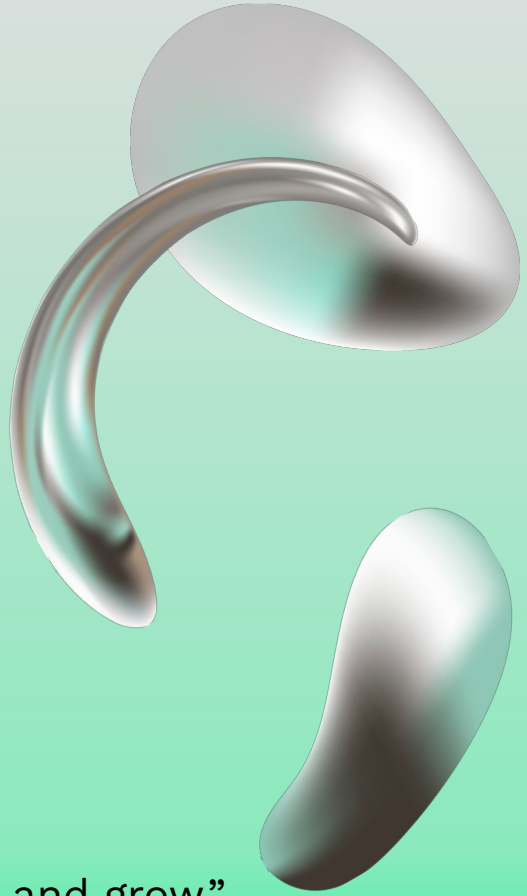
Livingston Public Schools
Math Parent Night:
Math Sequence Gr. 6-12



"Empowering all to learn, create, contribute, and grow."

Agenda

01 Vision of the 6-12 Mathematics Program

02 Middle School Math Sequence

03 Academic Support & Enrichment Opportunities

04 The Placement Process

05 Mathematics Scope & Sequence

Mathematics Vision

The mathematics program provides engaging instruction that is fully aligned with the focus, coherence, and rigor of the New Jersey Student Learning Standards (NJSLS).

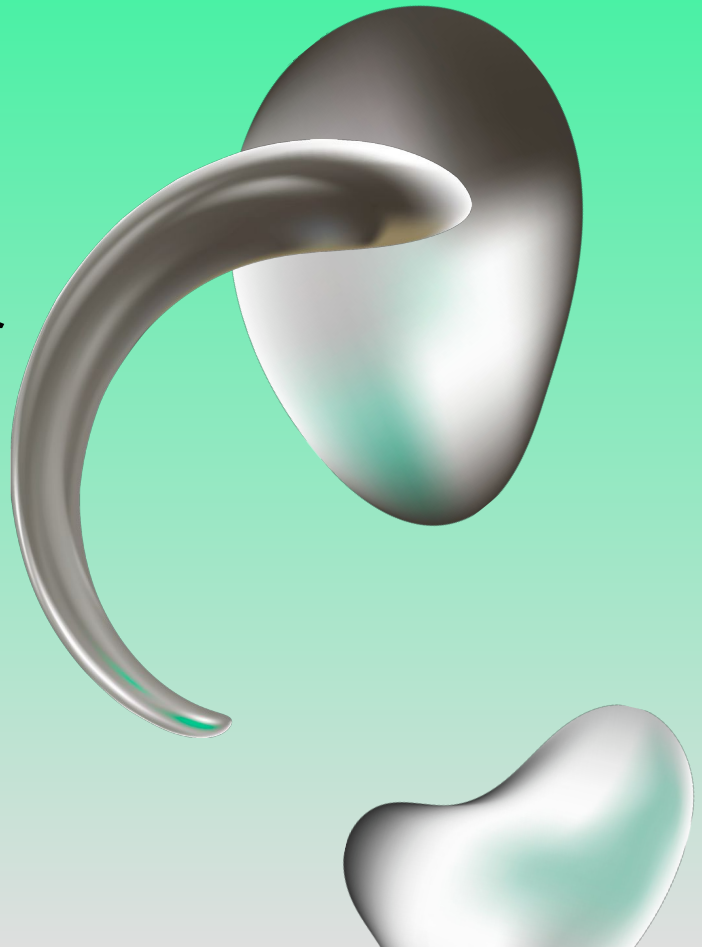
In each grade level, instruction is focused on:

