

# Mind Over Math: Using Mindfulness to Develop Student's Math Mindset

by Katrisha Paul, 2020 CTI Fellow Garinger High School

This curriculum unit is recommended for: Math 1/Grades 7-9

**Keywords:** mindfulness, mindset, high school, middle school, math, social emotional learning

**Teaching Standards:** See Appendix 1 for teaching standards addressed in this unit.

Synopsis: Through this curriculum unit, students will learn about and experience various mindfulness activities with an overall goal of strengthening student mindset related to math. It is encouraged that the teacher engages in all activities prior to introducing the activity in the classroom in order to become familiar with the feelings evoked and guide students in their own practice. Students' willingness to perform challenging tasks will be assessed through questionnaires administered before and after each mindfulness activity. Mindfulness activities are to include focus on the breath, sitting, walking, the body, and taking care of our emotions. Through the questionnaires, students will collect data on their moods to use in a culminating math project involving statistics. In the culminating activity the essential question is, is there a correlation between mood and willingness to engage in challenging tasks before and after mindfulness activities? Using technology student will find the correlation coefficients for the data that they have recorded during the previous days' mindfulness activities.

I plan to teach this unit during the coming year to 54 students in Math 1.

I give permission for Charlotte Teachers Institute to publish my curriculum unit in print and online. I understand that I will be credited as the author of my work.

# Mind Over Math: Using Mindfulness to Develop Student's Math Mindset

by Katrisha Paul

### Introduction

#### Rationale

What comes to mind when you think of the word math? Perhaps your initial reaction is your own experience with math in school or that math is everywhere. Now think about the word mindfulness, the term has gained more attention than ever especially as people look for ways to be present during these challenging times of a global pandemic, racial injustice, and the uncertainty of the future. Putting together math and mindfulness can have positive outcomes for educators and students which will be the focus of this curriculum unit.

Through personal experience and the time spent during seminar thus far I have learned that many people feel like they are not successful during mindfulness activities. It is important to understand that what might be perceived as failure during mindfulness activity is really a discomfort with stillness. One of my favorite quotes that I personally use to remind myself during challenging times is by Joel Osteen. "When you face difficult times, know that challenges are not meant to destroy you. They are sent to promote, increase, and strengthen you." Knowing this it is important to remember that growth comes from uncomfortable places and there is no wrong way to practice mindfulness. With that being said, it may be important for you as an educator and your students to start with small increments of mindfulness activity as you begin to build stamina and a feeling of success.

Navigating the ever-changing dynamic of the world, America, and education can be challenging for both adults and children. Adults are constantly receiving conflicting information that can be as major as who we should vote for in an upcoming election to as small as the best time to exercise. For the latter, some movement is better than no movement when it comes to health. While children, especially those in high school, the pressure of what courses to take and know their path is a constant push and pull. When people find out that I am a high school math teacher, reactions vary from empathy to the self-declared statement "I was never good at math" or "math wasn't my subject". In that moment what you believe in your mind already has power over you and dictates future interactions. Perhaps those with an aversion to math never had a teacher to teach them tools to push past their negative mindset or family who continually discredited their student's difficulty and need for assistance in the subject. It is my belief that students can learn to love a subject such as math despite the mental roadblocks they may initially present with. As a teacher my why has changed through the years but this year I have felt the connection to see student joy in and out of the classroom. With so much despair in the world

from the Covid-19 pandemic to the racial injustice taking place it is important to seek joy and remember that there is hope in each present moment.

Mindfulness is a term I learned in the last few years going through my own graduate school courses and research has shown incorporating mindfulness activities for school age students has been beneficial. Mindfulness has gained more traction in the world and research is continually being published on the benefits especially as it relates to education. With the creation of this curriculum unit the overall goal is to build student confidence in high school math courses. If you were to ask students, or even adults, what their favorite subject is in school few would say math. Personally, I loved math more than any other subject until later in high school when it got more complex. Not knowing how to persevere and not having strategies to be successful kept me from being able to earn an Advanced Regent's Diploma at graduation. Many students experience this same experience with school in general as they advance through the years and even more so when it comes to their own math course trajectory.

