Creating Math Pathways for Equity

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Equity — Access — Excellence

Who We Are

Our Mission

At the Charles A. Dana Center, we envision a future where **every student**, regardless of their background or zip code, can experience the power and joy of **mathematics**, **science**, and **literacy** in ways that are **meaningful and relevant to their futures**.

Who is in the room?

Please introduce yourself, including

- Name
- Campus/district/institution

Launch Years Initiative

The Launch Years Initiative supports the scaling of mathematics pathways aligned to students' goals and aspirations, from high school through postsecondary education and into the workplace.

22 States working through the Launch Years Initiative, plus national organizations and leaders in math education and educational equity.

The Launch Years Initiative is run by:

The University of Texas at Austin
Charles A. Dana Center

ESG

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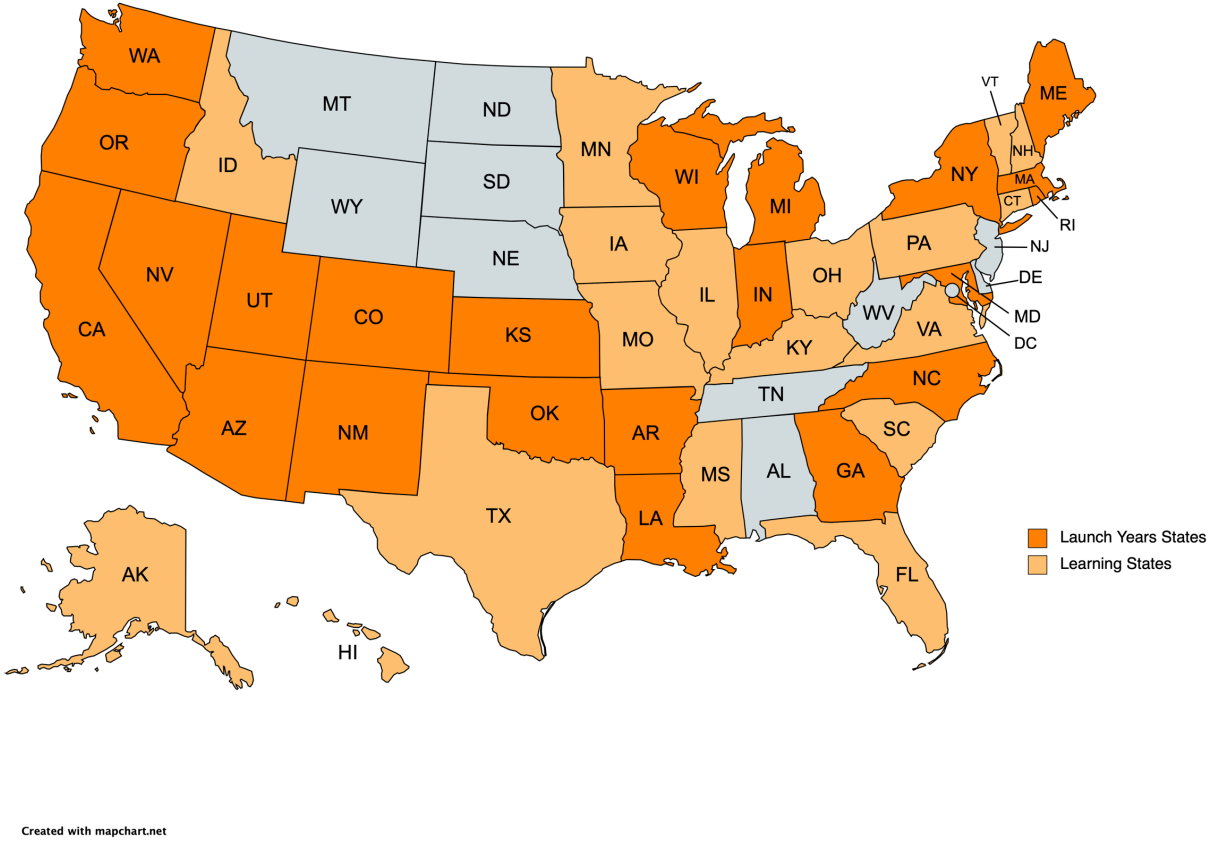
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Launch Years States
Learning States
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Launch Years State Cohorts

