setbacks in their academic journey. Offering positive feedback may help to offset frustration. Recognizing successes, even as students begin to approximate appropriate behaviour and learning, helps to reinforce growth. Ideally

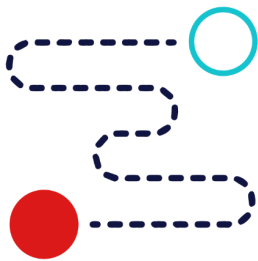
positive feedback and praise will be authentic and will highlight the behaviour and not the student. For example, if a student struggles to write the number two but manages to make a small curve, you can offer praise by saying: "Wow, look at this little round curve you made. It is starting to look exactly like the number two." Alternatively, for students who have difficulty sitting still for more than a few minutes, after a few minutes, you might say something like: "You remained seated throughout the entire duration of the sand-timer. Well done."

4. Description of MILE Resources

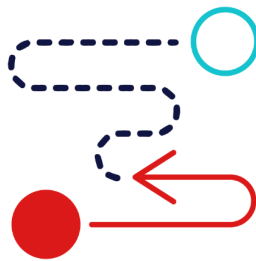
The MILE program consists of 15 resources to help teachers implement MILE in their classrooms. All of these resources can be found on the MILE website under 'Resources'. A brief overview is provided here.

4.1 Sample Dialogue to Introduce the F-A-R Model

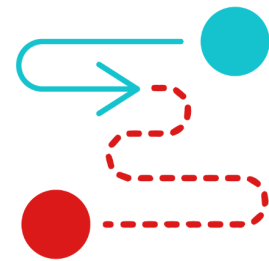
The Sample Dialogue to Introduce the F-A-R Model is a series of pages that provide an example of a conversation between a student and a teacher, which showcases how the F-A-R Model can be implemented in interactions. This example is not meant to be a script that should be memorized. Instead, it is intended to show how the F-A-R model can be used when working with students.



Focus & Plan



Act



Reflect

4.2 Match Observation and Assessment Tool (MOAT)

The MOAT (Math Observation Assessment Tool) is a checklist covering math skills ranging from basic concepts of size and shape to higher math skills like multiplication and division. It was developed to guide teachers to appropriate Classroom Activity Pages that help students build math skills and enable them to track student progress.

It is helpful to observe all skills on the assessment tool for all students, even the skills they should possess according to their age or grade level, as those skills may still represent areas of weakness requiring further support. The MOAT helps identify which foundational math concepts the student may struggle with. Identifying these gaps in the student's foundational skills will help teachers understand which skills need to be remediated. For younger students, the assessment tool will provide a guideline to determine which skills still


need to be developed. Teachers can choose targeted classroom activities to help younger students develop specific skills.

The math concepts on the Math Observation and Assessment Tool are shown below:

| | | |
|----------------------------------|---------------------|-------------------------------|
| Size | Counting | Symbolic Understanding |
| Shape | Sequencing/Planning | Addition/Subtraction |
| Quantity | Number Writing | Multiplication/Division |
| Patterns: Sorting & Categorizing | Position | Cognitive Foundational Skills |

4.3 Error Analysis Tables

The Error Analysis Tables consist of five strands of math progressions (see Lynn McGarvey’s Math Progressions). The five strands include the following: (a) Numbers and Operations, (b) Patterning and Algebra, (c) Measurement, (d) Geometry, and (e) Data Management and Probability. The Error Analysis Tables are used in conjunction with the Math Observation Assessment Tool to help identify errors students make and which Classroom Activity Pages can be used to remediate those errors.

| <div style="text-align: center;">  Number </div> | | |
|---|---|--|
| 1. Applying the principles of counting | 2. Recognizing and writing numerals | 3. Recognizing quantities & subitizing |
| 4. Comparing and ordering quantities (multititle or magnitude). | 5. Estimating quantities and numbers. | 6. Decomposing wholes into parts and composing wholes from parts. |
| 7. Unitizing quantities into ones, tens, and hundreds (place-value concepts) | 8. Unitizing quantities and comparing units to the whole (place-value concepts) | 9. Partitioning quantities from fractions. |
| 10. Developing conceptual meaning of addition and subtraction. | 11. Developing fluency of addition and subtraction computation. | 12. Developing fluency of multiplication and division computation. |