- Conceptual Understanding
- Application
- Procedural Skill and Fluency

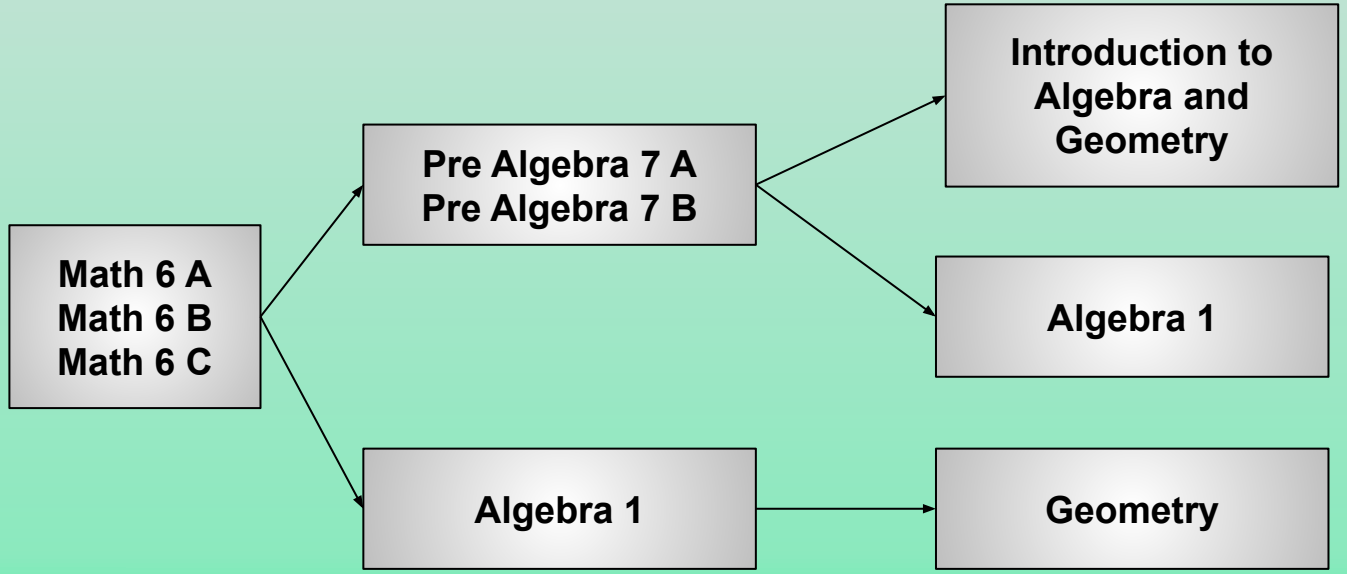
Mathematics Program Overview: Grades 6-8

- Multiple and diverse pathways to meet the learning needs of students.
- The mathematics courses in grades 6, 7, and 8 provide students with a strong Pre-Algebra foundation for students to be successful in the high school math sequence.
- Students who are ready to advance mathematically are able to take high school math courses in grades 7 and 8.
- A comprehensive placement process is in place to determine Algebra 1 readiness in grades 7 & 8
- Appropriate models of technology are infused throughout the program.

Middle School Math Courses and Sequence



Math Sequence: Grades 6 - 8



Mathematics Grade 6

The middle school mathematics sequence takes into account student developmental readiness as well as the progression of the New Jersey Student Learning Standards (NJSLS). The mathematics placement process takes into consideration that math success is closely related to developmental readiness in terms of conceptual and abstract thinking.