Cohort 1

- Arizona
- California
- Kansas
- Louisiana
- New York
- Nevada
- New Mexico

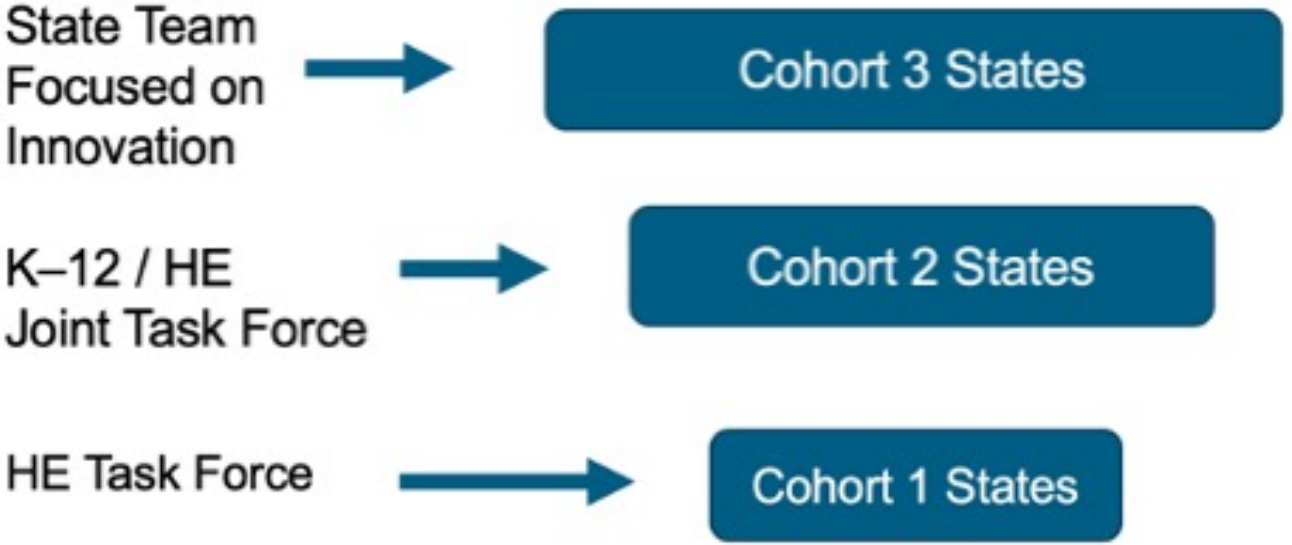
Cohort 2

- Colorado
- Maine
- Maryland
- Michigan
- North Carolina
- Oklahoma
- Rhode Island

Cohort 3

- Arkansas
- Georgia
- Indiana
- Massachusetts
- Oregon
- Utah
- Washington
- Wisconsin

Launch Years State Cohorts



Launch Years Initiative Goal:

Students in transition math courses

- Aligned with aspirations
- With supports to succeed
- Equitable access and success
- Smooth transitions