# Demographics

The Garinger High School student body has evolved each school year. For the 20-21 school year the demographics are as follows, 50.3% Hispanic, 38.9% African American, 12% students with disabilities, 34.1% English language learners, and 10.1% students with interrupted formal education. The students that would be directly impacted through my curriculum unit are the 55 students that are currently enrolled in my Foundations of Math 1/Math 1 courses. All students are enrolled in the Foundations of Math 1/Math 1 course as freshman unless they have taken the course in middle school. Passing Math 1 is also a requirement to graduate high school in North Carolina. Currently while I am teaching fully remote there are between 17-19 students in each of the three blocks that I teach. When we move to the hybrid model there will be between 4-9 students in each block per week.

#### **Unit Goals**

In addition to my curriculum unit being taught to math 1 students, I would also encourage all teachers in the math department to incorporate aspects of the curriculum unit in the beginning of their courses and throughout to decrease the math anxiety that many students face especially at the high school level with high stakes testing. There is a range in math performance and ability among the students. A few have been exposed to the curriculum prior to high school but with a lack of new state testing placement in the course was determined from End of Grade testing in their 7<sup>th</sup> grade year. A couple other students have formal education plans that address accommodations to deal with frustration and academic deficits. My interest in wanting to build a curriculum unit centered around mindfulness is also the result of my own professional teaching career. Prior to becoming a math teacher, I was an exceptional children teacher and taught a learning lab class focused on IEP goals. In creating material at that time, I noticed that students did better when they were able to celebrate their smaller successes and saw reminders in the form

of a class motto posted on the wall. The motto that was posted on wall was "we, as scholars, will gain the necessary knowledge to prepare us for future college and career success by supporting each other, being engaged, and coming to class prepared. We will work as team to face challenges that we may encounter and remain positive throughout."

As mentioned above, the overall goal in the curriculum unit is to build student confidence in high school math courses. While remote learning, all students are expected to participate during daily social emotional learning (SEL) as a check in and to learn strategies to cope as it relates to school and personal life. It is my goal that the mindfulness curriculum unit has that same effect. The transition from middle to high school, being a teenager, and going to a Title 1 school can present a lot of uncertainty. In particular, the students at Garinger High School have experienced tragedy throughout the years, such as the death of fellow students, while still having responsibilities around academics and taking care of younger siblings. Overall Garinger High School students have exhibited a great deal of resilience. With mindfulness students will learn to be present in the moment and how to persevere. Through various activities and strategies that they can then apply to all course and aspects of their daily life, students will participate in daily mindfulness lessons and survey their desire to engage in challenging tasks and analyze their data through a culminating activity. A more detailed list of teaching standards can be found in Appendix 1.

#### **Content Research**

### Mindfulness

In the preface to *Happy teachers change the world:* A guide for integrating mindfulness in education, Hanh states that "the practice of mindfulness is the practice of joy" and you can create that feeling whenever you desire through mindfulness, concentration and insight. He goes on to say that mindfulness is to be mindful of something. For example, when you consciously practice breathing that is mindfulness of breathing. "When you practice walking mindfully, that is called mindfulness of walking." Whatever activity that you engage in the present moment can be practiced mindfully. "The past is already gone and the future is not yet there; the present moment is the only moment in which you can be truly alive."

#### Benefits of Mindfulness

#### Teacher Mindfulness Benefits

Teachers know from personal experience how stressful the job can be so imagine having a free resource in your teacher toolbox that can reduce said stress. To be mindful is to be in the present which so often teachers do not do. We often think about tasks to complete, lessons to deliver, students who need our support etc. but imagine taking a step back and not being in "go mode" all the time. While mindfulness is a relatively new concept, it has shown to have benefits to those who practice and even lead sessions on it. To personally experience of the benefits of

mindfulness it is recommended that teachers themselves also engage in mindfulness practices before teaching the curriculum unit to students. According to Mindful Schools, the benefits that mindfulness practice has had on teachers include reduced stress, greater job effectiveness, more emotionally supportive classrooms, and better classroom organization.<sup>2</sup> In an article by Hyland<sup>3</sup>, mindfulness benefits specifically for teachers also included improved focus and awareness, increased responsiveness to student needs, and enhancing the classroom climate.