PA

Patterning & Algebra

| | | |
|--|---|--|
| 1. Identifying, sorting, and classifying attributes and patterns mathematically (e.g., number of sides, shape, and size). | 2. Identifying, reproducing, extending, and creating patterns that repeat. | 3. Representing and generalizing increasing/ decreasing patterns. |
| 4. Understanding equality and inequality, building on generalizing properties of numbers and operations. | 5. Using symbols, unknowns, and variables to represent mathematical relations. | |

M

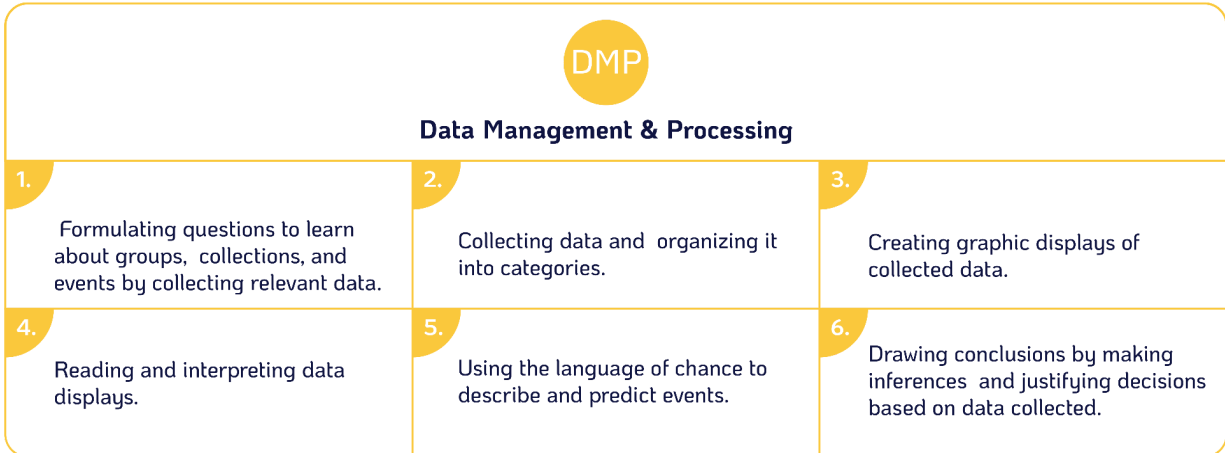
Measurement

| | | |
|--|--|--|
| 1. Understanding attributes that can be measured. | 2. Directly and Indirectly comparing and ordering objects with the same measurable attribute. | 3. Select and use non-standard units to estimate, measure, and compare. |
| 4. Select and use standard units to estimate, measure, and compare. | 5. Understanding relationships among measurement units. | |

G

Geometry

| | | |
|---|---|--|
| 1. Investigating geometric attributes and properties of 2-D shapes and 3-D solids. | 2. Investigating 2-D shapes, 3-D solids, and their attributes through composition and decomposition. | 3. Exploring 2-D shapes and 3-D solids by applying and visualizing transformations. |
| 4. Exploring symmetry to analyze 2-D shapes and 3-D solids. | 5. Locating and mapping objects in space. | 6. Viewing and representing objects from multiple perspectives. |



4.4 Classroom Activity Pages

The Classroom Activity Pages are a collection of pages with over 100 math lessons. Each Classroom Activity Page is labelled with a content area, math domain, grade level, and page number. The Classroom Activity Pages outline fun activities that you can do with your students to remediate specific errors they are making in math. Twenty content areas are indicated by the following icons, which also appear on the Math Observation Assessment Tool:

| | |
|---------------------------|-------------------------------|
| Addition/Subtraction | Multiplication/Division |
| Counting | Number Line |
| Fractions | Ordering |
| Graphs | Patterns |
| Measurement | Place Value |
| Measurement-Area | Regrouping |
| Measurement-Height/Length | Sorting |
| Measurement-Quantity | Sorting-Categorizing |
| Measurement-Time | Sorting-Matching |
| Measurement-Weight | Sorting-Same/Different |
| Measurement-Quantity | Cognitive Foundational Skills |

