

*2016 - 2017*  
**5<sup>th</sup> Grade Math & Science  
Program Informational Meeting**

**February 2017**

Mr. Michael Richards  
*Principal, LMS*

Dr. Christopher Herte  
*Mathematics/Science Supervisor 5-8*

Mrs. Georgianna Kichura  
*Vice Principal, LMS*

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Montgomery Township School District



# Agenda

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- NJ State Learning Standards (NJSLS)
- Next Generation Science Standards (NGSS)
- Textbooks & Resources
- Activities
- Scheduling Process
- Your questions



# *Mathematics Program*

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- Resources
  - Extra help
  - Study Guides
  - EnVision online textbook and resources
- Extra-curricular & Math related activities
  - Math Competitions & Games
    - 24-Game (March-April)
    - Math League Contest (April-May)
    - Math/Science Enrichment (competitive)
    - Grade 5 Math-Science Club (non-competitive)



# Curriculum

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- *How can I find out more about the curriculum?*
- The next few slides show how you can find the curriculum of any course with a few clicks from the District home page.



# Montgomery Township School District

*Creating confident, compassionate, and successful learners*

 **SEARCH**

## Quick Links

- Inclement Weather Info
- Job Opportunities
- Contact Info
- Harassment, Intimidation, and Bullying Policy 5512
- Summer Enrichment
- ☑ Schools
  - High School
  - Upper Middle
  - Lower Middle
  - Village
  - Orchard Hill
- Public Curriculum Documents
- NJ Report Card Data
- Solar Energy Projects
- Staff Portal
- GCN Training



Welcome!

## Headlines

Click Public Curriculum Doc.

### 2013 PTA Founders Day Nominations

The Montgomery School District PTAs requests nominations of teachers, administrators, parents, volunteers or community leaders to honor in this year's district-wide Founders Day Celebration on Tuesday, March 19, 2013 to be held in the Montgomery High School Commons from 4:30 pm - 6:00 pm. Click on title for more information.

### Kindergarten Registration

Click on the title for additional information and forms.

### 2012-13 School Calendar

Click on title to view the calendar for 2012-2013

### 2013 - 2014 Budget Development

The Board of Education encourages the public to attend a series of public meetings that will focus on the development of the 2013-14 budget, which will



## Upcoming Events

**Today**  
7:00 PM [Board of Education Meeting](#)

**Tomorrow**  
7:00 PM [MHS - Winter Choir Concert](#)

**Friday**  
7:00 PM [MHS - Big Band Bash](#)

**Saturday**  
7:30 AM [MHS - SAT](#)

**January 30, 2013**  
[LMS - 6th Grade Math Finals](#)

**January 31, 2013**  
[LMS - 6th Grade Math Finals](#)

**February 5, 2013**





## Atlas

### Welcome!

Welcome to the Montgomery Township Schools' curriculum site! Here you will find updated curricula, written collaboratively and based on the most recent NJ Core Curriculum Content Standards and the newly adopted Common Core National Standards for English Language Arts and Mathematics.

This purpose of this site is to communicate clearly articulated curricula across grade levels and content areas to teachers, parents and students. Placing the curriculum online enables teachers to continually revise and refine the curriculum, and it allows Montgomery Schools to share the educational program with the entire school community.

As you view the curricula, it is important to know that they are fluid documents. They represent a point in time. They differ in levels of completion, scope, and detail. Teachers will be routinely reviewing, refining and revising the documents to best serve our students.

We are pleased that you will be able to follow the educational program offered to Montgomery Township School District students. The curriculum is arranged by course and by unit. For each course, you will find a Course Calendar. From this Course Calendar, you will be able to open and explore the units that comprise the course.

Specifically, for each unit, you will see:

- State and/or national standards
- Rationale for teaching the unit
- Enduring Understandings
- Essential Questions
- Content - What students should know
- Skills - What students should be able to do
- Key terms

# *Envision Textbook*

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- *How can I access the EnVision textbook from home?*
- You can access the EnVision textbook and materials from:

[www.pearsonsuccessnet.com](http://www.pearsonsuccessnet.com)







Browse



My Searches

Search...