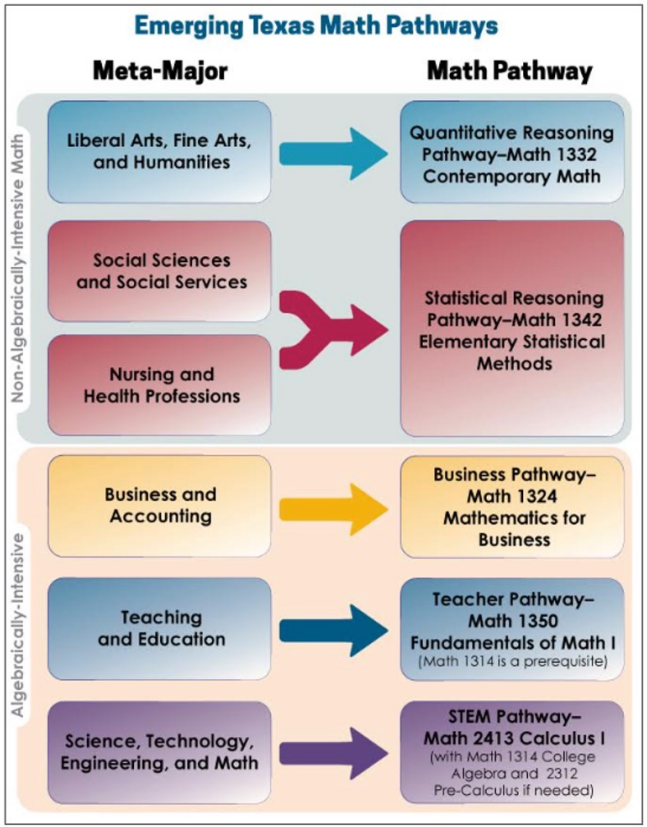
Areas of Work

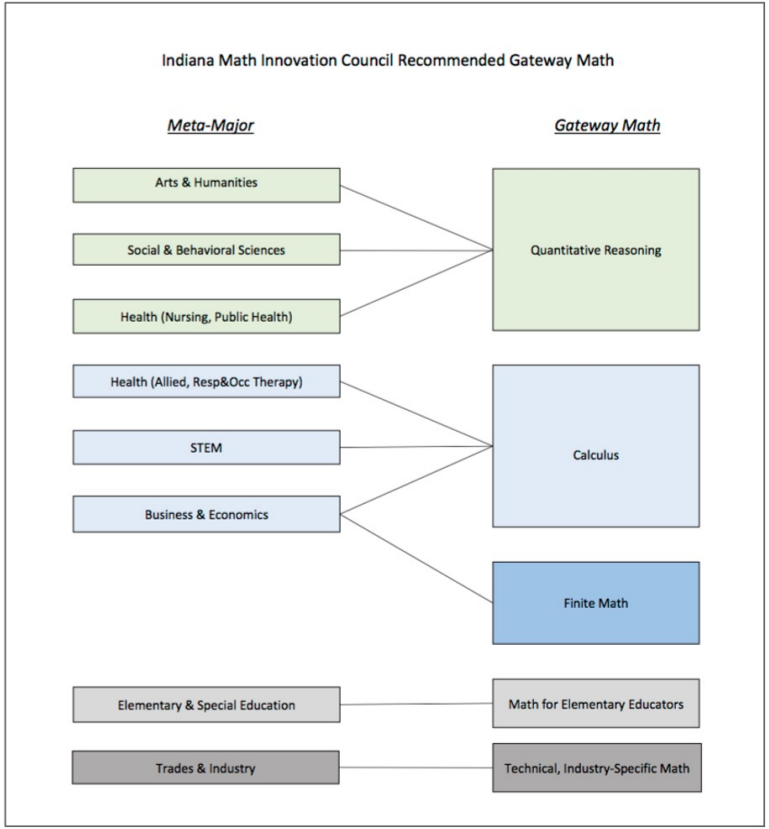
- State Leadership
- Policy Change
- Defining Modern Math Pathway
- State, Regional, and District Leadership Development
- Modern Math Content and Instructional Materials
- Counseling and Advising
- Centering the Experiences of Black and Latino Students, and Those Experiencing Poverty
- Equitable Impact and Continuous Improvement
- Strategic Communications

Math Pathways

Math pathways are a rapidly growing national movement in colleges and universities that better support student learning and success. Our goal is for ALL students to have access to high-quality mathematics pathways that:

- Are aligned to students' goals;
- Accelerate student progress toward completion;
- Integrate student learning supports;
- Use evidence-based curriculum and pedagogy.


Emerging Texas Math Pathways
Meta-Major
Math Pathway
Non-Algebraically-Intensive Math
Liberal Arts, Fine Arts, and Humanities
Quantitative Reasoning Pathway–Math 1332 Contemporary Math
Social Sciences and Social Services
Nursing and Health Professions
Statistical Reasoning Pathway–Math 1342 Elementary Statistical Methods
Algebraically-Intensive
Business and Accounting
Business Pathway–Math 1324 Mathematics for Business
Teaching and Education
Teacher Pathway–Math 1350 Fundamentals of Math I (Math 1314 is a prerequisite)
Science, Technology, Engineering, and Math
STEM Pathway–Math 2413 Calculus I (with Math 1314 College Algebra and 2312 Pre-Calculus if needed)


Indiana Math Innovation Council Recommended Gateway Math
Meta-Major
Gateway Math
Arts & Humanities
Social & Behavioral Sciences
Health (Nursing, Public Health)
Quantitative Reasoning
Health (Allied, Resp&Occ Therapy)
STEM
Business & Economics
Calculus
Finite Math
Elementary & Special Education
Math for Elementary Educators
Trades & Industry
Technical, Industry-Specific Math

The LY Organizations Leadership Network

What does the LY Math-LN do?

LY Math Math-LN leverages the collective power of the organizations and their members to advocate for policies, practices, and structures that enable students to make seamless transitions throughout their educational careers.

