



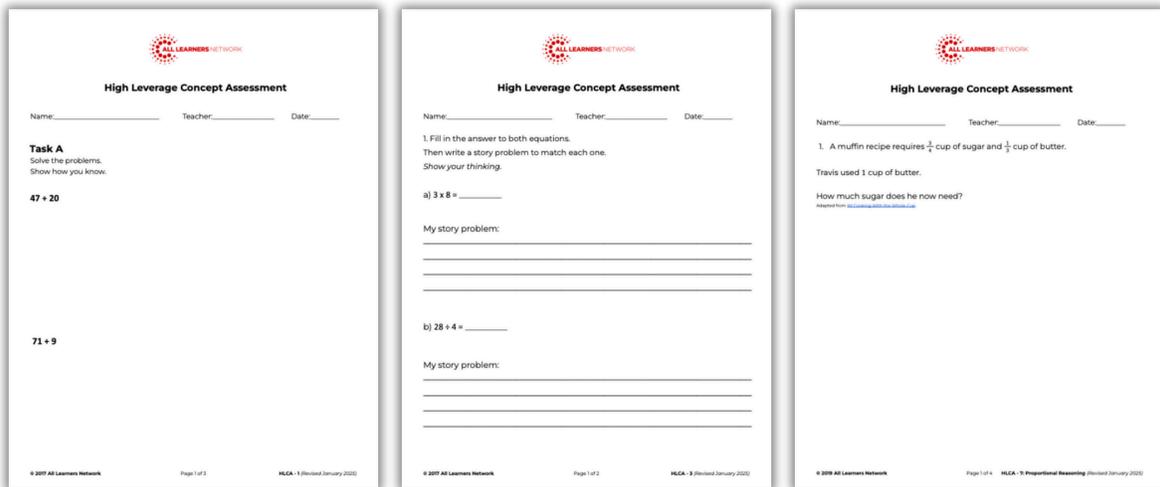
# MONITORING MATH MINDSET DATA



By: Erin Oliver  
Published: February 28, 2025

One of All Learners Network's five key components for unlocking math progress is using formative assessments. ALN's assessment tools help surface students' math understanding. Our resources empower educators to be responsive to data signals that show where students might benefit from additional practice or instruction. We guide teachers in using ongoing formative assessment to create strength-based goals for students and design responsive first instruction.

The formative assessment tools that our ALN network is most familiar with are our High Leverage Concepts (HLC) Assessments, as well as our CRA (concrete, representational, and abstract) assessments. Both of these formative assessment tools help educators understand students' assets to set more purposeful growth goals related to skills and content that support student learning and growth in understanding the HLCs.



Many educators are also asked to follow a district assessment calendar that formally monitors students' math learning throughout the school year. Again, we end up looking at strengths and weaknesses related to grade level content standards. All of this work and effort to make data-driven decisions in our math classrooms is immensely important. Yet, it keeps us solely focused on monitoring growth related to content (skills and concepts).

We are missing the opportunity to monitor another really important aspect of a student's growth as a mathematician: their mindset and beliefs. In *Limitless Mind*, Jo Boaler focuses on the importance of beliefs in chapter three, explaining, "When we change our beliefs, our bodies and our brains physically change as well" (Boaler, 2019). There are many compelling research studies summarized in this chapter that suggest our mindset and beliefs actually have the power to change how our brains operate. What students believe about themselves as mathematicians matters a lot and will have a direct impact on their academic achievement (regardless of the educator's quality of instruction or responsiveness to student needs).

So why aren't we regularly monitoring students' mindsets and beliefs about math? Is it because the data isn't numbers? There isn't a single right or wrong answer so it is harder to quantify. Is it because this kind of "street data" doesn't fit nicely into a color coded spreadsheet? Is it because we don't realize that we are capable of growing and changing mindsets in our classrooms, in the same way that we are capable of growing and changing skill sets? Is it because students are being reduced to numbers and colors in our data, so we forget to monitor their human mindsets and beliefs?