Go



Table of Contents

- 7-6 Dividing a Decimal by a Decimal
- 7-7 Problem Solving: Multiple-Step Problems
- Stop and Practice
- Reteaching
- Topic Test
- Performance Task

► Topic 8 Numerical

View By

Student Resources

Glossary

Notes

Bookmarks

Table of Contents

Reteaching

Go to page

Zoom in

Topic Test

Cover





# *Textbooks*

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- *Can I borrow a textbook during the summer?*
- **Yes**
- After school gets out in June come to the LMS Main Office and ask for the textbook for your child. You will issue a check for \$100 to “Montgomery LMS” that will be cashed. You will have a check for the same amount issued to you when the book is returned.



# *Textbooks*

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- *How can I find out what textbook my child will be using next year?*
- Go to the LMS Math Department webpage and click on Math Textbooks 5-8. You will see a complete list of all the textbooks and their information.



# *Partnership for Assessment of Readiness for College and Careers*

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## *PARCC*

- *How can I find out more about the PARCC Assessment?*
- *Language Arts & Mathematics only*
- *NOTE: PARCC is NOT part of math placement.*





# Montgomery Township School District

Search this Site...

SEARCH

## Assessment, Curriculum, and Instruction

- [Welcome](#)
- [Understanding Your Child's Test Results](#)
- [Step by Step Interpretive Guides on 2016 Score Reports](#)
- [Sample PARCC Score Reports](#)
- [MTSD Parent FAQ 2016-17](#)
- [PARCC Parent Letter from the Director of Data, Assessment and Accountability](#)
- [Personal Needs Profile \(PNP\) Information](#)
- [NJPTA Guide to PARCC](#)
- [Additional Resources About Assessment](#)



## PARCC Resources

During the 2016-2017 school year, students in grades 3-11 will participate in an online assessment called The Partnership for Assessment for Readiness of College and Careers (PARCC). PARCC is designed to determine a student's readiness for college and career. It will help parents and teachers to determine whether or not students have achieved grade level standards.

The following descriptions are provided as an introduction and summary to some of the resources found on the [PARCC website](#). Please review and begin exploring the most current information on the PARCC testing that will occur March 2017-May 2017.

### [About PARCC](#)

This link gives an overview of The Partnership for Assessment of Readiness for College and Careers as well as their beliefs, the states who are participating in the PARCC assessments and resources.

### [Parent Resources](#)

This link provides an assortment of resources that are intended to inform and support parents in their children's educational experiences.

# *Science Program*

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- Resources
  - Extra help
  - Study Guides
  - Materials on Google Classroom or Teacher's webpage
- Extra-curricular & Science related activities
  - Science Competitions & Games
    - Science & Invention Convention (PTO) Awesome Program! (non-competitive)
    - Science League Contest -1-day contest (April/May)



# *Science Program 5 & 6*

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- **Grade 5 Units:**

- Structure & Properties of Matter
- Space Systems: Stars & the Solar System
- Earth's Systems
- Matter & Energy in Organisms & Ecosystems

- **Grade 6 Units:**

- Weather & Climate
- Earth Systems & History
- Space Systems
- Waves & Electromagnetic Radiation





# *Science Program 7*

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- **Grade 7 (Life Science):**

- Structure & Function
- Growth, Development & Reproduction
- Matter, Energy in Organisms & Ecosystems
- Interdependent Relationships in Ecosystems
- Natural Selection and Adaptation



# Next Generation Science in Montgomery

2016-2017

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Dr. Christopher Herte  
Mathematics & Science Supervisor 5-8



# Shifts for NGSS Instruction



SCIENCE EDUCATION WILL INVOLVE LESS:	SCIENCE EDUCATION WILL INVOLVE MORE:
Rote memorization of facts and terminology	Facts and terminology learned as needed while developing explanations and designing solutions supported by evidence-based arguments and reasoning.
Learning of ideas disconnected from questions about phenomena	Systems thinking and modeling to explain phenomena and to give a context for the ideas to be learned
Teachers providing information to the whole class	Students conducting investigations, solving problems, and engaging in discussions with teachers' guidance
Teachers posing questions with only one right answer	Students discussing open-ended questions that focus on the strength of the evidence used to generate claims