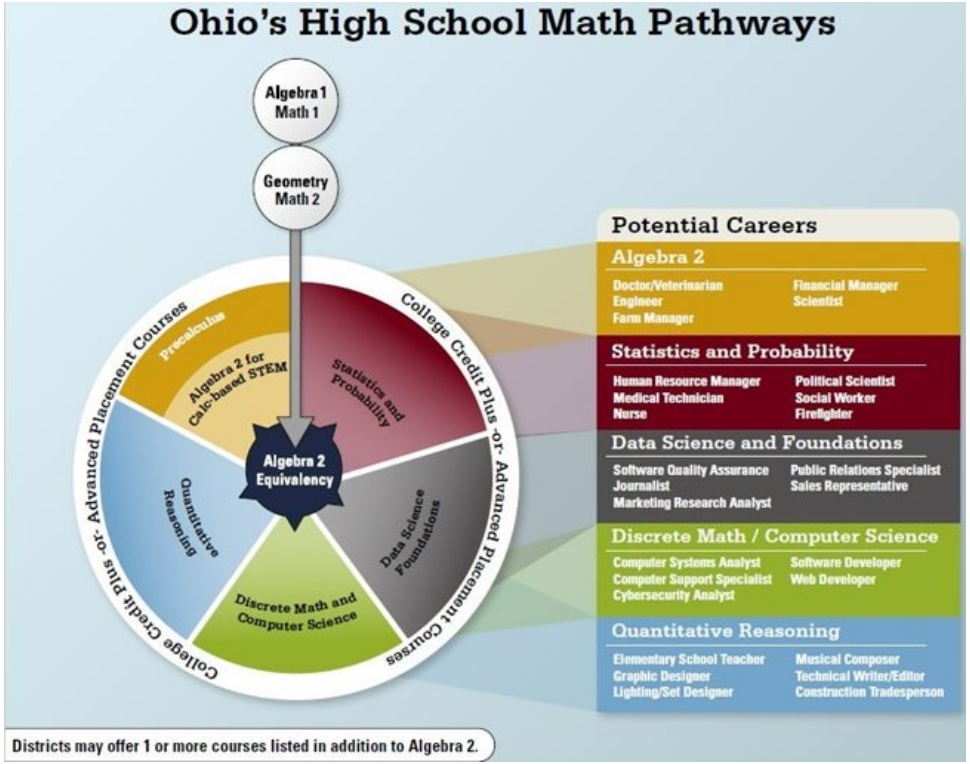
Who is the LY Math-LN?

The **LY Math Math-LN** is comprised of Mathematics, statistics, and related organizations that have a genuine interest in collaborating to improve the transition from the last two years of high school to the first two years of postsecondary.

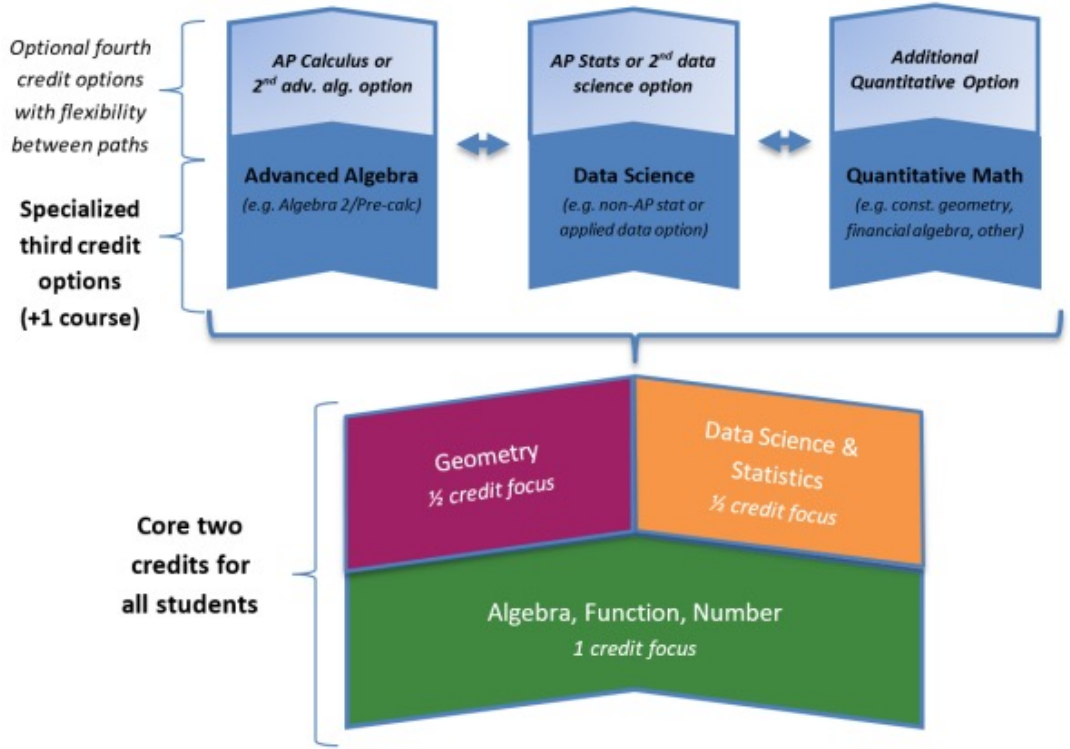
Mission of the LY Math-LN

The **mission** of the LY Math-LN is to create a more seamless transition for students in their critical "launch years" in order to foster equitable outcomes for all students.

