

# Reducing Math Anxiety by Addressing Mindsets Teacher Survey

Page 1: Communicating a Growth Mindset Teacher Survey

\* Required

1. Name: \*

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2. Date: \*

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3. How confident are you in providing process praise for your students? \*

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

4. How confident are you in providing feedback when students struggle and need help with strategies? \*

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

**5. How confident are you in providing feedback when students make progress toward learning goals? \***

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

**6. How confident are you in providing feedback when student succeeded with strong effort? \***

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

**7. How confident are you in providing feedback when students succeeded easily without effort? \***

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

**8. How confident are you in portraying challenge as valuable by communicating learning goals and high expectations? \***

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

**9. How confident are you in portraying mistakes as valuable through communicating learning goals and high expectations? \***

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

**10. How confident are you in portraying effort as valuable through communicating learning goals and high expectations? \***

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

### Growth Mindset Feedback

As students begin to work on their learning objectives, growth-minded language guides and motivates them to ensure that they remain **persistent, resilient, and focused** on the process of learning. It is important to give learners feedback about their progress and their results so they can specifically see their growth.

**Use these language frames when interacting with your students in the following situations.**

#### When they struggle despite strong effort

- OK, so you didn't do as well as you wanted to. Let's look at this as an opportunity to learn.
- What did you do to prepare for this? Is there anything you could do to prepare differently next time?
- You are not there/here **yet**.
- When you think you can't do it, remind yourself that you can't do it **yet**.
- I expect you to make some mistakes. It is the kinds of mistakes that you make along the way that tell me how to support you.
- Mistakes are welcome here!
- You might be struggling, but you are making progress. I can see your growth (in these places).
- Look at how much progress you made on this. Do you remember how much more challenging this was (yesterday/last week/last year)?
- Of course it's tough – school is here to make our brains stronger!
- If it were easy, you wouldn't be learning anything!
- You can do it – it's tough, but you can; let's break it down into steps.
- Let's stop here and return tomorrow with a fresher brain.
- I admire your persistence and I appreciate your hard work. It will pay off.

#### When they struggle and need help with strategies

- Let's think about how to improve (the accuracy of) this section/paragraph/sentence/word choice/logic/description/problem/calculation.
- Let me add new information to help you solve this....
- Here are some strategies to figure this out.
- Describe your process for completing this task.
- Let's do one together, out loud.
- Let's practice (skill) so we can move it from our short-term to our long-term memory.
- Just try – we can always fix mistakes once I see where you are getting held up.
- Let me explain in another way with different words.
- What parts were difficult for you? Let's look at them.
- Let's ask \_\_\_\_\_ for advice—s/he may be able to explain/suggest some ideas/recommend some strategies.
- Let's write a plan for practicing and/or learning.
- If you make \_\_\_\_\_ changes, we can reassess your score. Let's discuss a plan for you.

11. How useful was Growth Mindset Feedback tool in providing process praise and feedback to your students? \*

Mark only one oval.

- Not useful at all
- A little useful
- Somewhat useful
- Useful
- Very useful

### Communicating a Growth Mindset Checklist

*Process Praise & Process Feedback*

Things to do everyday, often, or as applicable

Did I do these things?	Yes	No
<b>Process Praise</b> -Praising the work or effort of the student, which led to the result/outcome e.g. "You really studied hard for your math test and your improvement it."		
<b>Person Praise</b> -Praising the person e.g. "Great Job! You so smart!"		
Provided feedback when students struggled despite strong effort		
Provided feedback when they struggle and need help with strategies		
Provided feedback when students made progress toward learning goals		
Provide feedback when students succeeded with strong effort		
Provided feedback when students succeeded easily without effort.		
Referenced <i>Growth Mindset Feedback Tool</i> to provided process praise and feedback		

**+** *Growth Mindset Framing-Portraying Challenge, Mistakes, and Effort as Valuable*  
Things to do everyday, often, or as applicable

Did I do these things?	Yes	No
Communicated my <i>positive norms</i> using poster to encourage all my students in math class before the math lesson.		
Portrayed challenge as valuable by communicating learning goals e.g. before a problem-based lesson		
Portrayed mistakes as valuable through communicating learning goals		
Portrayed effort as valuable through communicating learning goals		
Portrayed challenge as valuable by communicating high expectations		
Portrayed mistakes as valuable by communicating high expectations		
Portrayed effort as valuable by communicating high expectations		
Modeled challenge as valuable		
Modeled mistakes and learning from mistakes as valuable		
Modeled effort as valuable		
Referenced <i>Growth Mindset Framing Tool</i> to frame growth mindset messages		

12. How useful was Process Praise and Feedback Checklist in providing process praise and feedback to your students? \*

Mark only one oval.