# Shifts for NGSS Instruction



SCIENCE EDUCATION WILL INVOLVE LESS:	SCIENCE EDUCATION WILL INVOLVE MORE:
Students reading textbooks and answering questions at the end of the chapter	Students reading multiple sources, including science-related magazine and journal articles and web-based resources; students developing summaries of information.
Pre-planned outcome for “cookbook” laboratories or hands-on activities	Multiple investigations driven by students’ questions with a range of possible outcomes that collectively lead to a deep understanding of established core scientific ideas
Worksheets	Student writing of journals, reports, posters, and media presentations that explain and argue
Oversimplification of activities for students who are perceived to be less able to do science and engineering	Provision of supports so that all students can engage in sophisticated science and engineering practices

## Departments

- Overview
- Contests & Activities

Welcome to the LMS Science Department.

### **Math/Science Parent Meetings:**

- [Grade 5 Math/Science Flyer](#)
- [Grade 6 Math/Science Flyer](#)

### **Next Generation Science Standards (NGSS) Resources**

Parent Resource from the National Science Teachers Association (NSTA)  
[NGSS Parent Guide](#)

About the Next Generation Science Standards (NGSS)  
[Getting to Know the NGSS](#)

Video Explaining the NGSS  
[Video Explaining NGSS](#)

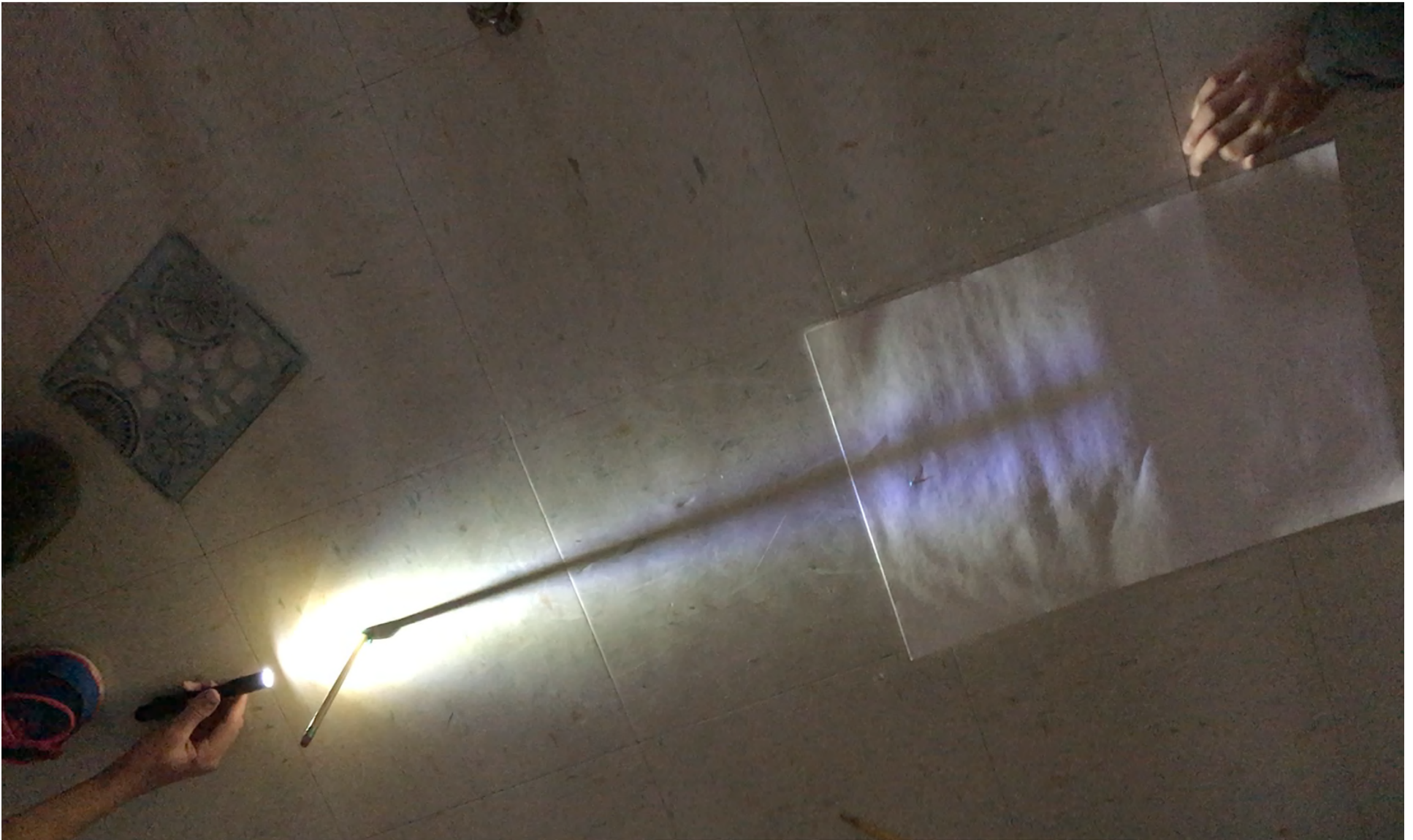
Comparing the New Vision of NGSS  
[Comparison of Former Science to NGSS](#)