Grade 6 students all take Grade 6 Math which is organized into:

- Math 6 A
- Math 6 B
- Math 6 C

Students in all levels are taught the same NJ Student Learning Standards based curriculum, which appropriately prepares them for rigorous future math classes, but the classes differ in the degree of teacher directed instruction as well as the extent to which independent work is expected of students. Math in Focus program implemented in 2024-2025 school year.

Mathematics Grade 7

- Two levels of Pre-Algebra in grade 7:
  - Pre-Algebra 7A
  - Pre-Algebra 7B

- Both courses teach students the foundation for Algebra.

- Courses are aligned to NJSLS.

- Pre-Algebra 7A - faster pace, more depth, students expected to show greater independence.

- Placement is fluid: if students begin the year in Pre-Algebra B, they can move to Pre-Algebra A based on performance in class.

- Math in Focus roll out will begin in 2025-2026.

Algebra 1: Grade 7

- High school course
- Material typically covered in grades 7 and 8 are learned through warm-up assignments, homework, and self-study.
- Student must maintain a B average in each marking period or the student is dropped from the course.
- Students take Geometry in grade 8.

Algebra 1: Grade 7

- If students are struggling in Geometry in grade 8, there is no other course for them to take. Students cannot retake Algebra 1.

- Students must not only have the skills and math ability to accelerate, they must also have the appropriate maturity level to meet the demands of a high school course.

- When students accelerate too quickly before they are ready, they often struggle with math classes and may not progress to the level desired.

Mathematics Grade 8

- Three course offerings in grade 8:
  - Introduction to Algebra and Geometry
  - Algebra 1
  - Geometry

- Courses are aligned to NJSLS.

- Introduction to Algebra and Geometry is aligned to the grade 8 standards, which include both algebraic and geometric concepts. This course prepares students with a foundation for success in high school Algebra and Geometry.

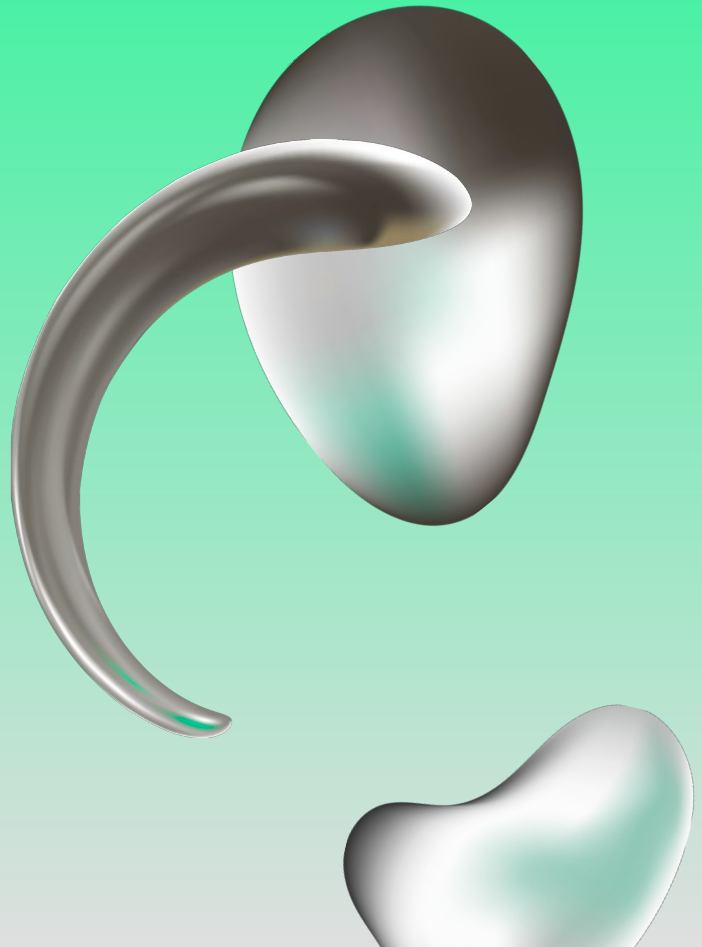
Algebra 1: Grade 8

- Students gain a solid Pre-Algebra foundation in grade 7.
- Students must maintain a C average or better to stay in the course or they are moved to Introduction to Algebra and Geometry.
- Students are able to take any level of Geometry at LHS
    - Geometry Honors
    - Geometry CP