4.5 Write Numbers Assessment Sheet

The Write Numbers Assessment Sheet is a page with a math activity for students to practice number writing. Students can write numbers in the circles provided. Before moving on to the next number, teachers may work on each number until the student demonstrates the ability to write that number.

4.6 Eight Cognitive Foundation Skills

The Eight Cognitive Foundation Skills provides an overview of some of the underlying cognitive skills students use when doing math. This sheet also outlines the behaviours to look for when assessing specific cognitive foundation skills.

4.7 Suggestions for Remediating Eight Cognitive Foundation Skills

The Suggestions for Remediating Eight Cognitive Foundation Skills is a page that provides suggestions to help students overcome difficulties with cognitive foundational skills, including suggestions for observing and remediating cognitive foundation skills. This page may be helpful for teachers if students demonstrate difficulties in their cognitive foundation skills. Teachers can work with students on weak skills while doing activities they choose to improve other, more developed skills.

4.8 MILE Math Plan Template

Before each session, the teacher can prepare a MILE Math Plan that considers tasks, related skills, and focus questions to advance learning and materials needs. If a teacher already has a template they use, this can be used instead or in addition to the MILE Math Plan Template.

The MILE Math Plan Template also provides a section to record skills and behaviours observed and not observed during the lesson. Teachers can also reflect on what worked well, what did not, and what can be done differently next time. There's also a place for additional notes at the bottom of the plan.

4.9 MILE Math Plan Exemplar

The MILE Math Plan Exemplar shows teachers what a completed MILE Math Plan Template may look like when filled in.

4.10 Student Focus Sheet

The Student Focus Sheet can be filled out with the student at the beginning of the lesson. The student and the teacher can formulate a plan to accomplish the goals set for the lesson. It is important for the student to contribute and to have a choice. They may contribute, for instance, by selecting the order of activities if more than one is planned. The student can also select from an array of materials to be used during the exercise, and they can be encouraged to verbalize the plan or some portion of it because this will provide a model of how to engage in meta-organizational thinking. The Focus-and-plan phase is completed at the beginning of a lesson.

4.11 Student Reflection Sheet

This Student Reflection Sheet serves as a “show-and-tell” during a review session. The Reflection phase should include discussing the initial goals and evaluating what was done in the lesson. The student should be encouraged to contribute as much as possible during this phase, which is completed at the end of a lesson.

4.12 Student Progress Monitoring Form

Since teachers have busy and often hectic schedules, completing the Math Observation Assessment Tool may not be possible more than a few times per school year. However, teachers may still want to monitor students' progress with a quick and easy assessment. The Student Progress Monitoring Form provides a way for teachers to quickly and easily assess students' progress in their learning.