Ohio Math Pathways



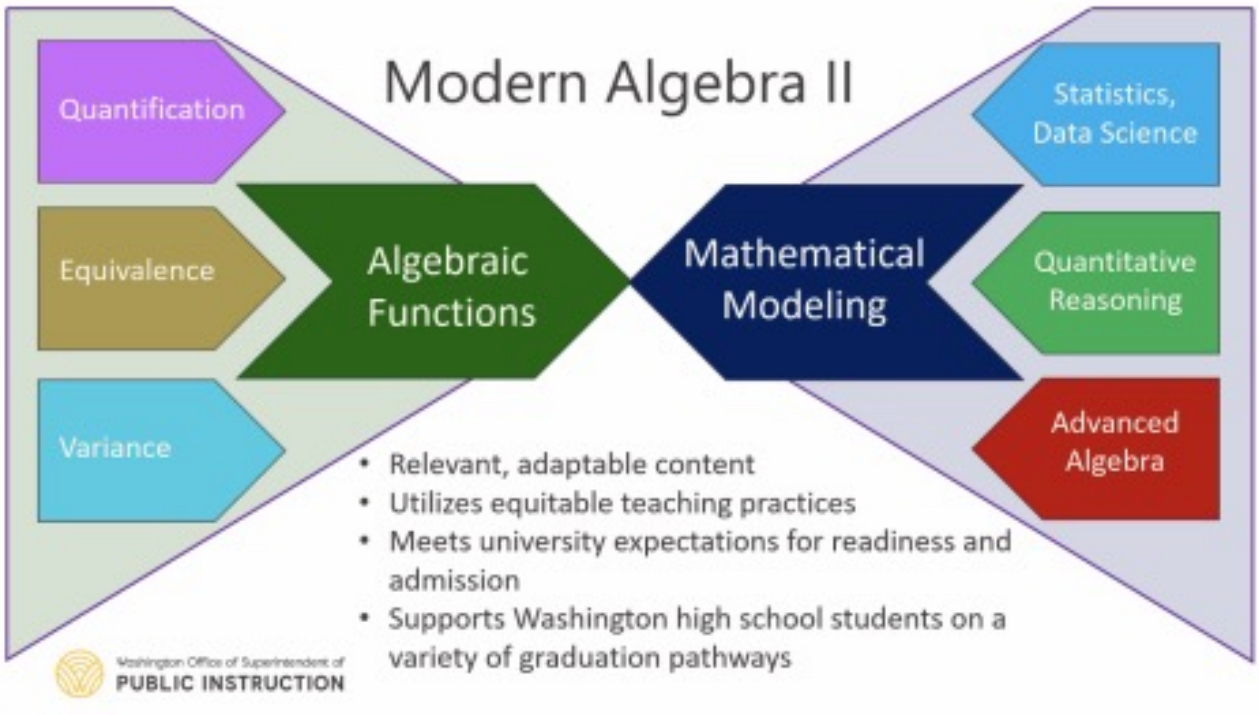
Oregon 2+1 Model



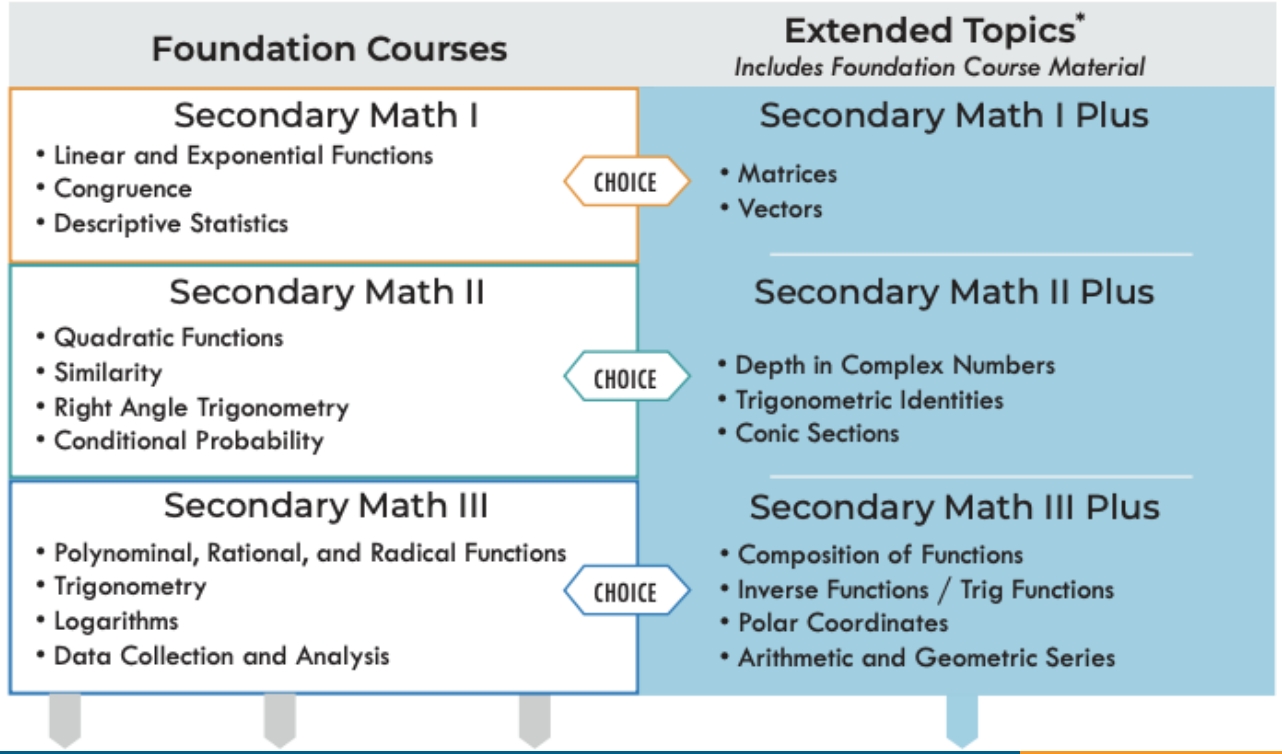
Georgia Advanced Algebra

DATA & STATISTICAL REASONING *– descriptive and inferential statistics*				
AA.DSR.2: Communicate descriptive and inferential statistics by collecting, critiquing, analyzing, and interpreting real-world data.				
Expectations		**Evidence of Student Learning** (not all inclusive; see Grade Level Overview for more details)		
AA.DSR.2.1	Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. Distinguish between primary and secondary data and how it affects the types of conclusions that can be drawn.	***Strategies and Methods*** • Students should be provided opportunities to collect data of their own design (primary) and/or use data that already exists (secondary). • Students should be able to critique studies of different design types and explain how randomization relates to each style of investigation.	***Example*** • Students might design and carry out a study with a recognition of error in the design of the study. • Students might evaluate a research study and critique the investigative measures and/or conclusions drawn from the data.	
AA.DSR.2.2	When collecting and considering data, critically evaluate ethics, privacy, potential bias, and confounding variables along with their implications for interpretation in answering a statistical investigative question. Implement strategies for organizing and preparing big data sets.	***Fundamentals*** • Students should be able to question how data were collected, rationale for the study, positionality of the researcher, subjectivity of human decision making, etc. • Students should be able to recognize bias and describe its potential effects. They do not need to memorize definitions of types of bias.	***Examples*** • Students might be provided opportunities to search for data on the internet and prepare it by implementing strategies for dealing with messy data. • Students might be provided opportunities to search for data on the internet and then provide a critical evaluation of the methods used to collect, organize and communicate that data to the public."	***Terminology*** • Messy data includes missing values, incorrect inputs, lack of representativeness, difficult formatting, etc.
AA.DSR.2.3	Distinguish between population distributions, sample data distributions, and sampling distributions. Use sample statistics to make inferences about population parameters based on a random sample from that population and to communicate conclusions using appropriate statistical language.	***Fundamentals*** • Students should recognize that it is most often not feasible to study an entire population distribution. Therefore, students should have opportunities to explore representative samples from the population to make inferences concerning the population. • Students should demonstrate understanding of how sampling distributions developed through simulation are used to describe the sample-to-sample variability of sample statistics. • Students should summarize results from statistical analyses using appropriate statistical justifications that indicate an understanding of the statistics.		***Strategies and Methods*** • Students should have many opportunities to communicate quantitative information using statistical language in oral, written, and graphical form to build data fluency.

