

NEW MILFORD BOARD OF EDUCATION
New Milford Public Schools
50 East Street
New Milford, Connecticut 06776

COMMITTEE ON LEARNING
MEETING NOTICE

DATE: February 24, 2015
TIME: 7:30 PM
PLACE: Lillis Administration Building – Room 2

RECEIVED
TOWN CLERK
2015 FEB 20 A 11: 55

NEW MILFORD, CT

AGENDA

New Milford Public Schools Mission Statement

The mission of the New Milford Public Schools, a collaborative partnership of students, educators, family, and community is to prepare each and every student to compete and excel in an ever-changing world, embrace challenges with vigor, respect and appreciate the worth of every human being, and contribute to society by providing effective instruction and dynamic curriculum, offering a wide range of valuable experiences, and inspiring students to pursue their dreams and aspirations.

1. CALL TO ORDER
2. PUBLIC COMMENT

An individual may address the Board concerning any item on the agenda for the meeting subject to the following provisions:

- A. A three-minute time limit may be allocated to each speaker with a maximum of twenty minutes being set aside per meeting. The Board may, by a majority vote, cancel or adjust these time limits.
- B. If a member of the public comments about the performance of an employee or a Board member, whether positive, negative, or neutral, and whether named or not, the Board shall not respond to such comments unless the topic is an explicit item on the agenda and the employee or the Board member has been provided with the requisite notice and due process required by law. Similarly, in accordance with federal law pertaining to student confidentiality, the Board shall not respond to or otherwise discuss any comments that might be made pertaining to students.

3. DISCUSSION AND POSSIBLE ACTION

- A. Review and Approval of Curriculum
 1. Architectural Drafting II
 2. Architectural Drafting III

Mr. Joseph Neff
Mr. Joseph Neff

4. ITEMS FOR INFORMATION AND DISCUSSION

- A. Middle School Project Lead the Way
- B. K-5 Math Update

Mr. Joshua Smith, Mrs. Susan Greene
Mr. Joshua Smith

5. PUBLIC COMMENT

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6. ADJOURN

Sub-Committee Members: **Mrs. Daniele Shook, Chairperson**
Mrs. Angela C. Chastain
Mr. Dave Littlefield
Mr. David R. Shaffer

Alternates: Mr. John W. Spatola
Mr. David Lawson

The Committee on Learning curriculum
can be previewed in the
Office of the Assistant Superintendent
Lillis Administration Building – Room #6.

Office Hours: 8:00 a.m. – 4:00 p.m.



"As a teacher, I'm always more concerned with teaching students how to think than what to think in PLTW, we don't supply students with clear answers — we only give them problems to solve along with the tools needed to discover creative, workable solutions. In addition, the PLTW curriculum becomes a means for students to aspire to accomplish great things in our world for the good of others. When you tap into that instinct in kids — helping others in need — it not only makes teaching more meaningful, but also helps them see beyond mere content, giving them insight into how they can make a real difference in today's world."

Jason R. Williams, PLTW Gateway Teacher
Fall Creek Valley Middle School, Lawrence Township, Indianapolis, Indiana

Preparing Students for the Global Economy

Project Lead The Way (PLTW) is a 501(c)(3) nonprofit organization and the nation's leading provider of K-12 STEM programs. Through world-class, activity-, project-, and problem-based curriculum, high-quality teacher professional development, and an engaged network of educators and corporate partners, PLTW helps students develop the skills needed to succeed in our global economy.

PLTW courses are aligned with Common Core State Standards for Math and English Language Arts, Next Generation Science Standards, and other national and state standards. Courses and units are designed to complement math and science courses, and in some instances, are used as the core curriculum.