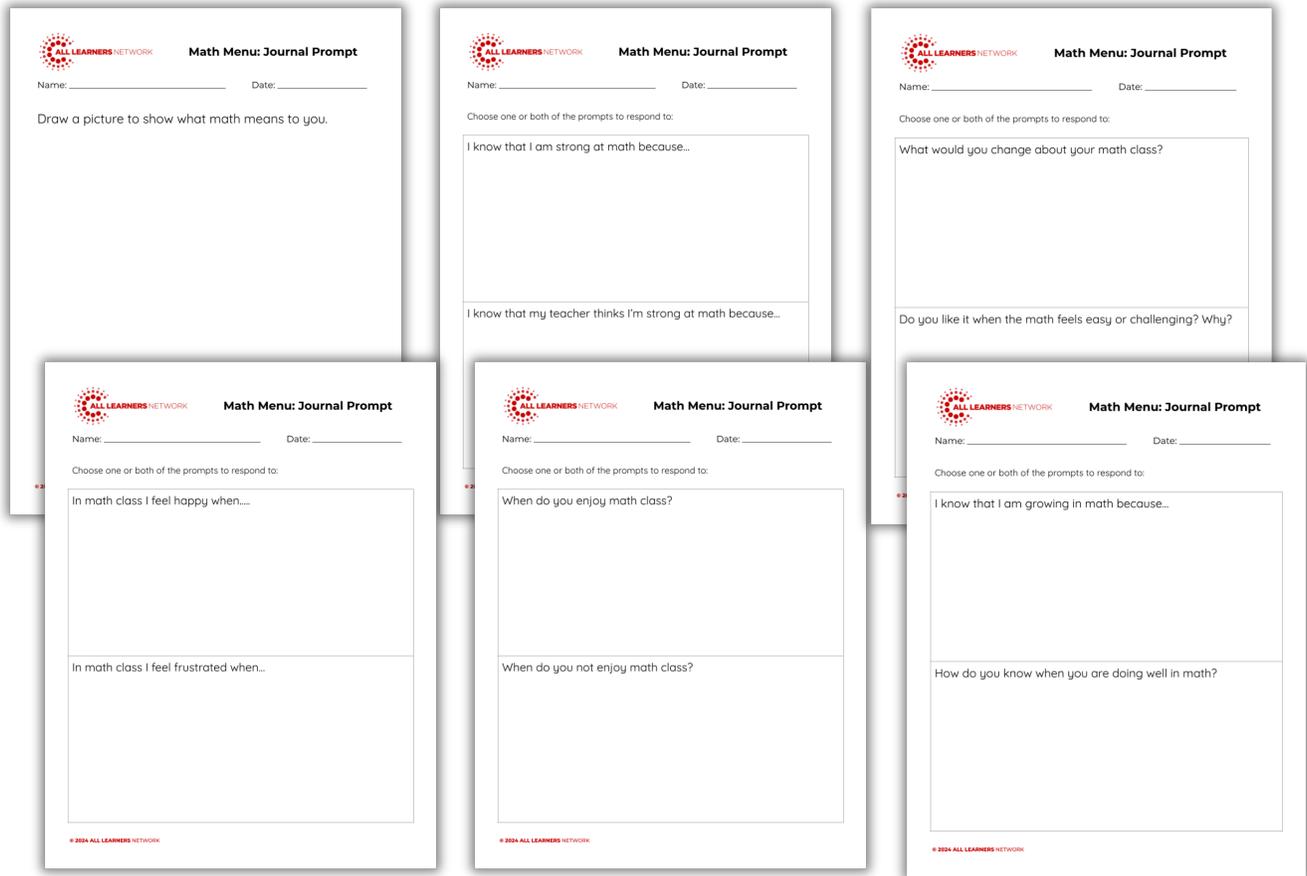
I propose that we advocate for math mindset data to be collected, discussed and responded to in the same way that we advocate for formative assessment data that monitors growth in skills and concepts. What would happen if every time we sat down to have a data meeting that sorts students into colored groupings, we also brought student mindset data to the conversation? How might that humanize our response to what our students need from us in the math classroom? How might mindset data focus us on the impact of our pedagogical decisions and the way we structure instruction and support?

I started to ask myself, "What would it look like to collect and monitor math mindset data across a school year?" We suggest administering HLC Assessments three times across the year as a way to monitor growth in students' understanding of the HLCs. If I also wanted to collect student mindset and beliefs data three times across the school year, what could that look like?

From this brainstorming, I created a suite of mindset journal prompts that could be used in this way to monitor student mindset data. You could administer all the prompts three



times a year or pick just a few to start with. These could be administered as journal entry or in an interview form. You could type and organize the responses in a spreadsheet or do a student work sort with the journal prompt papers, just like we do with the HLC Assessments. I suggest examining this data with student names removed just like we do in student work sorts, so that we don't allow our bias about our students to impact discussing the mindset data. I can't wait to see the growth goals and data to action steps that come from purposefully and thoughtfully monitoring student mindset data!



**What Now?** Scan the QR code and scroll to the bottom of the post for links to next steps



1. Check out our High Leverage Concepts Resources including HLC Assessments and HLC Learning Progressions.
2. Sign up for an All Learners Online (ALO) account today to get access to these journal prompts.
3. Bring All Learners Network (ALN) into your school or district for embedded professional development.