Geometry: Grade 8

- Advanced course that follows the high school Geometry Honors curriculum.
- Students apply algebraic concepts (solid algebra foundation required).
- Students explore concepts and make own conclusions.
- Questions require students to apply several different skills and concepts.
- Students will take a form of Algebra 2 in high school:
  - Algebra 2 Honors (mostly 10th graders)
  - Algebra 2 CP (10th and 11th graders)

Academic Support and Enrichment Opportunities



Grade 6 Basic Skills Instruction (BSI):

- Students who struggle to perform at a minimum level of proficiency to meet the NJSLS will be scheduled for the BSI program.

- Criteria include:
  - Teacher recommendation
  - District level math assessment (if applicable)
  - Previous BSI support
  - Standardized test scores (if available)

- Students in BSI receive additional support within the mathematics classes and in small group settings.

Math Enrichment Program Grades 7 and 8

- Two-week cycle class scheduled for enrichment periods twice a week (total of four lessons) for students in Pre-Algebra 7 B and Intro to Algebra and Geometry.
- There will be two cycles over the course of the school year: one cycle in the first semester, and one cycle in the second semester.
- Cycle One - enrichment activities in Geometry (4 lessons).
- Cycle Two - enrichment activities in Data Analysis and/or Probability (4 lessons).

Resource Center Program

- Placement for Resource Center is determined by the Child Study Team.
- Individualized instruction and support is provided by the student's IEP.

Grade 7 Pre-Algebra Lab

- Additional class period of math instruction in grade 7.
- Designed for students who could benefit from a slower pace and more opportunities to review and practice skills.
- Placement is determined by data collected in grade 6, including teacher recommendation.

Grade 8 Math Lab

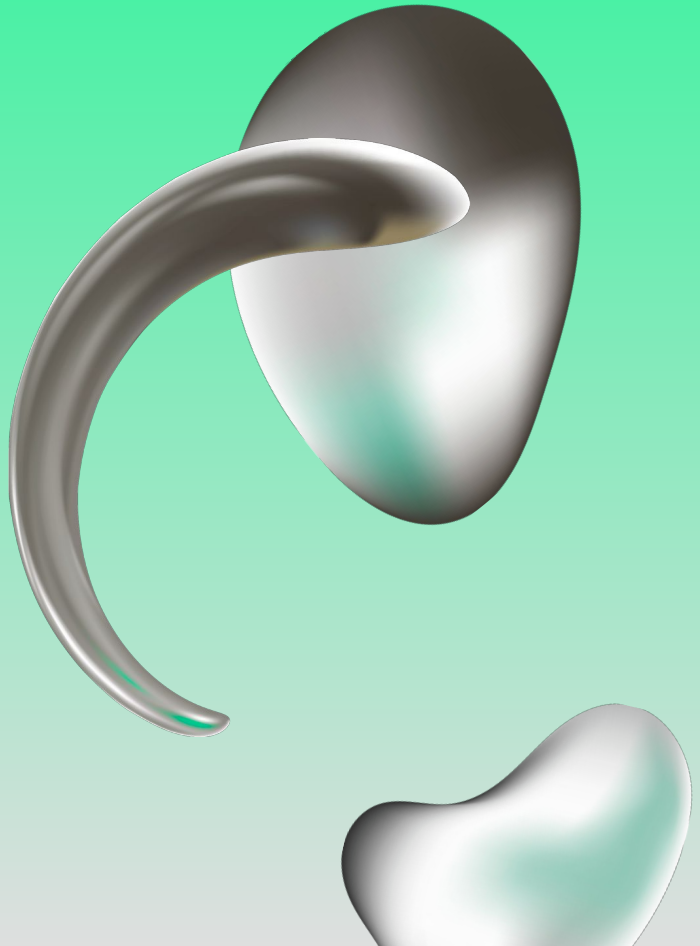
- Additional class period of math instruction in grade 8.
- Designed for students who could benefit from a slower pace and more opportunities to review and practice skills.
- Placement is determined by data collected in grade 7, including teacher recommendation.