- Not useful at all
- A little useful
- Somewhat useful
- Useful
- Very useful

13. How useful was Growth Mindset Framing tool in portraying challenge, mistakes, and effort as valuable in your classroom? \*

Mark only one oval.

- Not useful at all
- A little useful
- Somewhat useful
- Useful
- Very useful

14. **How useful was the Portraying Challenge, Mistakes, and Effort as Valuable Checklist in portraying challenge, mistakes, and effort as valuable in your classroom? \***

*Mark only one oval.*

- Not useful at all
- A little useful
- Somewhat useful
- Useful
- Very useful

15. **Has providing process praise and feedback had an impact on your students up to this point? A particular student? If so how? \***

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16. **Has portraying challenge, mistakes, and effort as valuable had an impact on your students? A particular student (at risk or medium level math anxious students)? If so how? \***

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17. **How do think communicating growth mindsets messages went in your classroom? What went well? What might be an area of improvement or a challenge you faced? \***

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**18. What concerns or questions did you have about communicating growth mindset messages? \***

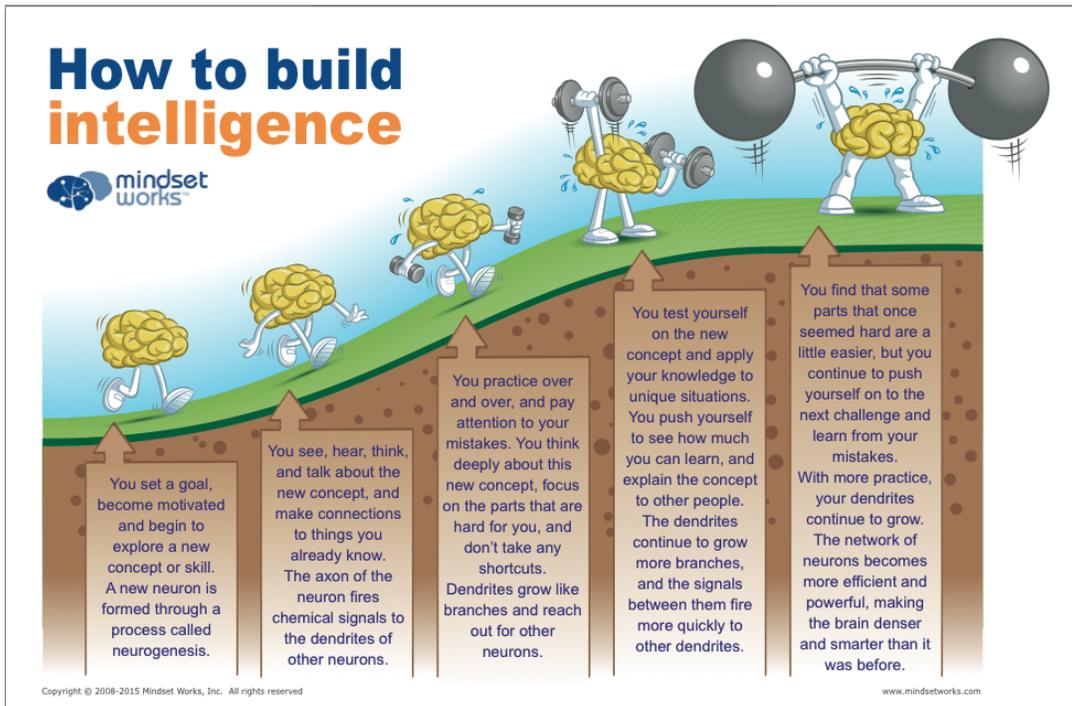
Process Praise or Feedback and/or Portraying Challenge, Mistakes, and Effort as Valuable.

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**19. Will you continue to use the communicating growth mindset tools and checklist next year? Why or why not? Was it beneficial for your students? Why or why not? \***

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**Page 2: Teaching a Growth Mindset Teacher Survey**



20. **How confident are you in teaching the Mindset Works Brain Basics Unit Lessons (Unit 1)? \***

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

21. **How confident are you in teaching the Mindset Works Brain Behavior Unit Lessons (Unit 2)? \***

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

22. **How confident are you in teaching the Mindset Works Brain Building Unit Lessons (Unit 3)? \***

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

23. **How confident are you in teaching the Mindset Works Brain Boosters (Learning Skills) Unit Lessons (Unit 4)? \***

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

**24. How useful was the Mindset Works Binder in teaching and assessing the Growth Mindset? \***

Mark only one oval.