Washington Modern Algebra 2



Utah Integrated Math

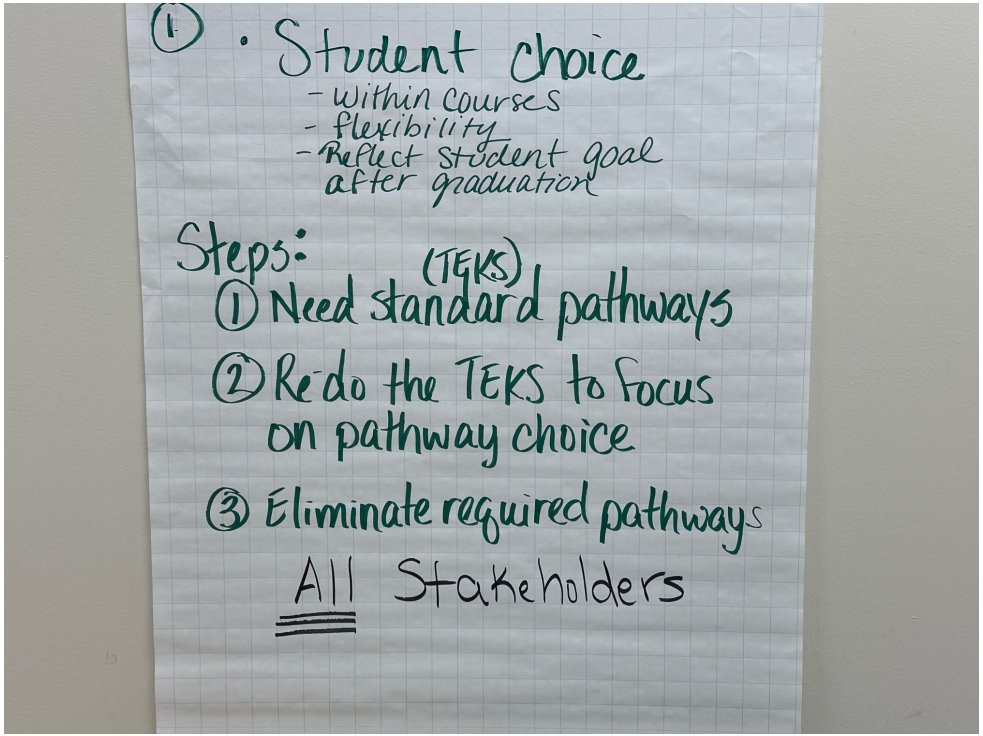


Activity

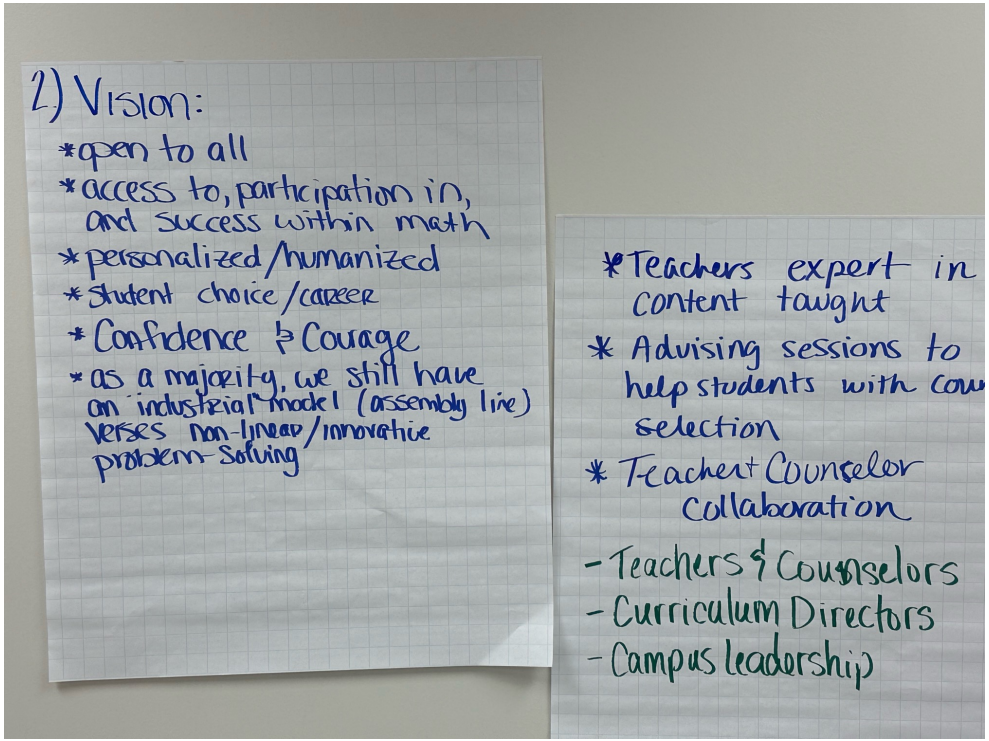
What is your vision for Texas students?

What if there were no limitations or barriers?