### Student Mindfulness Benefits

The benefits of mindfulness do not just stop at adults, they also extend to students. More student specific benefits of mindfulness include improved attention especially on tasks that require a prolonged concentration span, emotional regulation, increased compassion, and reduction of stress and anxiety. Hyland also found that benefits for students included an increased readiness to learn, strengthening attention and concentration, reduction in anxiety, and enhancing social and emotional learning. These benefits can span beyond their math course and into other courses and overall student demeanor. As a beginning teacher, it is often stated many times that teaching cannot begin without classroom procedures. Including mindfulness as a procedure in the classroom and knowing the above benefits can make teaching content smoother and less stressful for all involved.

In "Mindfulness and Education", Leyland<sup>6</sup> summarized the importance and relationship of the two to say that Mindfulness should be incorporated at all curriculum levels to help students be more successful. Even for students that have learning disabilities mindfulness has proven to be beneficial in terms of focus, organization, planning, performance on exams, and critical thinking. Students who have been trained in mindfulness are more likely to follow school rules which can lead to a decrease in behaviors such as bullying. He also addresses that while funding for schools has continuously decreased and spending on curriculum is not easy mindfulness training can be free or inexpensive an incorporated into existing classes or implemented through a class on its own.

#### Mindset

Mindset requires a level of mindfulness as it can be formed into a negative fixed mindset or a positive growth mindset. By definition mindset means, "a mental attitude or inclination" or "a fixed state of mind." Thinking about the first definition is reminder that mindset is something that can change over time and people can grow to become better. According to Carol S. Dweck, "believing that your qualities are carved in stone, the fixed mindset, creates an urgency to prove yourself over and over." She goes on to say that the "growth mindset is based on the belief that your basic qualities are things you can cultivate through your efforts, your strategies, and help from others." 9

Through the years, having a growth mindset has been talked about a lot in education and has even been paired with the word grit in many teacher preparation programs. To show grit, is

to have an "unyielding courage in the face of hardship or danger." A defining characteristic of having a growth mindset is seeking out challenge as said challenges present opportunities to learn and stretch the mind. Perhaps people who do show grit have demonstrated a growth mindset.

### Develop a Growth Mindset

As educators, we have the power to help students develop a growth mindset through the statements we make in any given moment. Think about how many times you may have said or heard "you're so smart." Statements such as this while well intentioned can harm children's' motivation and their performance. According to Dweck, while children do love to be praised, statements about intelligence and talent only gives them motivation in that moment. The moment that they are to reach a challenge their confidence and motivation decrease tremendously. If success means they are smart, then failure means they're dumb. That's the fixed mindset.

"The great teachers believe in the growth of the intellect and talent, and they are fascinated with the process of learning." The process of fostering a student's understanding and academic growth throughout a school year is something that cannot be measured or assessed through a one time standardized test. While testing can be indicators of student intelligence in that moment it is in no way an indicator of future success. Fostering a growth mindset requires that the teacher moves beyond wanting students to memorize facts, rules, and procedures and instead develop a deeper understanding of content. "One study found that when math teachers taught for conceptual understanding, gave feedback that deepened students understanding, and then allowed students to revise their work (to experience and show their deeper understanding), their students moved towards a growth mindset in math. These students believed they could develop their basic mathematical ability." This could be something as simple as test corrections in the classroom which would have the added benefit of the lessening the anxiety that many students experience when taking a test. Often tests are pass or fail, however allowing revisions promotes the idea of improvement and the growth mindset.

### **Instructional Implementation**

## **Teaching Strategies**

Being that mindfulness is about being in the present moment it is my intent to implement all classroom activities at the beginning of each block to set the tone for students to persevere. Starting my own mindfulness journey, I have noticed I am most effective in practice at the beginning of the day before starting work tasks. While students transition to each class, they are likely to be surrounded by a variety of stimulants. When they enter in the classroom and begin the mindful activity as a Do Now it will allow them to leave the stimulants behind and be present in the moment. Being present in the moment will allow them to clear their mind and be ready for the learning that is to occur during the block. With mindfulness most of the learning comes

through experience and hence modeling is the most effective teaching strategy to introduce classroom activities.