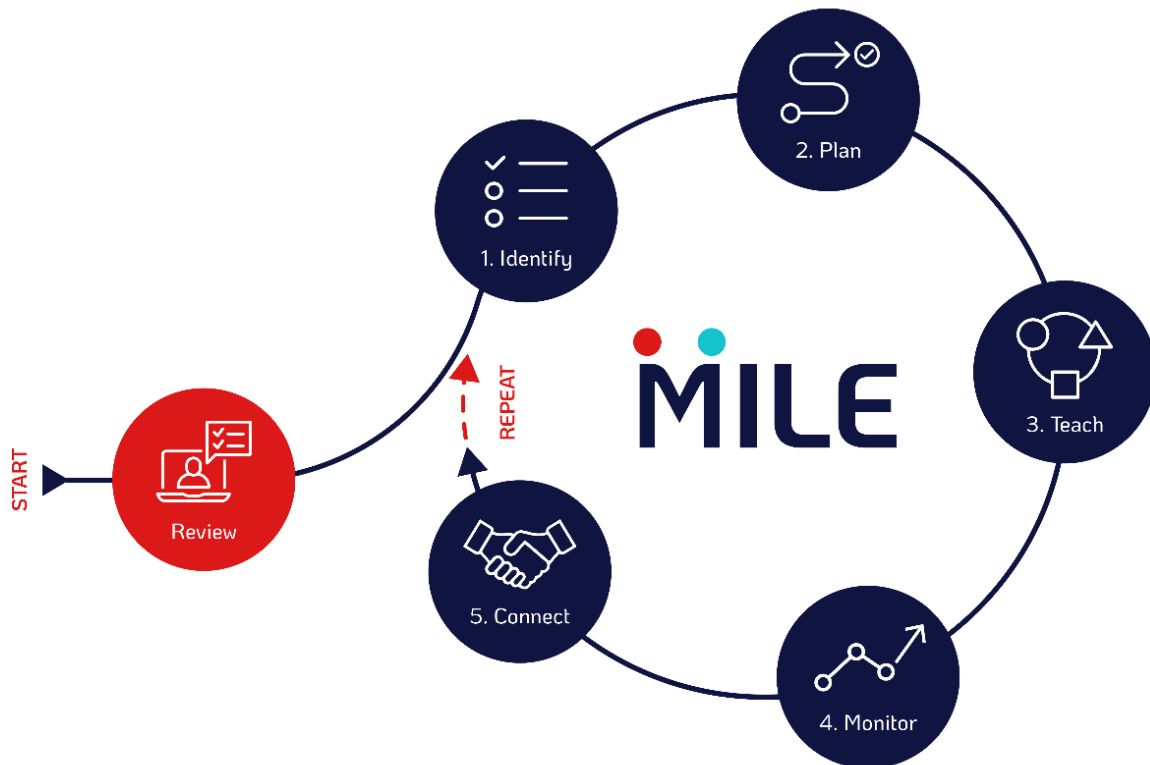
4.13 At-home Activity Pages

The At-home Activity Pages are a collection of activities that caregivers can do at home to reinforce the lesson(s) taught during in-class instruction. Each At-home Activity Page is sorted by content area (e.g., addition, subtraction, etc.), and the activities correspond with the Classroom Activity Page lesson activities taught during the in-class lesson.

5. Using MILE Resources

5.1 A Step-by-Step Overview of How to Use MILE

The MILE Cycle is a comprehensive roadmap designed to help educators integrate MILE resources and materials into their curricular lessons and activities. This guide will walk you through using the MILE Cycle effectively, ensuring it complements your classroom work with flexible strategies and tools.



Understanding the FAR Model

Central to the MILE Cycle is the Focus, Act, Plan, and Reflect (FAR) model. This model supports active student involvement and self-reflection, enhancing self-regulation, frustration management, and resiliency. For a deeper understanding of the FAR model, refer to the detailed video on the website.

The MILE Cycle Steps

Step 1: Identifying Errors

- **Objective:** Identify if you want to work with your students with specific errors or general math concepts.
- **Tools:** Working with individual students or small groups? Use the Error Analysis Table to pinpoint errors and select relevant activities. OR Working with a large group or a class? Use the Math Observation and Assessment Sheet (MOAT) to find relevant activities based on math concepts.
- **Approach:** Focus on one error or concept at a time, moving from fundamental errors/concepts to higher-order errors/concepts.
- **Process:**
 - Familiarize yourself with the FAR approach and introduce it to your students.
 - Using the error analysis table, you can identify the errors your students are making. The table is organized into strands based on numeracy progressions (numbers and operations, patterning and algebra, measurement, geometry, data management and probability).
 - Determine the most fundamental errors to remediate first. Addressing these will set a solid foundation for correcting higher-order errors.
 - Encourage students to start recognizing and reflecting on their own and peers' errors through collaborative identification and reflective questioning.