- Not useful at all
- A little useful
- Somewhat useful
- Useful
- Very useful

### Teaching a Growth Mindset Checklists

***PDSA Cycle # 1d: Mindset Works Introductory Unit (February 17<sup>th</sup>-23<sup>rd</sup>)***  
 Unit Components to Teach & Assess

Did I do these things?	Yes	No	Estimated Time	Actual Time
Mindset Assessment Profile Debrief			30-40 min.	
Mindset Survey Reflection			10-20 min.	
"You Can Grow Your Intelligence" Reading and Activity Option 1			40 min.	

***PDSA Cycle #1d: Mindset Works Unit 1: Brain Basic (February 17<sup>th</sup>-23<sup>rd</sup>)***  
 Unit Components to Teach & Assess

Did I do these things?	Yes	No	Estimated Time	Actual Time
Session 1: "Connect It" Discussion: How Do I Learn?			15-30 min.	
Bridge: "Reinforce It" Activity: Food & Sleep Inventory			10-20 min.	
Session 2: "Apply It" Case Study: John			15-45 min.	
Formative Assessment: "Check It" Quiz			10-20 min.	

**25. How useful were the Teaching a Growth Mindset Checklists in pacing and completing the growth mindset lessons and formative assessments? \***

Mark only one oval.

- Not useful at all
- A little useful
- Somewhat useful
- Useful
- Very useful

26. **Have the growth mindset lessons had an impact on your students? A particular student (at risk or medium level math anxious students)? If so in what way(s)? \***

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27. **Have the growth mindset formative assessments had an impact on your students? A particular student (at risk or medium level math anxious students)? If so in what way(s)? \***

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28. **How do you think the teaching and assessing of the growth mindset lessons went in your classroom? What went well? What might be an area of improvement for the unit lessons or a challenge you faced? \***

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29. **What concerns or questions do you still have about the teaching growth mindset lessons? \***

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30. Will you continue to use the Mindset Works Units next year? Why or why not? Was it beneficial for your students? Why or why not? \*

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## Page 3: Common Core Math Content Standards and Practice Standards Survey

*How Can I Help Students Use the Standards for Mathematical Practice?  
Implementing SMPs through Tasks & Teacher Moves<sup>1</sup>*

Math Practice	Select a Math Task that...	Make Teacher Moves that...
#1 Make sense of problems and persevere in solving them.	<ul style="list-style-type: none"> <li>Has more than one entry point</li> <li>Has multiple solution paths</li> <li>Cognitively challenging, not obvious, not overly-scaffolded</li> <li>Requires balance of procedural fluency and conceptual understanding</li> <li>Requires students to justify solution using other solution methods</li> </ul>	<ul style="list-style-type: none"> <li>Structure individual think time and student-student talk time.</li> <li>Allow time for students to struggle (make sense, get-stuck-and-persevere), without "rescuing."</li> <li>Probe student reasoning and justification.</li> <li>Build in time for metacognition (think about and discuss solution process).</li> </ul>
#2 Reason abstractly and quantitatively.	<ul style="list-style-type: none"> <li>Has a relevant, realistic context</li> <li>Can be expressed with multiple representations</li> <li>Requires students to frame solution in a context</li> </ul>	<ul style="list-style-type: none"> <li>Expect students to interpret, model, and connect multiple representations.</li> <li>Prompt students to articulate connections between context and representations.</li> <li>Provide minimal scaffolding to support connections to the context.</li> </ul>
#3 Construct viable arguments and critique the reasoning of others.	<ul style="list-style-type: none"> <li>Is clearly stated</li> <li>Is grade level appropriate</li> <li>Avoids single steps or routine algorithms</li> </ul>	<ul style="list-style-type: none"> <li>Help students differentiate between assumptions and logical conjectures.</li> <li>Model and prompt students to evaluate peer arguments.</li> <li>Expect students to formally justify their conjectures.</li> </ul>
#4 Model with mathematics.	<ul style="list-style-type: none"> <li>Illustrates the relevance of the math</li> <li>Requires students to...                             <ul style="list-style-type: none"> <li>identify variables and extraneous information</li> <li>compute &amp; interpret results, report with multiple representations, and justify reasonableness of results</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Expect students to (or ask questions to help students) identify variables and procedures.</li> <li>Expect students to (or facilitate discussions) evaluate the appropriateness of the model.</li> </ul>
#5 Use appropriate tools strategically.	<ul style="list-style-type: none"> <li>Lends itself to (or requires) using multiple learning tools</li> <li>Gives students opportunity to develop (or requires the use of) fluency in estimation and mental computations</li> </ul>	<ul style="list-style-type: none"> <li>Allow students to choose (and state why) appropriate learning tools.</li> <li>Encourage creative tool alternatives.</li> <li>Expect (or model) error checking by estimation.</li> </ul>
#6 Attend to precision.	<ul style="list-style-type: none"> <li>Contains precise, not wordy, instructions</li> <li>Includes assessment criteria for communication of ideas</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate consistent expectation for precision in communication and solutions.</li> <li>Encourage student identification of incomplete aspects of process or solution.</li> </ul>
#7 Look for and make use of structure.	<ul style="list-style-type: none"> <li>Requires students to analyze task before automatically applying an algorithm</li> <li>Requires students to identify and compare the merits of different approaches</li> </ul>	<ul style="list-style-type: none"> <li>Question students about...                             <ul style="list-style-type: none"> <li>...reasonable intermediate results?</li> <li>...justify algorithm or solution path?</li> </ul> </li> <li>Prompt students to identify mathematical structures in symbolic expressions, geometric figures, graphs, tables, etc.</li> </ul>
#8 Look for and express regularity in repeated reasoning.	<ul style="list-style-type: none"> <li>Lends itself to (or requires) recognition of pattern or structure</li> <li>Connects to prior knowledge or future concepts in a cumulative, but non-routine way</li> </ul>	<ul style="list-style-type: none"> <li>Help students understand why procedural shortcuts work.</li> <li>Prompt students (or model) to make explicit, conceptual connections between prior and/or future concepts.</li> </ul>