The structure of each lesson surrounding mindfulness will revolve around the I do, we do, you do model. During the I do portion; the teacher will introduce the mindfulness activity and explain what it is and how it can be implemented. Immediately following students are invited to practice alongside the teacher, we do. The you do portion can immediately follow that and be tasks that students are challenged to do on their own at home or completed the next day without teacher guidance. A break down of the classroom mindfulness activities will be included below in detail. The goal during the unit is to introduce students to a variety of mindfulness strategies that they can use. Call and response through mindfulness affirmations will also be included throughout the lesson. Students in the class can also assist in creating daily affirmations for themselves personally or the class to repeat.

Pre and post tests are often used for content but will be used during this unit for students to self-assess their mindset before and after mindfulness activities. Instead of saying test as this word can sometime invoke a feeling of anxiety, it will be called a pre and post questionnaire. For each questionnaire students will be tasked with recording their level calmness or mood and willingness to complete a challenging task using a numbered scaled. As the unit continues, students will have a variety of personalized data relating to mindfulness to be used in a culminating statistics activity.

## Goals/Objectives for the Unit

While students are being introduced to a variety of mindfulness activities within their math class the goal is for them to also engage in mindful moments whenever needed. During the first day of the unit, a breakdown of what is mindfulness and what are the benefits will be explained so students can understand the why and are bought into the activities. Students will be encouraged to develop personal goals for themselves in beginning as they continue to practice mindfulness. As the teacher you might also want to take anecdotal records on student attendance, behavior, moods, and overall attitudes towards each mindfulness activity.

#### Classroom Lessons/Activities

### Day 1

Essential question- What is mindfulness and how can we connect it to math mindset?

Introduction to mindfulness using a visual slide show. Students are not expected to practice on this day. Information to include on slides:

- ➤ Have you or someone you know meditated? What do you know about mediation? (class discussion)
- Mindfulness is...(teacher presents)

- o An awareness of being present in the moment.
- ➤ What are the benefits of mindfulness? (teacher presents)
  - o improved attention especially on tasks that require a prolonged concentration span
  - o emotional regulation
  - increased compassion
  - o reduction of stress and anxiety
- Mindfulness and mindset(teacher presents)
  - How much do you agree or disagree with the following statements? (personally reflect)
    - Your intelligence is something very basic about you that you cannot change very much.
    - You can learn new things, but you cannot really change how intelligent you are.
    - no matter how much intelligence you have, you can always change it quite a bit
    - you can always substantially change how intelligent you are.
  - The first two statements are characteristics of the fixed mindset and the last two are characteristics of growth mindset.
  - O You can be a combination of both mindsets.
  - o Mindsets can change.
  - What is your mindset about doing math? (class discussion/reflection)
- ➤ Using mindfulness activities, we can help ourselves to develop a growth mindset. (teacher presents)
- > Over the next few days, we will engage in the following: (teacher presents)
  - o mindful breathing
  - o mindful sitting
  - o mindful walking
  - o the body
  - o taking care of our emotions
- Mindfulness and math (teacher presents)
  - o Pre and post questionnaire to collect data
  - o In the end, the data will be used 2 determine if there is a correlation between mindfulness practice and math confidence
- Mindfulness affirmation/mantra (teacher presents)
  - As a class or individually, develop a saying that can be repeated out loud or to yourself daily to encourage mindfulness and a growth mindset.
  - o Some examples include:
    - Success is in within me because I am growing my mind every day.
    - I will not become discouraged during challenges because they strengthen me
    - I am good as math because I do math.

#### Day 2

Essential question- How do we engage with **mindful breathing**?

Lesson from *Happy teachers change the world: A guide for integrating mindfulness in education* pages 2-19.

## Start with the why?

- > The breath is a friend we can always use to be present and create moments of peace through the day.
- Increases our ability to concentrate, focus and pay attention to the present moment.
- > To calm and anchor the body and mind to help manage difficult emotions and impulses.
- > To relax and help relieve stress and tension.
- To increase the ability to recognize how we are feeling.
- > To help unite the body and mind.
- To enable us to listen more deeply and communicate more empathically.