Middle School Math Competitions

Students will have the opportunity to participate in mathematics competitions.

- Math Counts
- New Jersey Math League
- Continental Math League
- American Mathematics Competition (AMC 8)

The Placement Process



Placement Process

- Comprehensive placement process relying on the following data:
  - Algebra Readiness Test
  - Benchmark assessments
  - Student performance in class
  - Teacher feedback
- Standardized test scores (NJSLA/COGAT) are also reviewed.
- Placement in grades 7 and 8 determine the mathematics sequence students will follow in high school.

Placement Process: Grades 6 - 7

It is a data driven process that includes a review of the following multiple data points:

- Average of grades earned in Marking Periods 1, 2, and 3
- Teacher observation of student mathematical practices (see selected practices below:)
  - Student makes sense of problems and perseveres in solving them.
  - Student displays a wide range of problem-solving strategies.
  - Student is a creative, insightful, original, and flexible thinker.
  - Student applies prior knowledge to novel situations/problems.
  - Student has effective written and verbal communication skills to explain own thinking and conceptual understanding.
  - Student has a strong conceptual understanding of skills through the concrete, pictorial, and abstract stages of learning.
- Benchmark Assessments
  - IXL
  - Orleans Hanna

Based on the above data collection, students will be placed into Pre Algebra A or B. Matrix data will determine eligibility for Algebra 1 readiness test.

Placement Process: Grades 7 - 8

It is a data driven process that includes a review of the following multiple data points:

- Average of grades earned in Marking Periods 1, 2, and 3
- Teacher observation of student mathematical practices (see selected practices below:)
  - Student makes sense of problems and perseveres in solving them.
  - Student displays a wide range of problem-solving strategies.
  - Student is a creative, insightful, original, and flexible thinker.
  - Student applies prior knowledge to novel situations/problems.
  - Student has effective written and verbal communication skills to explain own thinking and conceptual understanding.
  - Student has a strong conceptual understanding of skills through the concrete, pictorial, and abstract stages of learning.
- Algebra Readiness Test
- Benchmark Assessment
  - IXL

Based on the above data collection students will be placed into Introduction to Algebra and Geometry or Algebra 1 in 8th grade.

Placement Process

- Placement data is gathered in the spring.
- Meeting with teachers, math supervisors, MPM Principal, HMS Principal and Director of Curriculum and Instruction to review placement.
- Careful discussions about students, especially about those on the border of course cut-off scores.
- Placement information available in the Genesis Parent Portal in June.
- After reviewing placement information, parents must submit a written notification (e-mail) to:
  - For placement into Grade 7 - Angelina Rodriguez - arodriguez@livingston.org
  - For placement into Grade 8 - Antonio Matheus - amatheus@livingston.org

Placement Process

- A very small percentage of students are placed in Algebra 1 in grade 7.
- Students must meet several rigorous criteria to be recommended for placement in Algebra 1 in Grade 7.
- Students must maintain an average of B or better in order to stay in Algebra 1 in grade 7. If not, they are moved into Pre-Algebra 7 A.
- Students must maintain an average of C or better in order to stay in Algebra 1 in grade 8. If not, they are moved into Introduction to Algebra and Geometry (this usually happens before the holiday break).