Other Parent Resources from the NSTA  
[NSTA Parent Resources](#)

We wish your child the very best success.

*Dr. Christopher Herte*  
Mathematics/Science Supervisor 5-8  
Presidential Awardee in Mathematics & Science Teaching (2000)

## Grade 5 – What causes shadows to change?



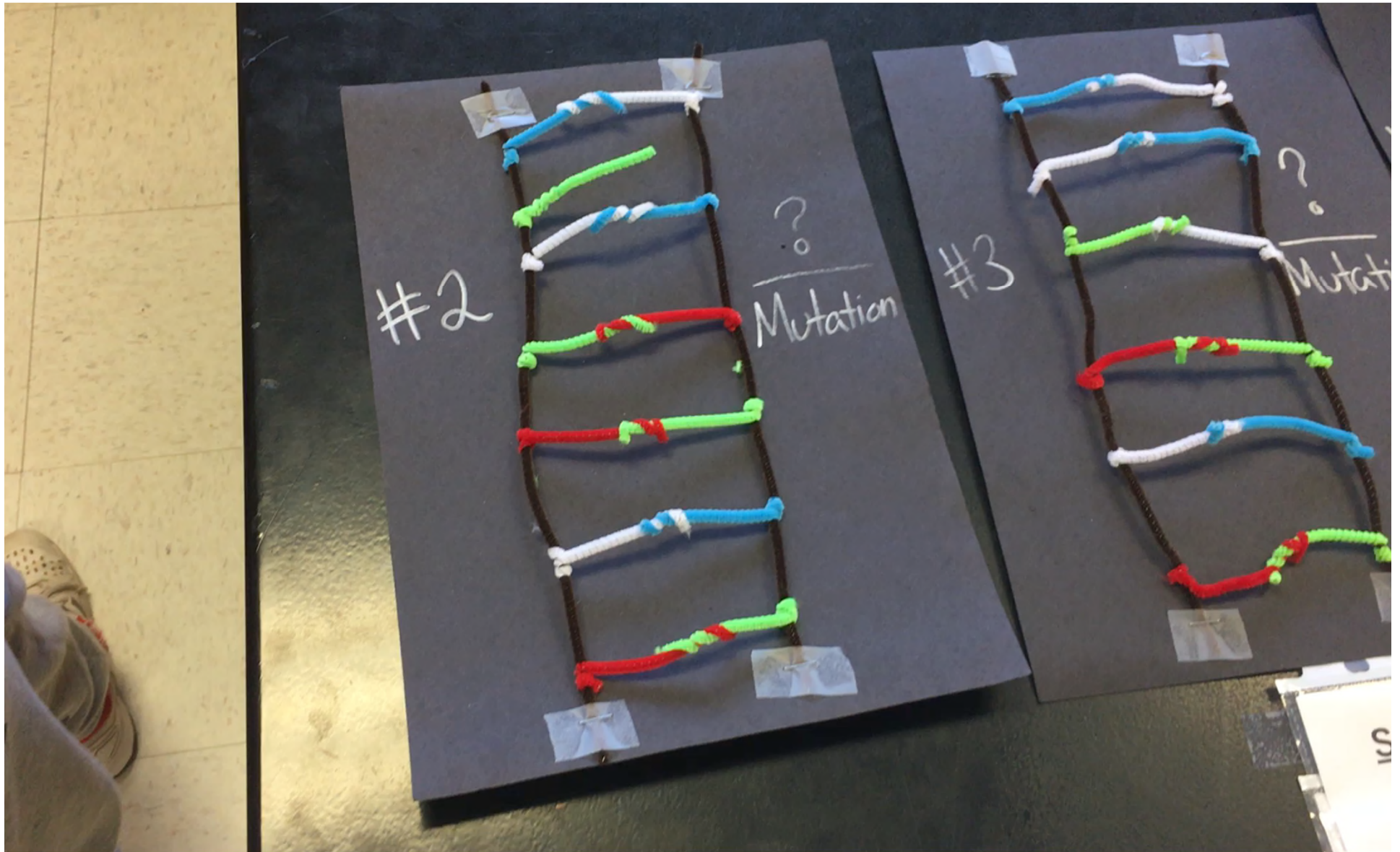


## Grade 6 – What happened to the beach?





# Grade 7 DNA Mutations –What types are there?





# Grade 8 – How to measure temperature

<https://www.youtube.com/watch?v=yRpKZCquz6U&t=30s>

# Strong Foundation



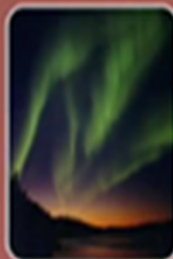
**Blocks of content carefully placed to create a foundation for strong understanding.**



**Common concepts that hold the content together & connect the grade levels**

**Tools and techniques that assist in building the foundation- ways of thinking and acting like a scientist and/or engineer**

# Disciplinary Core Ideas



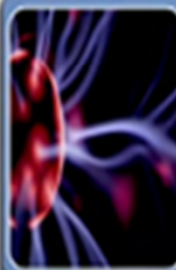
## Earth and Space Science

- ESS1: Earth's Place in the Universe
- ESS2: Earth's Systems
- ESS3: Earth and Human Activity



## Engineering, Technology, and Applications of Science

- ETS1: Engineering Design
- ETS2: Links Among Engineering, Technology, Science, and Society



## Physical Science

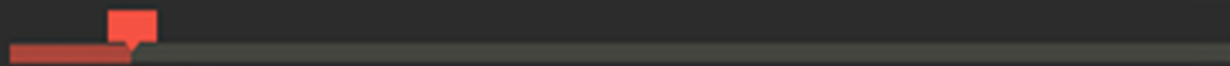
- PS1: Matter and Its Interactions
- PS2: Motion and Stability: Forces and Interactions
- PS3: Energy
- PS4: Waves and Their Applications in Technologies for Information Transfer



## Life Science


- LS1: From Molecules to Organisms: Structure and Processes