Find us
www.pltw.org

Like us

Project Lead The Way

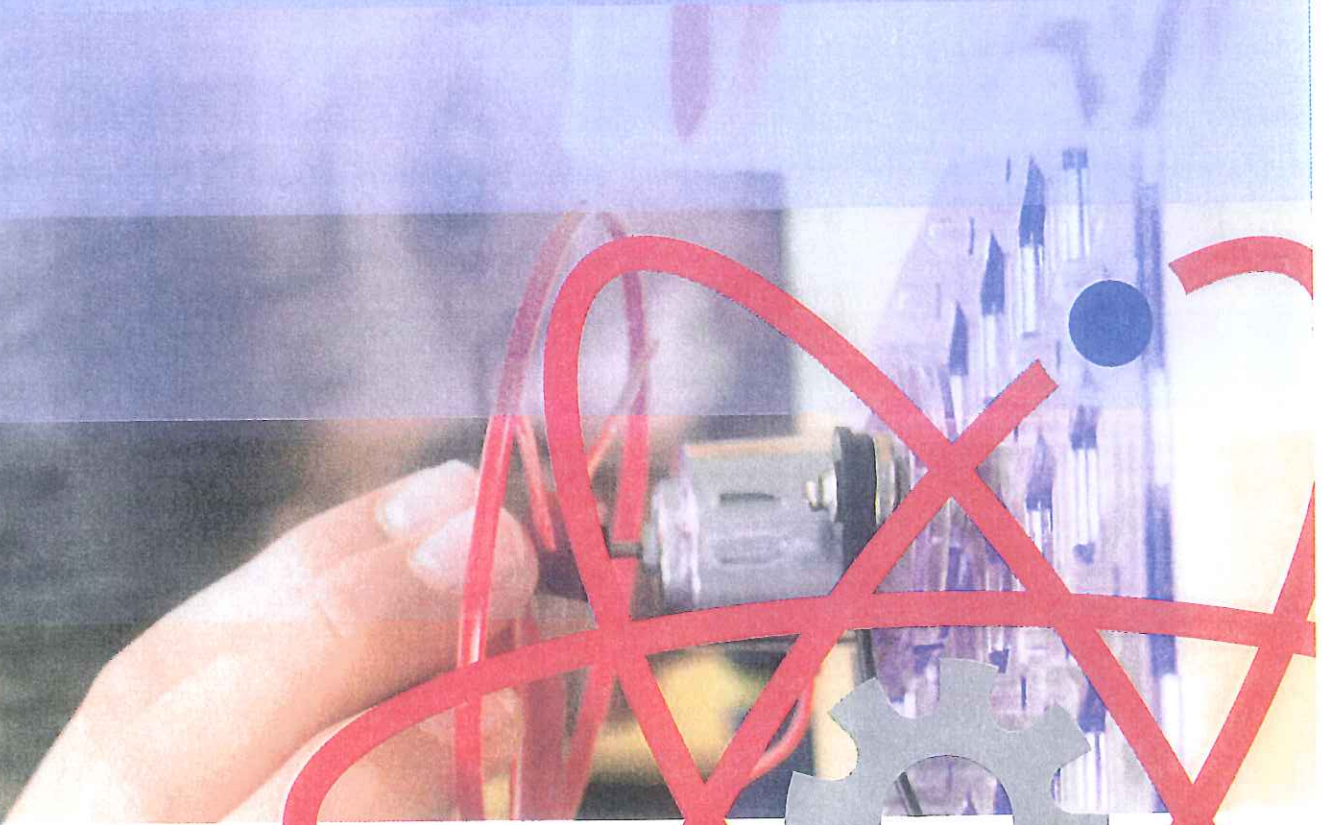
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Project Lead The Way
877-335-7589 (PLTW)
schoolsupport@pltw.org
PG-1402



ENCOURAGE EXPLORATION OF THE UNKNOWN WHILE IGNITING STUDENTS' INTEREST AND CONFIDENCE IN STEM

Today's students need to possess certain knowledge and skills to thrive. In many of their chosen life and career paths, being comfortable taking risks, adept at identifying and confident in the face of significant challenges, and skilled at carving out unique solutions are just a few of these essential skills. With access to hands-on, project-based STEM curriculum that emphasizes critical thinking and problem solving, these professional and life skills are easily within reach of tomorrow's leaders.