Keeping Parents Informed

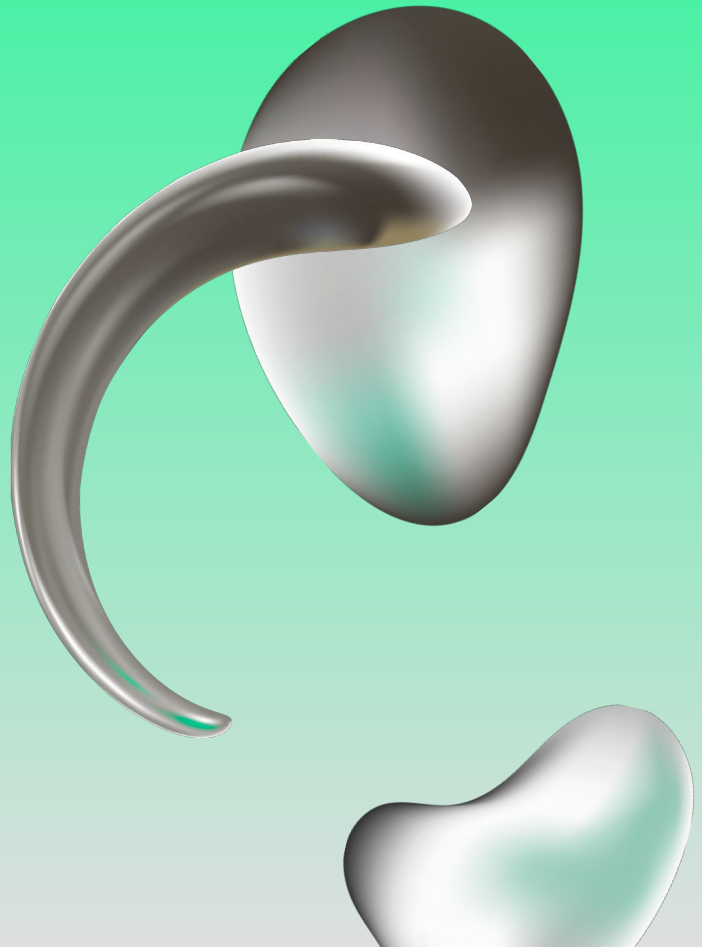
- Placement Test Scores will be available in the Genesis Parent Portal
- IXL Reports are available - login to the IXL account with your student's login information
- Mathematical Practices Rubric

Placement Matrix: Grade 6 into 7

Student	Teacher	Math Level Grade 5	Math Level Grade 6	Matrix Score	MP 1	MP 2	MP 3	MP 1,2,3 Avg.	Orleans Hanna	IXL	Teacher Recommendation
Student 1	Teacher 1	A	Alg. 1	100	99.82	98.28	98.3	98.8	50	50	20
Student 2	Teacher 2	A	A	84	84.92	90.04	89.32	88.09	47	45	17
Student 3	Teacher 3	B	A	81	93.76	91.87	92.92	92.85	37	40	18
Student 4	Teacher 4	C	A	80	87.12	84.97	86.57	86.22	39	37	16
Student 5	Teacher 5	C	B	76	90.60	88.50	87.45	88.85	37	35	15