- LS2: Ecosystems: Interactions, Energy, and Dynamics
- LS3: Heredity: Inheritance and Variation of Traits
- LS4: Biological Evolution: Unity and Diversity

Tch



0:00:32 | 0:05:29



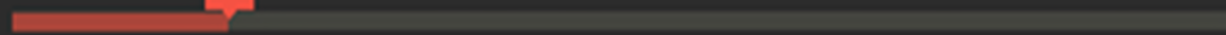


**Crosscutting  
Concepts**

- 1. Cause and Effect**
- 2. Structure and Function**
- 3. Systems and System Models**
- 4. Scale, Proportion, and Quantity**
- 5. Stability and Change**
- 6. Energy and Matter**
- 7. Patterns**




Tch



0:01:06 | 0:06:13







## Science and Engineering Practices

- 1.** Asking questions and defining problems
- 2.** Developing and using models
- 3.** Planning and carrying out investigations
- 4.** Analyzing and interpreting data
- 5.** Using mathematics and computational thinking
- 6.** Constructing explanations and designing solutions
- 7.** Engaging in argument from evidence
- 8.** Obtaining, evaluating, and communicating information



# *LMS Grade 5 Activities*

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- ***What activities are available?***

- Math/Science Enrichment (competitive)
- Math-Science Club (non-competitive)
- Challenge 24 (Contest in March/April)
- Math League Contest (Contest in April/May)
- Science League Contest (Contest in April/May)
- E-Alert is sent with permission slip to sign up. Electronic Sign up.



# *Math-Science Club*

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- *What activities do they do?*
- Not competitive.
- Hands on and/or interesting mathematics and science students would not see in the curriculum.
  