31. How confident do you feel in engaging and building your students proficiency with the Standards for Mathematical Practice? \*

Mark only one oval.

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

**CCSS WHERE TO FOCUS GRADE 4 MATHEMATICS**

This document shows where students and teachers should spend the large majority of their time in order to meet the expectations of the Standards.

Not all content in a given grade is emphasized equally in the Standards. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas is also necessary for students to meet the Standards for Mathematical Practice.

To say that some things have greater emphasis is not to say that anything in the Standards can safely be neglected in instruction. Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade.



MATHEMATICS



GRADE 4



FOCUS

Students should spend the large majority<sup>1</sup> of their time on the major work of the grade (■). Supporting work (▣) and, where appropriate, additional work (○) can engage students in the major work of the grade.<sup>2,3</sup>

**MAJOR, SUPPORTING, AND ADDITIONAL CLUSTERS FOR GRADE 4**  
Emphases are given at the cluster level. Refer to the Common Core State Standards for Mathematics for the specific standards that fall within each cluster.

Key: ■ Major Clusters    ▣ Supporting Clusters    ○ Additional Clusters

- 4.OA.A ■ Use the four operations with whole numbers to solve problems.
- 4.OA.B ▣ Gain familiarity with factors and multiples.
- 4.OA.C ○ Generate and analyze patterns.
- 4.NBT.A ■ Generalize place value understanding for multi-digit whole numbers.
- 4.NBT.B ■ Use place value understanding and properties of operations to perform multi-digit arithmetic.
- 4.NFA ■ Extend understanding of fraction equivalence and ordering.
- 4.NFB ■ Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
- 4.NFC ■ Understand decimal notation for fractions, and compare decimal fractions.
- 4.MD.A ▣ Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
- 4.MD.B ▣ Represent and interpret data.
- 4.MD.C ○ Geometric measurement: understand concepts of angle and measure angles.
- 4.G.A ○ Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

**HIGHLIGHTS OF MAJOR WORK IN GRADES K–8**

K–2	Addition and subtraction – concepts, skills, and problem solving; place value
3–5	Multiplication and division of whole numbers and fractions – concepts, skills, and problem solving
6	Ratios and proportional relationships; early expressions and equations
7	Ratios and proportional relationships; arithmetic of rational numbers
8	Linear algebra and linear functions

**REQUIRED FLUENCIES FOR GRADE 4**

4.NBT.B.4	Add/subtract within 1,000,000
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32. How confident do you feel about teaching the major work of fourth grade in terms of the Common Core Math Content Standards? \*

Mark only one oval.

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

33. **How confident do you feel about using Number Strings (set of related computational problems) as a daily math instructional routine? \***

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

34. **How confident do you feel about teaching problem-based lessons (John Van De Wall Three Phase Problem-Based Lesson or CGI Problem Solving with the different Multiplication/Division Problem Types for 4th grade)? \***

*Mark only one oval.*

- Not confident at all
- A little confident
- Somewhat confident
- Confident
- Very confident

35. **How might teaching through math workshop/CGI (number strings or other number talks, problem-based lessons, and student-centered productive math discussions) support the implementation of Common Core Math Standards for both teachers and students? How might it also contribute to classrooms free of math anxiety? \***

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