The opportunities in STEM are tremendous. By 2018, the United States will have more than 1.2 million unfilled STEM jobs. STEM occupation options are varied, including aerospace engineer and zoologist, computer programmer and architect, which affords students a multitude of options, no matter their interests. Despite this vast landscape of opportunity, a staggering 75 percent of students talented in math and science decide not to pursue STEM in college.

If young people are to pursue this world of possibility, they need inspiration. They need to see how what they learn is relevant to their lives.

How do we prepare and inspire students to hold onto their natural curiosity in the world around them and continue STEM learning in high school and beyond?

PLTW Gateway

Middle school is the perfect time for students to explore and learn that there is more than one way to reach a solution. PLTW Gateway™ provides engineering and biomedical science curriculum for middle school students that challenges, inspires, and offers schools variety and flexibility.

Through topics like robotics, flight and space, and DNA and crime scene analysis, middle school students engage their natural curiosity and imagination in creative problem solving. PLTW's Gateway program is a strong foundation for further STEM learning in high school and beyond, challenging students to solve real-world problems, such as cleaning up oil spills and designing sustainable housing solutions. Using the same advanced software and tools as those used by the world's leading companies, students learn how to apply science, technology, engineering, and math to their everyday lives.

PLTW Gateway is divided into eight independent, nine-week units, assuming a 45-minute class period. The Gateway program is designed to be taught in conjunction with a rigorous academic curriculum. Schools that offer the program implement both Foundation Units and may add any combination of the Specialization Units.

U.S. Dept. of Commerce, Economics and Statistics Administration, 2011 | Infographic: The Math Science Storyline, Getting Smart, 2011

PLTW Gateway Curriculum

Foundation Units

Design & Modeling

Students apply the design process to solve problems and understand the influence of creativity and innovation in their lives. They work in teams to design a playground and furniture, capturing research and ideas in their engineering notebooks. Using Autodesk® design software, students create a virtual image of their designs and produce a portfolio to showcase their innovative solutions.

Automation & Robotics

Students trace the history, development, and influence of automation and robotics as they learn about mechanical systems, energy transfer, machine automation, and computer control systems. Students use the VEX Robotics® platform to design, build, and program real-world objects, such as traffic lights, toll booths, and robotic arms.

Specialization Units

Energy & the Environment

Students think toward the future as they explore sustainable solutions to our energy needs and investigate the impact of energy on our lives and the world. They design and model alternative energy sources and evaluate options for reducing energy consumption.

Flight & Space

The exciting world of aerospace comes alive through Flight & Space. Students explore the science behind aeronautics and use their knowledge to design, build, and test an airfoil. Custom-built simulation software allows students to experience space travel.

Science of Technology

Science impacts the technology of yesterday, today, and the future. Students apply the concepts of physics, chemistry, and nanotechnology to STEM activities and projects, including making ice cream, cleaning up an oil spill, and discovering the properties of nano-materials.

Magic of Electrons

Through hands-on projects, students explore electricity, the behavior and parts of atoms, and sensing devices. They learn knowledge and skills in basic circuitry design and examine the impact of electricity on the world around them.

Green Architecture

Today's students have grown up in an age of "green" choices. In this unit, students learn how to apply this concept to the fields of architecture and construction by exploring dimensioning, measuring, and architectural sustainability as they design affordable housing units using Autodesk® 3-D architectural design software.