- Examples:
  - Fractals, Pi, Different Geometry
  - Real Engineering Challenges
  - Investigations



# *Math-Science Competition*

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- *What activities do they do?*
- Competitive.
- Students take math contests (Math Olympiads and others) – similar to tests.
- Students compete for team and school awards
  
- Examples:
- Math Olympiads, Math League
- Engineering Challenges



# *LMS Grade 6 Activities*

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- *What activities are available?*
- Mathcounts (competitive) Math Olympiads, AMC 8
- Grade 6 Science Club (non-competitive)
- Math League Contest (Contest in Feb.)
- Science League Contest (Contest in April/May)
- E-Alert will be sent with link to sign up.
- –Space is limited.



# *Math Sequences*

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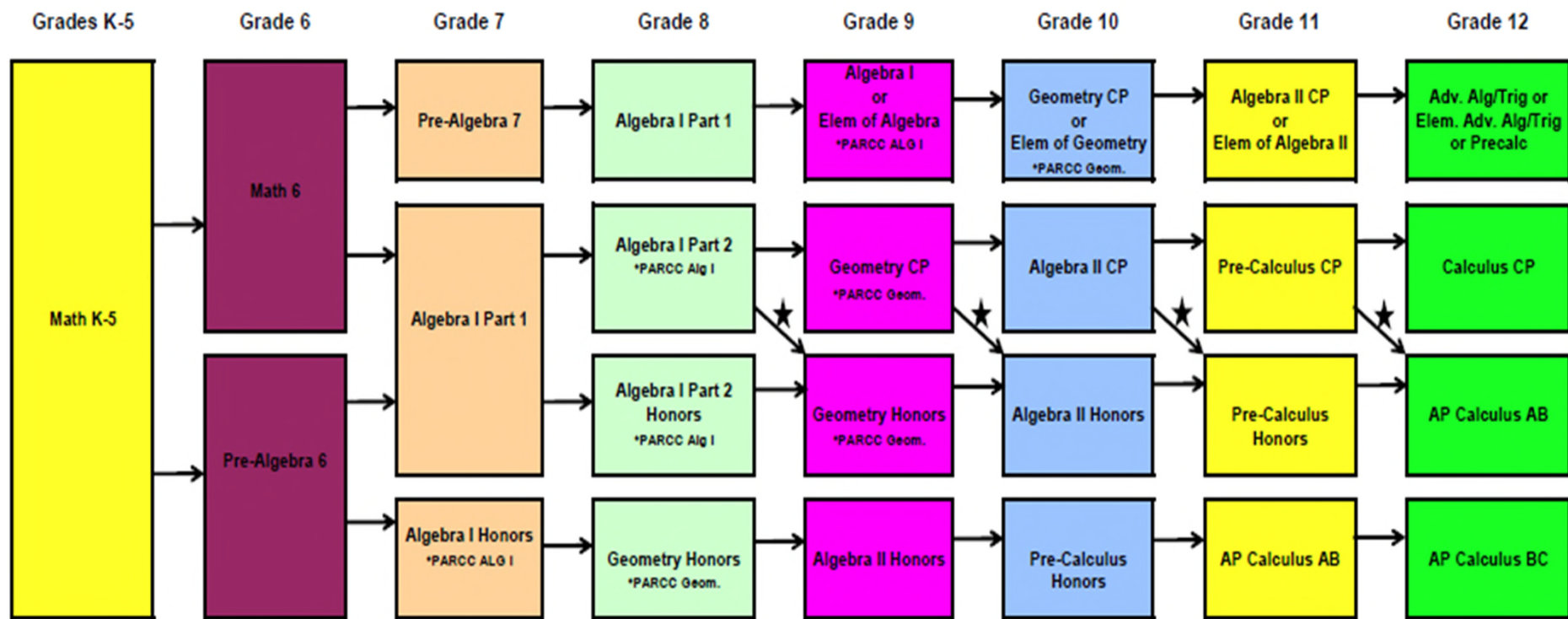
- *What are the common math sequences?*
- The next slide illustrates the common math sequences. Students can also accelerate, once they enter the High School, if they choose. There are several opportunities for this once a student enters High School. More information on these opportunities (Option II) can be found in the HS Program of Studies available on the HS website.