Before practice of this mindfulness activity, introduce students to the questionnaire that will be used pre and post practice. (Appendix 2) Ask students to rank their mood and readiness for an academic challenge on a scale of 1 to 10 according to the directions in the first two columns to the left of that day's essential question.

Begin activity- Read script on pages 8-9 from *Happy teachers change the world: A guide for integrating mindfulness in education.* 

Reflect with students using the questions on page 12 from *Happy teachers change the world: A guide for integrating mindfulness in education.* 

Ask students to rank their mood and readiness for an academic challenge on a scale of 1 to 10 according to the directions in the last two columns to the right of that day's essential question.

Students should not be looking for a pattern or analyzing data at this time.

Repeat mindfulness affirmation or mantra created as a class or individually.

### Day 3

Essential question- How do we engage with **mindful sitting**?

Lesson from *Happy teachers change the world:* A guide for integrating mindfulness in education pages 40-57.

Start with the why?

- To strengthen our ability to settle, calm, and relax mind and body.
- > To bring the mind back to the body.
- > To practice being alive in the present moment and enjoy "doing nothing."
- To build our awareness of thoughts, feelings, and bodily sensations.
- To increase a sense of connection and mutual support with others.

Before practice of this mindfulness activity, ask students to rank their mood and readiness for an academic challenge on a scale of 1 to 10 according to the directions in the first two columns to the left of that day's essential question.

Begin activity- Read script on pages 47-48 from *Happy teachers change the world: A guide for integrating mindfulness in education.* 

Reflect with students using the questions on page 51 from *Happy teachers change the world: A guide for integrating mindfulness in education*.

Ask students to rank their mood and readiness for an academic challenge on a scale of 1 to 10 according to the directions in the last two columns to the right of that day's essential question.

Students should not be looking for a pattern or analyzing data at this time.

Repeat mindfulness affirmation or mantra created as a class or individually.

Day 4

Essential question- How do we engage with **mindful walking**?

Lesson from *Happy teachers change the world:* A guide for integrating mindfulness in education pages 58-80.

Start with the why?

- To reconnect our minds and bodies to the present moment as we walk.
- > To enjoy slowing down and not rushing.
- > To cultivate awareness of the body through movement.
- To become more aware of the links between emotion and movement.
- As an alternative to sitting, to develop focus, attention, and calm, to relieve stress and anxiety and let go of ruminative, repetitive thinking.
- > To experience the wonders of life, connecting more deeply with ourselves, with those who are walking with us, and with the environment in which we walk.

Before practice of this mindfulness activity, ask students to rank their mood and readiness for an academic challenge on a scale of 1 to 10 according to the directions in the first two columns to the left of that day's essential question.

Begin activity-Note that you may want to move this activity outdoors for more space to mindfully walk. Read script on pages 63-64 from *Happy teachers change the world: A guide for integrating mindfulness in education*.

Reflect with students using the questions on page 69 from *Happy teachers change the world: A guide for integrating mindfulness in education*.

Ask students to rank their mood and readiness for an academic challenge on a scale of 1 to 10 according to the directions in the last two columns to the right of that day's essential question.

Students should not be looking for a pattern or analyzing data at this time.

Repeat mindfulness affirmation or mantra created as a class or individually.

### Day 5

Essential question- How do we **mindfully** engage with **the body**?

Lesson from *Happy teachers change the world: A guide for integrating mindfulness in education* pages 81-109.

Start with the why?

- To develop a sense of the mind and body connection.
- To increase the ability to be aware, focused, and pay attention to what is happening here and now in the breath, body, and mind.
- To become aware of the breath as a bridge between body and mind.
- ➤ To decrease stress and increase positive feelings, such as calm, relaxation, and happiness. Before practice of this mindfulness activity, ask students to rank their mood and readiness for an academic challenge on a scale of 1 to 10 according to the directions in the first two columns to the left of that day's essential question.

Begin activity- Read script on pages 86-87 from *Happy teachers change the world: A guide for integrating mindfulness in education.* 

Reflect with students using the questions on page 103 from *Happy teachers change the world: A guide for integrating mindfulness in education*.

Ask students to rank their mood and readiness for an academic challenge on a scale of 1 to 10 according to the directions in the last two columns to the right of that day's essential question.