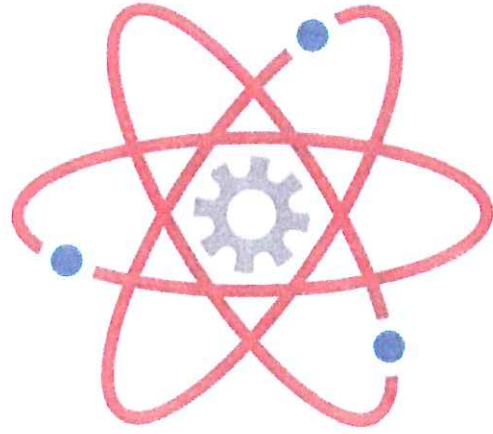
Medical Detectives

Students play the role of real-life medical detectives as they analyze genetic testing results to diagnose disease and study DNA evidence found at a "crime scene." They solve medical mysteries through hands-on projects and labs, investigate how to measure and interpret vital signs, and learn how the systems of the human body work together to maintain health.

New Milford Committee on Learning

2/24/2015

PLTW – Gateway



PROJECT LEAD THE WAY

PLTW

Gateway Program

- Project Lead the Way Middle School
Introduction to Engineering and Design
Principals
- Would replace the current Industrial Arts
- Grade 7: 1 per week for ½ year
- Grade 8: 1 per week for an entire year

Current Connecticut Districts With Middle School Programs

Bethel	Middletown	Norwalk
Easton	Monroe	North Branford
East Haven	New Canaan	South Windsor
Hartford (Magnet School)	New Britain	Stratford
Killingworth	New Haven (Magnet Middle School)	Weston
Ledyard (starting 2015-16)	New London	

Foundation Units

- **Design & Modeling**
 - Students apply the design process to solve problems and understand the influence of creativity and innovation in their lives
- **Automation & Robotics**
 - Students use the VEX Robotics® platform to design, build, and program real-world objects such as traffic lights, toll booths, and robotic arms.

Specialization Units

- **Energy & the Environment**
 - Students think big and toward the future and explore sustainable solutions to our energy needs. They design and model alternative energy sources and evaluate options for reducing energy consumption.
- **Flight & Space**
 - Students explore the science behind aeronautics and use their knowledge to design, build, and test an airfoil.
- **Science of Technology**
 - Students apply the concepts of physics, chemistry, and nanotechnology to STEM activities and projects, including making ice cream, cleaning up an oil spill, and discovering the properties of nano-materials.
- **Magic of Electrons**
 - Through hands-on projects, students explore electricity, the behavior and parts of atoms, and sensing devices.
- **Green Architecture**
 - Students explore dimensioning, measuring, and architectural sustainability as they design affordable housing units using Autodesk's® 3D architectural design software.
- **Medical Detectives**
 - Students play the role of real-life medical detectives as they analyze genetic testing results to diagnose disease and study DNA evidence found at a “crime scene.”

Questions?

Math Program Update
New Milford Public School
Committee On Learning

February 24, 2015

Program Scope

- All grades K-5 are using the Investigations Math program.
- Grade 6 is working with the Connected Math program as a pilot and will make a recommendation in April on its use in the future.

