



what is perseverance?

"perseverance'

I can try many times and many ways to understand and solve math problems.

As one of the Standards for Mathematical Practice, perseverance is a math behavior that needs to be explicitly taught. This is an example of a problem that can be used to help push students' math thinking AND their math practices. check out some lesson ideas on the next pages!



Perseverance Lessons

Want some tips on how to help your students build their perseverance? Check these out! Students need to be explicitly taught some of these skills before we expect them to apply them independently. What can YOU do to help your students with these "math behaviors">

I get started right away on my math without being reminded.

This is a lesson that needs to be taught over and over as you establish classroom routines. Students should know what your expectations are, what supplies they need, where math supplies are located in the classroom, and what the routines are. Some teachers have success with timers or countdowns as they transition to math class, but you need to find what works for you. What is key is that students get the sense that math class is for working and there is no time to waste! The fun starts right away and there is never "down time" where they don't have math to work on.

I have a positive attitude while working on math.

This is SO important! I really believe that having a positive attitude about math is critical to learning-and that attitudes are contagious! Find ways to teach math that are engaging and exciting to you-and your students will follow suit! When students struggle, it is easy for them to get "down" about math, and it's our job to find ways to make math accessible to them and help them see that the PROCESS is just as important as the right answer! This can be so freeing to those who don't see themselves as "math smart" kids. Teaching students about keeping calm and that they have a whole bunch of tools in their tool box-and that YOU are going to be the one that helps them!

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If one strategy does not work, I can try another one until I am successful.



One thing I really need students to understand is that THEY have some tools in their toolbox that they can try before getting help. Here is the list I have hanging in my room!

You might even think of other ideas-what's key is that we give kids tools so they can solve any problem they encounter-even without us!

I try using all the strategies I can before asking for help.

It is really important that students learn how to "give it a try" before they ask for help. When my students ask for help, instead of giving them advice or a hint, the first thing I ask is, "What have you tried?" If they can't answer, I smile, point to the poster above, and tell them I'll check back in a little while! It's amazing how much they can do if given the tools to get started! I am quick to compliment anyone who has given it a try before asking for help...and before you know it, your class will be so much more independent! They won't WANT your help!

When I get stuck, I can explain what I've tried before asking for help.

So, we know that we need to back off a little as teachers so our students gain some independence. Another thing we need to address is helping students use precise mathematical language to explain what they've tried. This takes practice and coaching! When students say "I minused it." I correct them to say "subtracted" and I then ask how they knew to do that. If they say they did it in their head, I ask them to tell me what they did in their head. If they are struggling to tell me, I refer to the anchor chart and ask them to point to what they have tried and I say it for them as a model. I think it's very important that we do not allow students to say, "I don't get it." That's too easy-and makes US do too much of the work!

I make sure my work is complete, detailed, and looks professional.

Although this is technically more in the "attends to precision" realm of the Standards for Mathematical Practice, I feel giving attention to this piece of problem solving helps set the tone for high expectations and expert work. I call my students mathematicians and we showcase examples of quality work. Sometimes I will notice something when walking around that I will slip under the document camera and sometimes I will ask the students to point out great

work they have seen when working in small groups. Another great way to build this culture for quality is to do gallery walks where you lay out examples of work and let the students check out the work samples, then give them time to go make improvements on their own. Without saying a word, they can use the high standards of others to improve their own work. It's fantastic!



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The next two pages have a problem that would be a great way for you to get your students practicing their perseverance!

The first page allows students to work out the problem and explain their thinking on one page. The next page gives you 6 copies of the problem that can be cut and glued into math journals.



Use the digits 4, 5, 6, and 7 to create two 3 digit numbers where the sum is between 1,000 and 1,100 and the difference is less than 100. Explain your thinking.

Work Space:

My Thinking:





want some other great problems to help teach perseverance?









Or try these!

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I have taught grades 1, 2, 3, 4, and 6 for the past twenty years and pride myself on my creativity and ability to engage students in meaningful learning. I have my masters in educational leadership and curriculum and look forward to sharing many of my ideas with all of you!

Look for more math resources in my store and teaching ideas on my blog!

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