Students should not be looking for a pattern or analyzing data at this time.

Repeat mindfulness affirmation or mantra created as a class or individually.

Day 6

Essential question- How do we take care of our emotions mindfully?

Lesson from *Happy teachers change the world: A guide for integrating mindfulness in education* pages 130-159.

Start with the why?

- To calm and relax the body and mind.
- To get in touch with the breath in the belly to help us bring our mind back to our body, to be with our emotions, and to return to the present moment.
- To increase the ability to recognize how we are feeling in body and mind.
- > To become aware of and cultivate embodied feelings of peace, joy, and happiness.
- > To become aware of are more painful feelings and learn how to take care of an embrace them with kindly acceptance.

Before practice of this mindfulness activity, ask students to rank their mood and readiness for an academic challenge on a scale of 1 to 10 according to the directions in the first two columns to the left of that day's essential question.

Begin activity- Read script on pages 139-141 from *Happy teachers change the world: A guide for integrating mindfulness in education.* 

Reflect with students using the questions on page 151 from *Happy teachers change the world: A guide for integrating mindfulness in education*.

Ask students to rank their mood and readiness for an academic challenge on a scale of 1 to 10 according to the directions in the last two columns to the right of that day's essential question.

Students should not be looking for a pattern or analyzing data at this time.

Repeat mindfulness affirmation or mantra created as a class or individually.

Day 7

Essential question- What mindfulness activity do I connect most with?

Start with the why?

- > We have practiced five different mindfulness activities.
- > We have learned the benefits of each.
- ➤ Mindfulness is most effective if you feel connected to the process.

Before practice of this mindfulness activity, ask students to rank their mood and readiness for an academic challenge on a scale of 1 to 10 according to the directions in the first two columns to the left of that day's essential question.

Allow students five minutes to practice a mindfulness activity of their choice.

Facilitate class discussion on each of the mindfulness activities that were practiced the previous days. Use the questions below as a guide.

- ➤ what have they liked?
- **>** how have they felt before and after each mindfulness activity?
- > what mindfulness activity do they see themselves practicing most often?
- > what mindfulness activity have they practiced outside of the classroom?
- have they taught their mindfulness learning to others i.e. friends and family?
- > Overall, would they recommend other students practice mindfulness?

Ask students to rank their mood and readiness for an academic challenge on a scale of 1 to 10 according to the directions in the last two columns to the right of that day's essential question.

Students should not be looking for a pattern or analyzing data at this time.

Assessment

# **Culminating Activity**

# Day 8

Essential question- Is there a correlation between mood and willingness to engage in challenging tasks before and after mindfulness activities?

Using the data collected during the previous days, students will work with a partner to put their data together. Directions can be found on page 2 of Appendix 2.

# **Appendix 1: Teaching Standards**

North Carolina Standard Course of Study, North Carolina Math 1

CCSS.MATH.PRACTICE.MP1 Make sense of problems and persevere in solving them.

CCSS.MATH.PRACTICE.MP4 Model with mathematics.

CCSS.MATH.PRACTICE.MP5 Use appropriate tools strategically.

CCSS.MATH.CONTENT.HSS.ID.B.6 Represent data on two quantitative variables on a scatter plot and describe how the variables are related.

CCSS.MATH.CONTENT.HSS.ID.C.8 Compute (using technology) and interpret the correlation coefficient of a linear fit.

CCSS.MATH.CONTENT.HSS.ID.C.9 Distinguish between correlation and causation.

# **Appendix 2: Questionnaire**

Each day we will engage in a mindfulness activity. At the end of the unit we will use the data below to determine if there is a correlation between mood and willingness to engage in challenging tasks before and after mindfulness activities?

# **Directions:**

Mood: on a scale of 1-10 with 1 being "unpleasant" to 10 being "very joyful", rank your overall mood before and after each mindfulness activity.

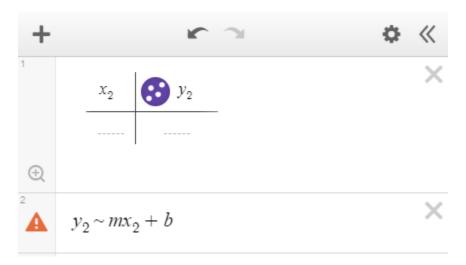
Readiness for an Academic Challenge: on a scale of 1-10 with 1 being "not at all" to 10 being "bring it on", rank your general response before and after each mindfulness activity.