Professional Development

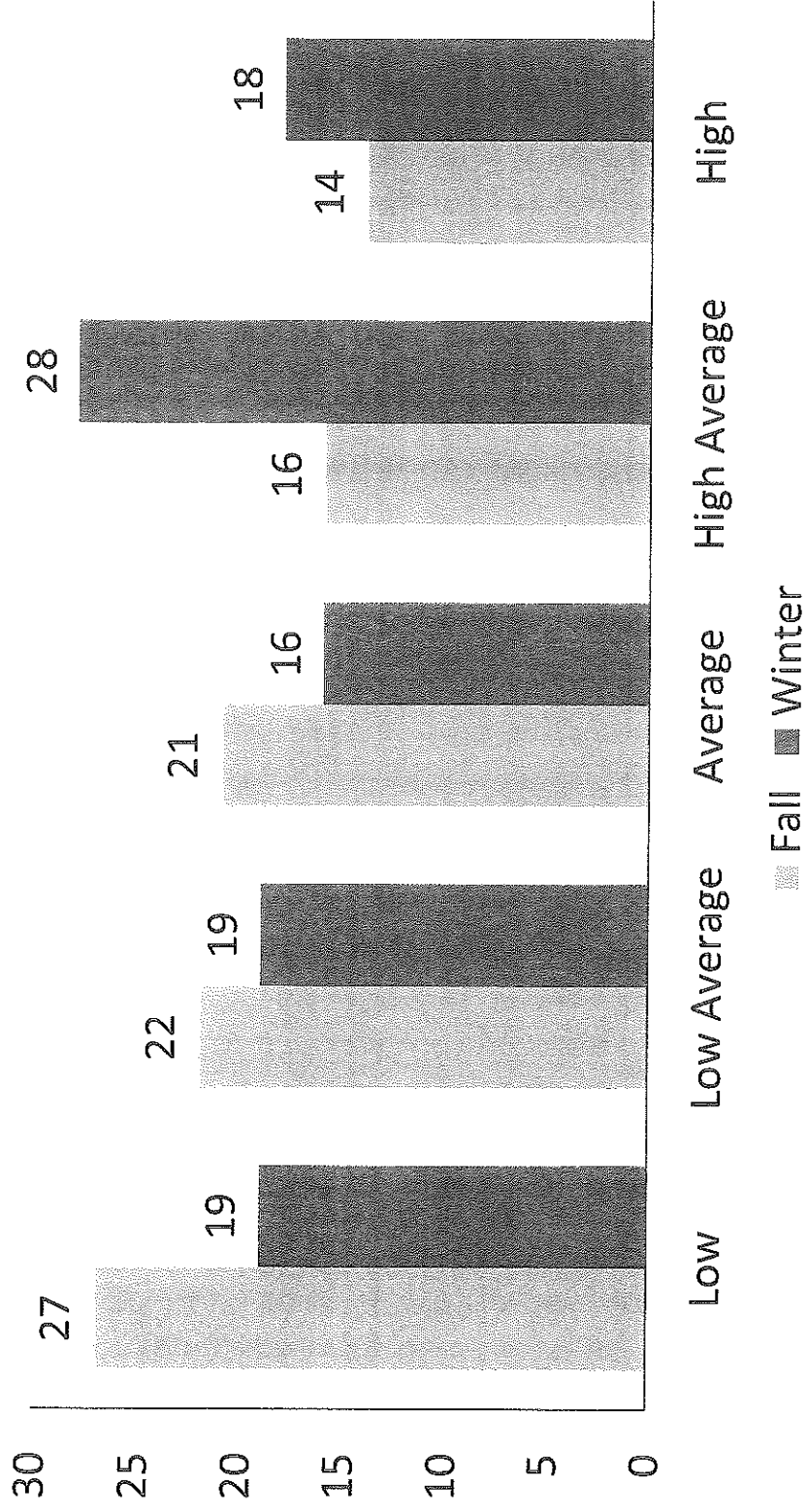
- Days in August
- November
- Monthly meetings with the Math coaches
- Professional Learning Communities
- Model lessons, consults (group/individual)
- Book studies

Parent Involvement and communication

- Curriculum Night
- School visits
- Math nights
- Parent volunteers came in in every building to create some of the instructional materials and receive a presentation on how they are utilized within the program.
- 188 parents attended the Parent Math Workshops at SNIS over the course of 6 sessions
- In the three Family Math Nights, a total 341 people in 133 families came out to enjoy math together!