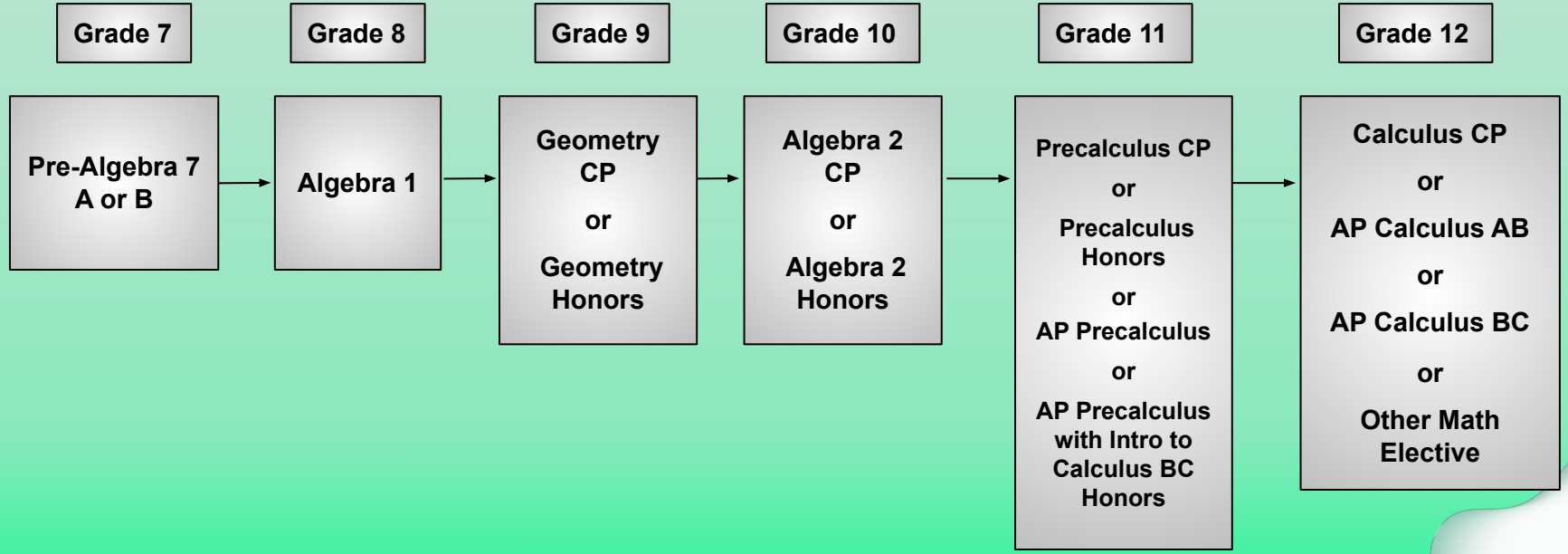
- Other standardized test data (i.e., NJSLA/CogAT) is reviewed but not factored into matrix scores

Mathematics Sequence: Grades 7 - 12



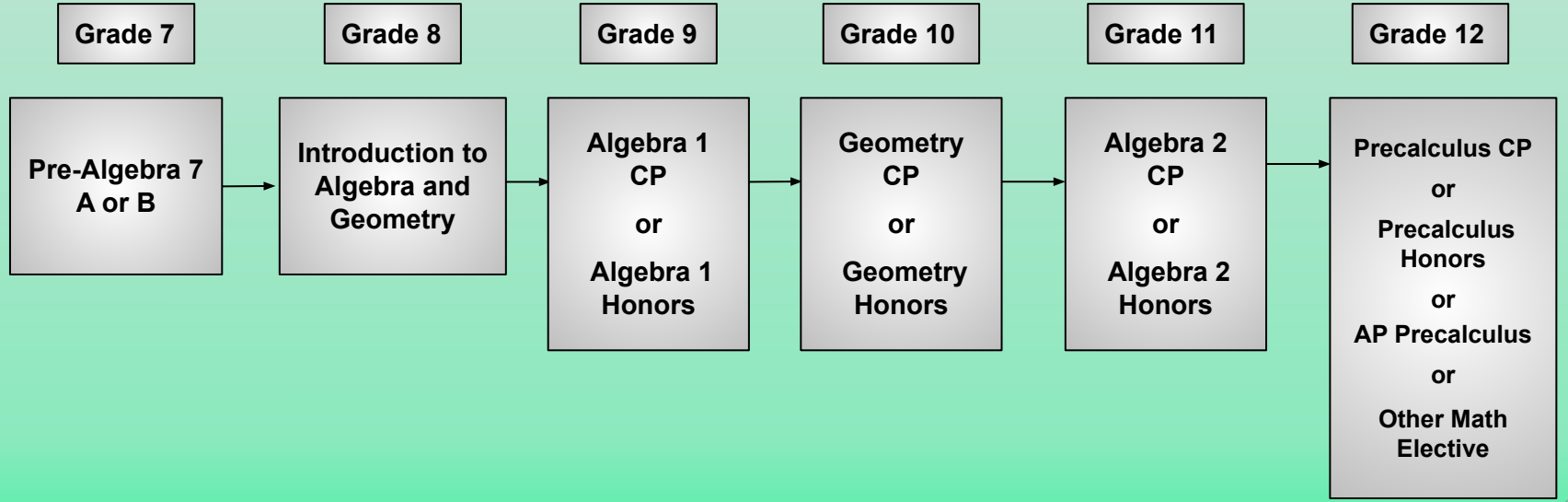
7-12 Mathematics Sequence
Possible Pathways for Students