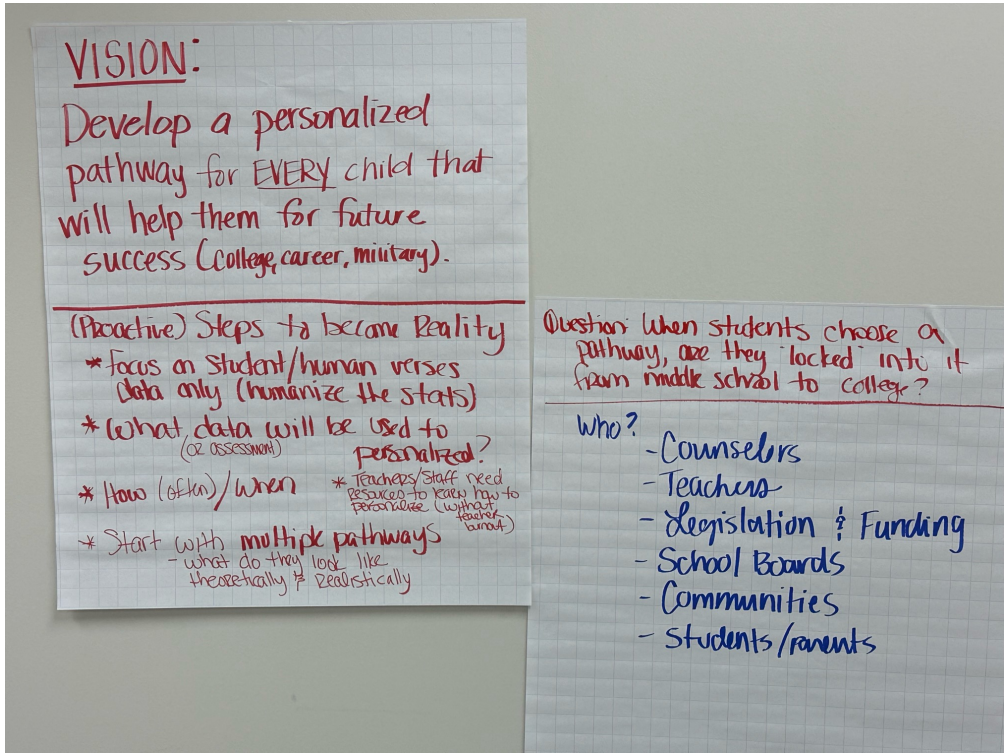
Activity Product Group 1



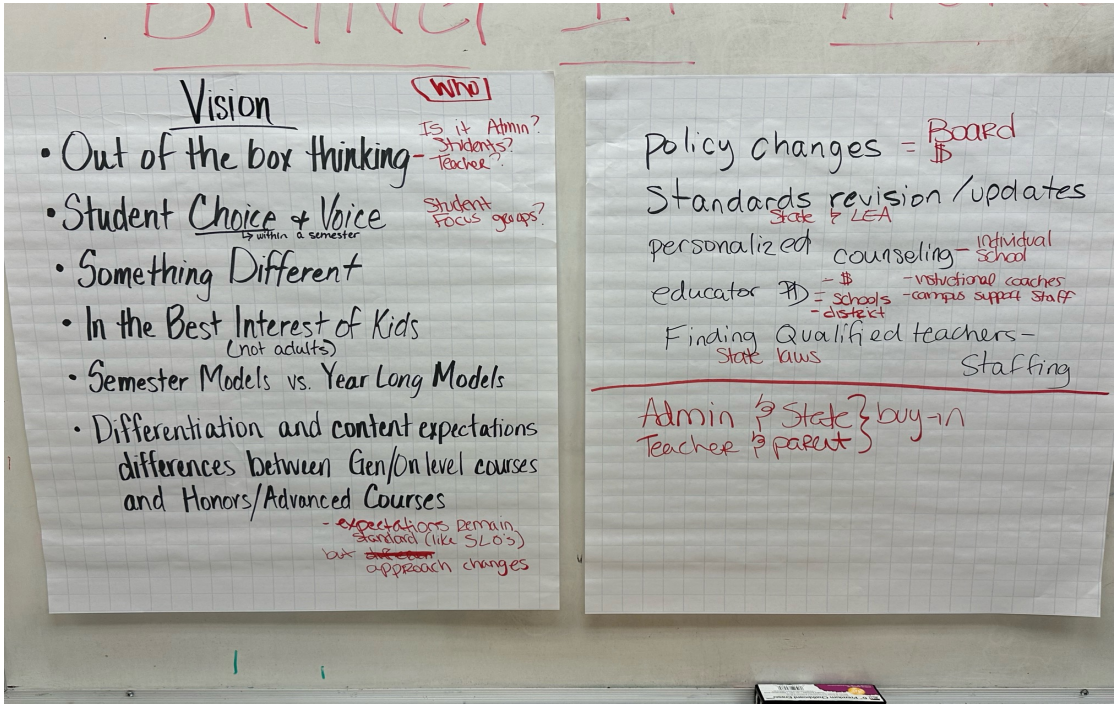
Activity Product Group 2



Activity Product Group 3



Activity Product Group 4



"Math and science are central to **student success**, social mobility, and economic security. As we work to improve public education at scale, we are preparing a STEM-ready population that looks like America."

—Uri Treisman
Founder, Charles A. Dana Center

Stay in Touch…

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