Mood	Readiness for an Academic Challenge	Mindfulness Activity/ Essential Question How do we	Mood	Readiness for an Academic Challenge
		engage with mindful breathing?		
		How do we engage with mindful sitting?		
		How do we engage with mindful walking?		
		How do we mindfully engage with the body?		
		How do we take care of our emotions mindfully?		
		What mindfulness activity do I connect most with?		

# **Culminating Activity**

Find the correlation coefficient for the following pairings. Use the data of one other person in class in addition to your own.

Directions for using desmos.com/calculator. In the first row, marked 1 below, click the plus sign on the left and then click table. Enter the values that you are calculating in each column for each respective pairing. For example, pre mindfulness activity mood values under  $x_2$  and pre mindfulness activity readiness values under  $y_2$ . In the second row, marked 2 below, type " $y_2 \sim mx_2 + b$ ". Record the value that appears for "r" on the lines below for each pairing and repeat the process.



Pre mindfulness activity mood and pre mindfulness activity readiness:

Pre mindfulness activity mood and post mindfulness activity mood:

Pre mindfulness activity mood and post mindfulness activity readiness:

Pre mindfulness activity readiness and post mindfulness activity readiness:

pre mindfulness activity readiness and post mindfulness activity readiness:

post mindfulness activity mood and post mindfulness activity readiness:

#### **Materials List**

Pencils

Copies of student worksheet

Meditation Bell (optional)

Graphing calculators

#### **Student Resources**

101 Positive Affirmations For Kids

"101 Positive Affirmations for Kids." The Pathway 2 Success, September 21, 2020. https://www.thepathway2success.com/101-positive-affirmations-for-kids/.

This website has a long list of positive and short affirmations that students can use to say to themselves or out loud. It is also recommended that the teacher create a jar with all the affirmations printed and cut for students to take one daily or as needed when they do not know what to say to encourage a positive mindset.

"Getting Started with Mindfulness." Mindful, September 14, 2018. https://www.mindful.org/meditation/mindfulness-getting-started/.

This website is full of resources and information about what is mindfulness and meditation. It details the basics of mindfulness practice and includes a short video introduction about the effects of mindfulness and the brain. This connects to the culminating activity as it ties in mindfulness and mindset. There are also audio tracks that students may be interested in listening to while outside the classroom since the teacher is not always present to provide guidance.

#### **Teacher Resources**

Happy Teachers Change the World

Hanh, N., & Weare, K. (2017). Happy teachers change the world: A guide for integrating mindfulness in education. Berkeley, CA: Parallax Press.

This book is highly recommended for teachers desiring to get started with mindfulness in their own practice or introduce mindfulness to their students. It goes through a breakdown of what is mindfulness and its benefits to teachers, students, and the school community. There are also several chapters that go into detail about a mindfulness activity in which some of the curriculum unit lessons are adapted from.

#### Mindset

Dweck, Carol S. *Mindset: The New Psychology of Success*. New York, NY: Penguin Random House, 2016.

This book is highly recommended for teachers looking to transform their students' mindset into one of growth. Dweck details the difference between the growth and fixed mindset not to be confused with having an open mind. Those with the growth mindset actively seek improvement and do not get discouraged in the face of challenges or adversity. She details how mindset appears and can be affected in various settings including the home and school building which proves to be an interesting chapter

**Affirmations for Teens** 

Waller, Jeff. "Affirmations for Teens." 7 Mindsets, March 8, 2020. https://7mindsets.com/affirmations-for-students/.

This website has a list of 37 affirmations that can be used in the classroom and explains the power of affirmations for students. It also details several strategies that can be used to teach students about the power that affirmations have and how they can be effective.