Students take Algebra 1 in Grade 8



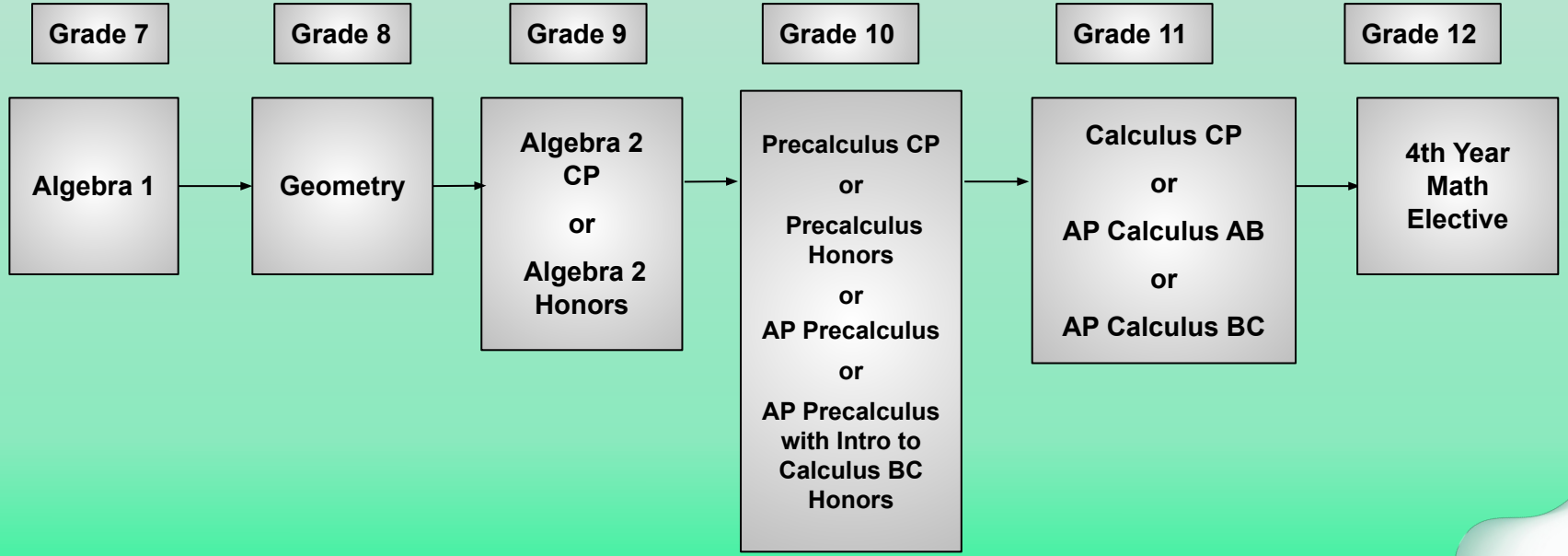
7-12 Mathematics Sequence Possible Pathways for Students

Students take Introduction to Algebra and Geometry in Grade 8



7-12 Mathematics Sequence Possible Pathways for Students

Students take Algebra 1 in Grade 7



Resources

For questions about the 7-12 math program, contact:
Antonio Matheus
(973)535-8000 X 8052
amatheus@livingston.org

For questions about the Pre-K-6 math program, contact:
Angelina Rodriguez
(973)535-8000 X 8073
arodriguez@livingston.org

K-12 Mathematics Curriculum
https://www.livingston.org/Page/29029

Click here for IXL Parent Tutorial