# Montgomery Township Schools

## Common Mathematics Sequences



**NOTES:**

\* Denotes possible course path if student meets the HS Program of Studies Requirement of 95% or higher in prerequisite course.

Common course sequences are illustrated. Additional opportunities are available through Option II process. See HS Program of Studies Guide.

In order for students to continue in the Honors sequence, students must maintain the required average based on the Course of Study requirements.

**PARCC:**

\* In grades 5-8 students take the PARCC Assessment for their grade level unless they are in an indicated HS level course

# *Math 6*

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- Math 6 meets the Common Core Standards for grade 6 while providing students challenging activities and experiences where they can explore real world applications.
- Content includes operations with whole numbers, integers, decimals, fractions, geometry, data analysis, number systems, rates, ratios, proportions, percents, and introduction to solving equations.



# *Pre-Algebra 6*

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- A rigorous challenging course that emphasizes problem-solving and critical thinking while developing necessary concepts for the further study of algebra in a high school level course.
- Course topic sections include operations with integers, and rational numbers, factors, exponents, algebraic expressions, solving one and multi-step equations and inequalities, ratio, proportions, percents, probability, and geometry.



# *Math Placement*

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- *What is the placement criteria for grade six math courses?*



# *Math 6 and Pre-Algebra 6 Placement Criteria*

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- *Unit Test averages (45%)* the four marking periods
- *Cumulative Assessment (25%)* placement test
- *Measures of Academic Progress-MAP (25%)*
- *Work Habits/Study Skills (5%)* assessed by the teacher using a district-developed rubric

*These criteria will make up the final summary score that determines the student's mathematics placement.*





# *Unit Test Averages*

- Unit tests are common assessments for all students in grade 5
- Concepts are reviewed and there are review (Study Guides) for each unit are distributed to students.



# *Cumulative Assessment*

- Scheduled for **May 9<sup>th</sup>** and **May 11<sup>th</sup>**
- Cumulative Assessment is a common assessment for all students in grade 5
- Concepts are reviewed and a review packet is distributed to students.
- Important for students to pull all concepts from the year together



# *Measures of Academic Progress -MAP*

- Scheduled for **April 6, 7**
- Computerized adaptive test
- Untimed assessment
- Charts your child's academic growth from year to year
- The information helps to guide instruction and to make placement decisions



# *Math Placement*

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- *How will I be informed of my child's placement in grade 6?*
- You will receive a Summary Sheet which should be mailed from LMS on **May 23<sup>rd</sup>** . It will provide the details illustrated on the next slide.





# *Data Summary Sheet*

• Montgomery Township Schools •

## *Math Placement Data Sheet*

*Sixth Grade Math Placement for 2017-2018*

*May 2017*

Student's Name:

Grade Five Cumulative Assessment = (25% of Summary Score)

MAP Assessment = (25% of Summary Score)

(Out of 285 points)

Grade Five Test Average = (45% of Summary Score)

(Test Average of 4 marking periods)

Work Habits/Study Skills Assessment = (5% of Summary Score)

Summary Score = (out of 100 points)

Math Placement =

Placement Cutoffs:

Math 6: Summary Scores from 0 - 89

Pre Algebra 6: Summary Scores from 90 - 100

# Waiver Option

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- The student's performance **summary score** and **placement** will be indicated in the **May 23<sup>rd</sup> mailing**.
- Parents and students can consider the **waiver option** if and only if a student's **summary score** is within **3 points** of the score needed for the requested placement.
- Waiver Form is included in the mailing if your child is eligible for one.
- Waivers should be sent to the **LMS main office** no later than **June 12<sup>th</sup>**.



# *Placement Timeline*



- April 6<sup>th</sup> & 7<sup>th</sup> –MAP Testing
- May 9<sup>th</sup> & 11<sup>th</sup> – Cumulative Assessment (Grade 5)
- After May 23<sup>rd</sup> – Placement information and detail
- June 12<sup>th</sup> – Waiver form deadline to be returned to LMS  
main office
- Summer – New student testing (dates to be posted)



# *Your Questions*

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Please remember to return your feedback sheets before leaving this meeting.

Thank you so much.



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*Mathematics/Science Supervisor 5-8*  
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