Step 2: Planning Lessons

- **Objective:** Plan lessons using Classroom Activity Pages and numeracy progressions.
- **Tool:** Use the lesson plan sheet or your existing template.
- **Approach:** Involve students in the planning process to enhance engagement.
- **Process:**
 - Select a specific classroom activity or activities from the Error Analysis Table that will help remediate identified errors.
 - Consider the current skill level of your students and choose appropriately challenging activities.
 - Engage students in planning by asking for their activities and lesson duration input.

- The Classroom Activity Pages are organized from easiest to most challenging, promoting a progression from basic understanding to in-depth, reciprocal learning.
- Plan the lesson with clear objectives and incorporate the FAR approach to encourage student participation and reflection.

Step 3: Teaching the Lesson

- **Objective:** Teach the lesson using selected activities.
- **Tools:** Utilize the Student Focus Sheet and the Student Reflection Sheet to foster engagement and reflection.
- **Approach:** Consistently apply the FAR approach to boost participation and self-reflection.
- **Process:**
 - Begin the lesson using the Student Focus Sheet to set goals and focus the students.
 - Teach the lesson and conduct the selected activities, using the FAR approach to guide student interactions and reflections.
 - Encourage students to use the Student Reflection Sheet to self-reflect before, during, and after the lesson.
 - Use open-ended questions to prompt deeper thinking and reflection, fostering a more profound understanding and engagement.
 - Reflect on the lesson using the MILE Math Plan Template to consider what worked, what didn't, and what can be improved for future lessons.

Step 4: Monitoring Progress

- **Objective:** Monitor and assess student progress.
- **Tools:** Use the student progress monitoring form and the math observation assessment tool.
- **Approach:** Observe and record students' work, steps, and conversations to track their understanding and skills development.
- **Process:**
 - Use the student progress monitoring form to track broader math skills and understand areas requiring further attention.
 - Employ the Math Observation Assessment Tool to record specific observations related to student work, processes, and conversations.

- Use these tools to triangulate formative assessments and monitor skill development over time.
- Engage students in self-reflection and discussion to identify areas of improvement and plan the next steps.
- Adjust activities based on assessment outcomes, either selecting more rudimentary activities for further support or more challenging ones to advance skills.

Step 5: Connecting with At-Home Supports

- **Objective:** Reinforce learning through at-home activities.
- **Tools:** At-home Activity Pages linked to Classroom Activity Pages.
- **Approach:** Provide caregivers with specific instructions and supplies for interactive activities that complement classroom lessons.
- **Process:**
 - Send home At-home Activity Pages corresponding to classroom activities, allowing students to practice skills in a familiar context.
 - Ensure the At-home Activity Pages are clearly labelled and easy to follow for caregivers.
 - Provide additional instructions or examples for caregivers on incorporating the FAR approach at home.
 - Adapt the use of At-home Activity Pages to fit each student's home environment and support system, recognizing that access to support can vary widely.
 - Use the At-home Activity Pages as a resource in communication with caregivers, integrating specific words and phrases from the activities into your updates.

Additional Resources

- **Error Analysis Table:** Identifies common student errors and links to relevant activities.
- **Classroom Activity Pages:** Interactive activities organized by numeracy strands.
- **Student Focus and Reflection Sheets:** Tools for student engagement and self-reflection.
- **Math Observation Assessment Tool:** Tracks students' understanding and skills development.

- **At-home Activity Pages:** Activities for caregivers to support learning at home.

Tips for Success

- **Familiarize Yourself:** Review the FAR approach and sample dialogues before starting.
- **Collaborate:** Discuss with colleagues using MILE for additional ideas and reassurance.
- **Be Flexible:** Adjust MILE resources to fit your classroom needs.
- **Engage Students:** Involve students in planning, execution, and reflection to enhance their learning experience.
- **Have Fun:** Enjoy the process with your students, making learning engaging and interactive.



MILE Resource Guide 2024