#### Notes

- <sup>1</sup> Hanh, N., & Weare, K. (2017). *Happy teachers change the world: A guide for integrating mindfulness in education*. Berkeley, CA: Parallax Press. Xix.
- <sup>2</sup> Research on Mindfulness. (2020, September 05). Retrieved September 26, 2020, from https://www.mindfulschools.org/about-mindfulness/research-on-mindfulness/
- <sup>3</sup> Hyland, Terry. "On the Contemporary Applications of Mindfulness: Some Implications for Education." Journal of Philosophy of Education 49, no. 2 (May 1, 2015): 170–86.
- <sup>4</sup> Research on Mindfulness. (2020, September 05). Retrieved September 26, 2020, from <a href="https://www.mindfulschools.org/about-mindfulness/research-on-mindfulness/">https://www.mindfulschools.org/about-mindfulness/</a>
- <sup>5</sup> Hyland, Terry. "On the Contemporary Applications of Mindfulness: Some Implications for Education." Journal of Philosophy of Education 49, no. 2 (May 1, 2015): 170–86.
- <sup>6</sup> Leland, Matt. "Mindfulness and Student Success." Journal of Adult Education 44, no. 1 (January 1, 2015): 19–24.
- <sup>7</sup> "Mindset." Merriam-Webster. Merriam-Webster. Accessed November 21, 2020. https://www.merriam-webster.com/dictionary/mindset.
- <sup>8</sup> Dweck, Carol S. *Mindset: The New Psychology of Success*. New York, NY: Penguin Random House, 2016.
- <sup>9</sup> Dweck, Carol S. *Mindset: The New Psychology of Success*. New York, NY: Penguin Random House, 2016.
- <sup>10</sup> "Grit." Merriam-Webster. Merriam-Webster. Accessed November 21, 2020. https://www.merriam-webster.com/dictionary/grit.
- <sup>11</sup> Dweck, Carol S. *Mindset: The New Psychology of Success*. New York, NY: Penguin Random House, 2016.
- <sup>12</sup> Dweck, Carol S. *Mindset: The New Psychology of Success*. New York, NY: Penguin Random House, 2016.
- <sup>13</sup> Dweck, Carol S. *Mindset: The New Psychology of Success*. New York, NY: Penguin Random House, 2016.
- <sup>14</sup> Dweck, Carol S. *Mindset: The New Psychology of Success*. New York, NY: Penguin Random House, 2016.

# **Bibliography**

- Dweck, Carol S. *Mindset: The New Psychology of Success*. New York, NY: Penguin Random House, 2016.
- Ergas, Oren. "Mindfulness in, as and of Education: Three Roles of Mindfulness in Education." Journal of Philosophy of Education 53, no. 2 (May 1, 2019): 340–58.
- "Getting Started with Mindfulness." Mindful, September 14, 2018. https://www.mindful.org/meditation/mindfulness-getting-started/.
- "Grit." Merriam-Webster. Merriam-Webster. Accessed November 21, 2020. https://www.merriam-webster.com/dictionary/grit.
- Hanh, N., & Weare, K. (2017). *Happy teachers change the world: A guide for integrating mindfulness in education*. Berkeley, CA: Parallax Press.
- Hyland, Terry. "On the Contemporary Applications of Mindfulness: Some Implications for Education." Journal of Philosophy of Education 49, no. 2 (May 1, 2015): 170–86.
- Leland, Matt. "Mindfulness and Student Success." Journal of Adult Education 44, no. 1 (January 1, 2015): 19–24.
- "Mindset." Merriam-Webster. Merriam-Webster. Accessed November 21, 2020. https://www.merriam-webster.com/dictionary/mindset.
- Joy, Jennifer M., Macey D. Kohls, and Lauren A. Shepherd. "Mindful Minutes in the Classroom." Online Submission 10, no. 3 (July 1, 2019): 13–20.
- Research on Mindfulness. (2020, September 05). Retrieved September 26, 2020, from <a href="https://www.mindfulschools.org/about-mindfulness/research-on-mindfulness/">https://www.mindfulschools.org/about-mindfulness/</a>
- Standards for Mathematical Practice. (n.d.). Retrieved September 26, 2020, from <a href="http://www.corestandards.org/Math/Practice/">http://www.corestandards.org/Math/Practice/</a>
- Ventura, Sally. "The High Schooler's Guide to Happiness." Educational Leadership 77, no. 6 (March 1, 2020): 78–81.