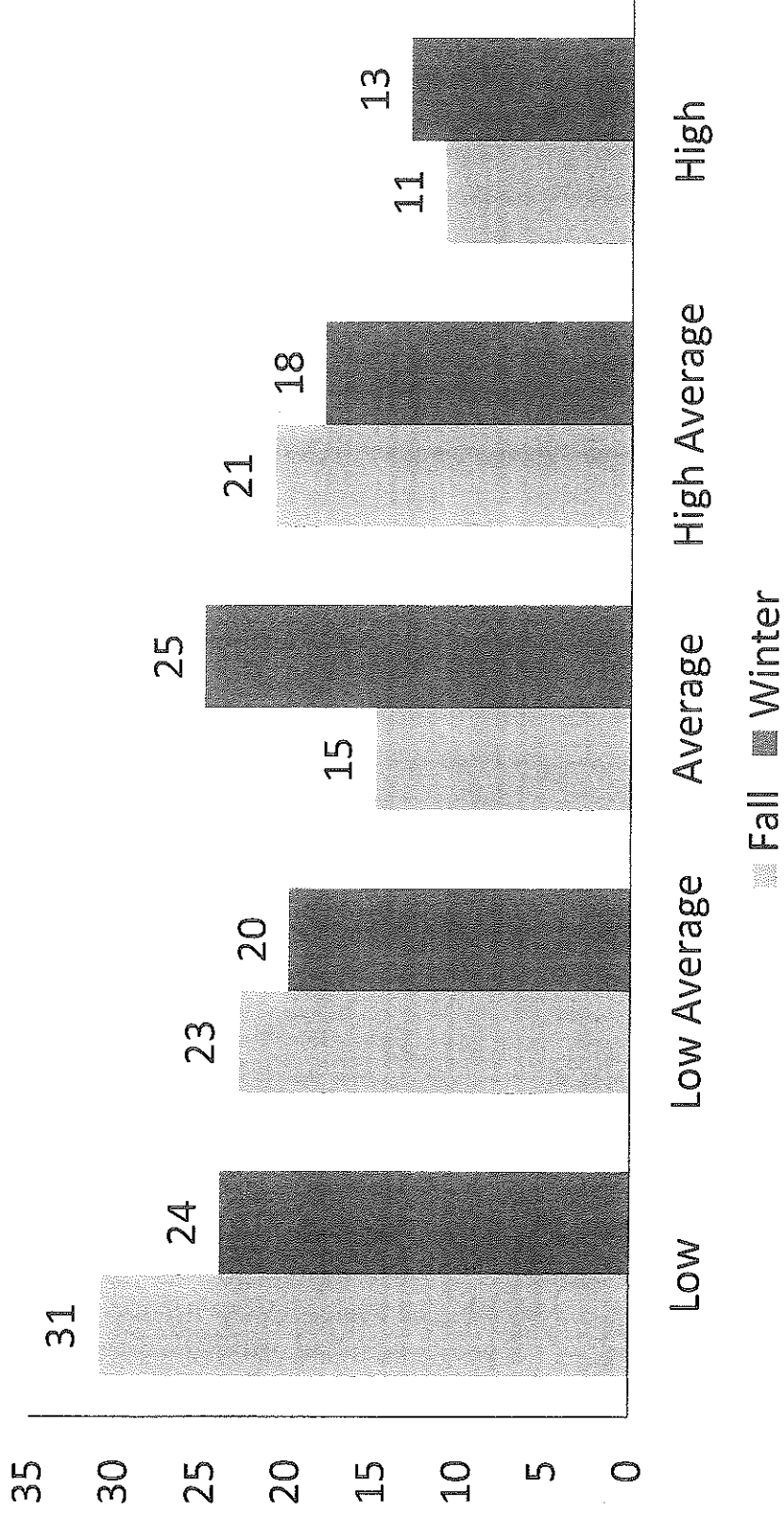
Student Growth

Grade 1: Operations & Algebraic Thinking:



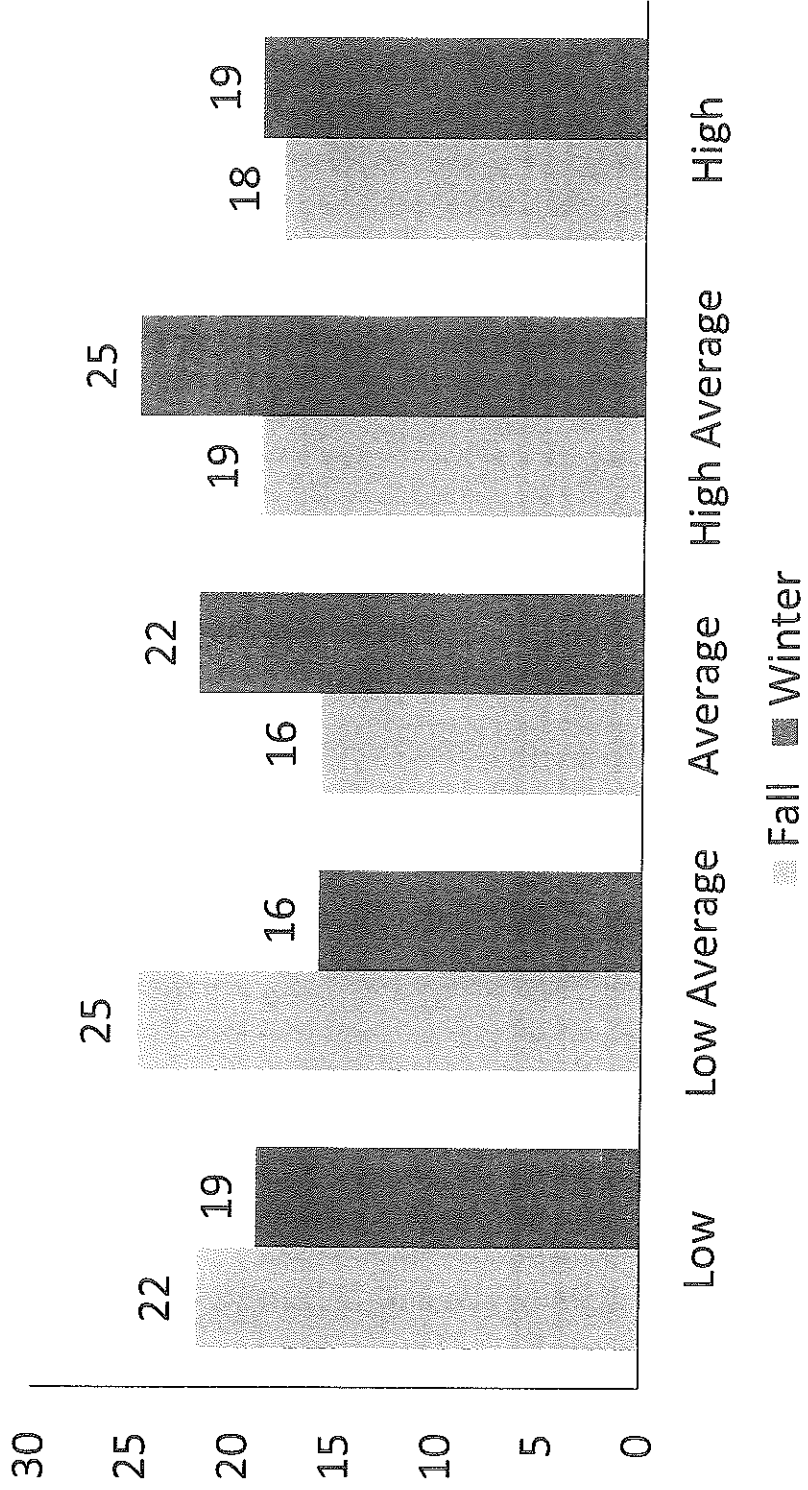
Student Growth

Grade 2: Operations & Algebraic Thinking:



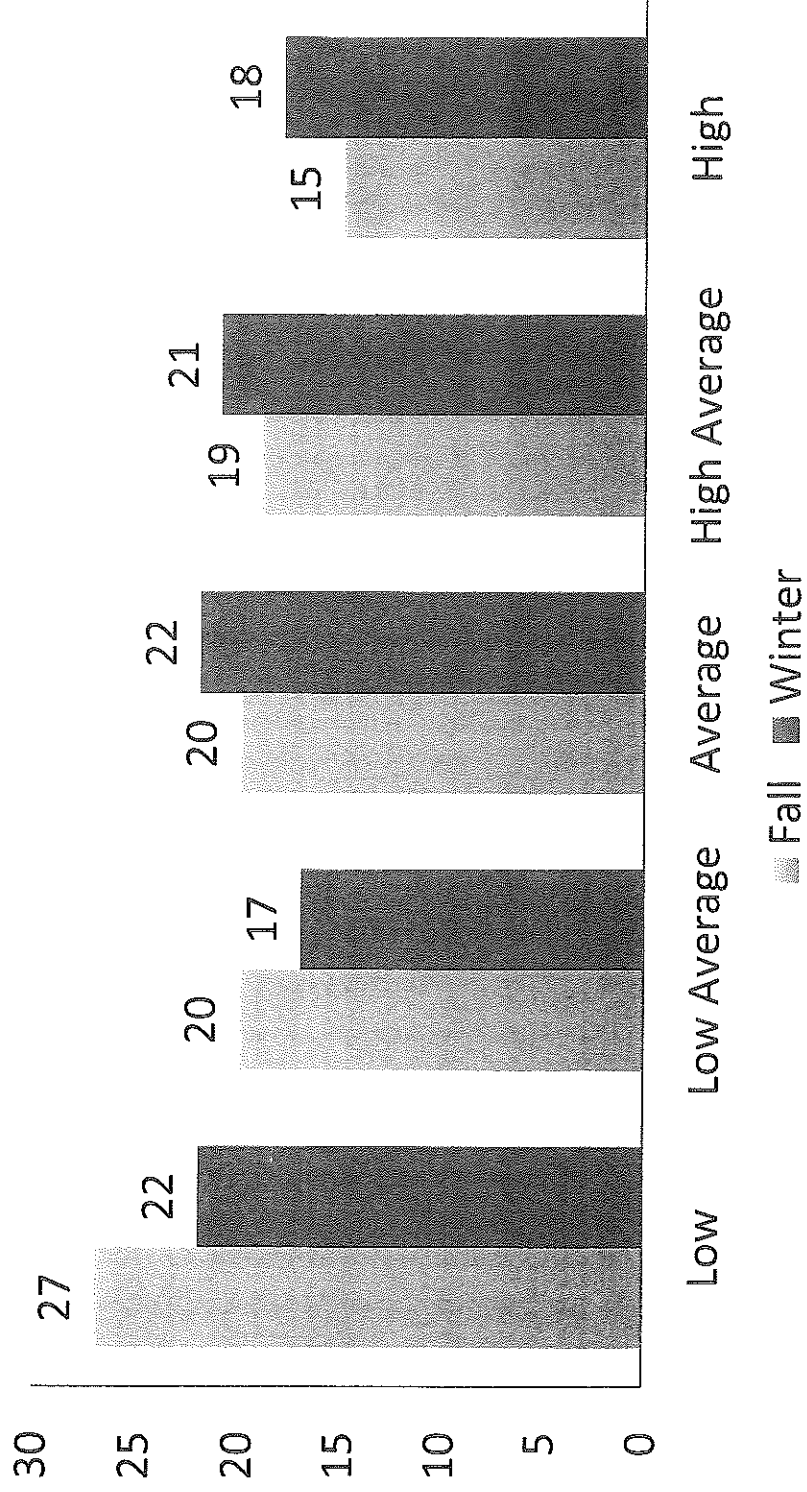
Student Growth

Grade 3: Measurement and Data:



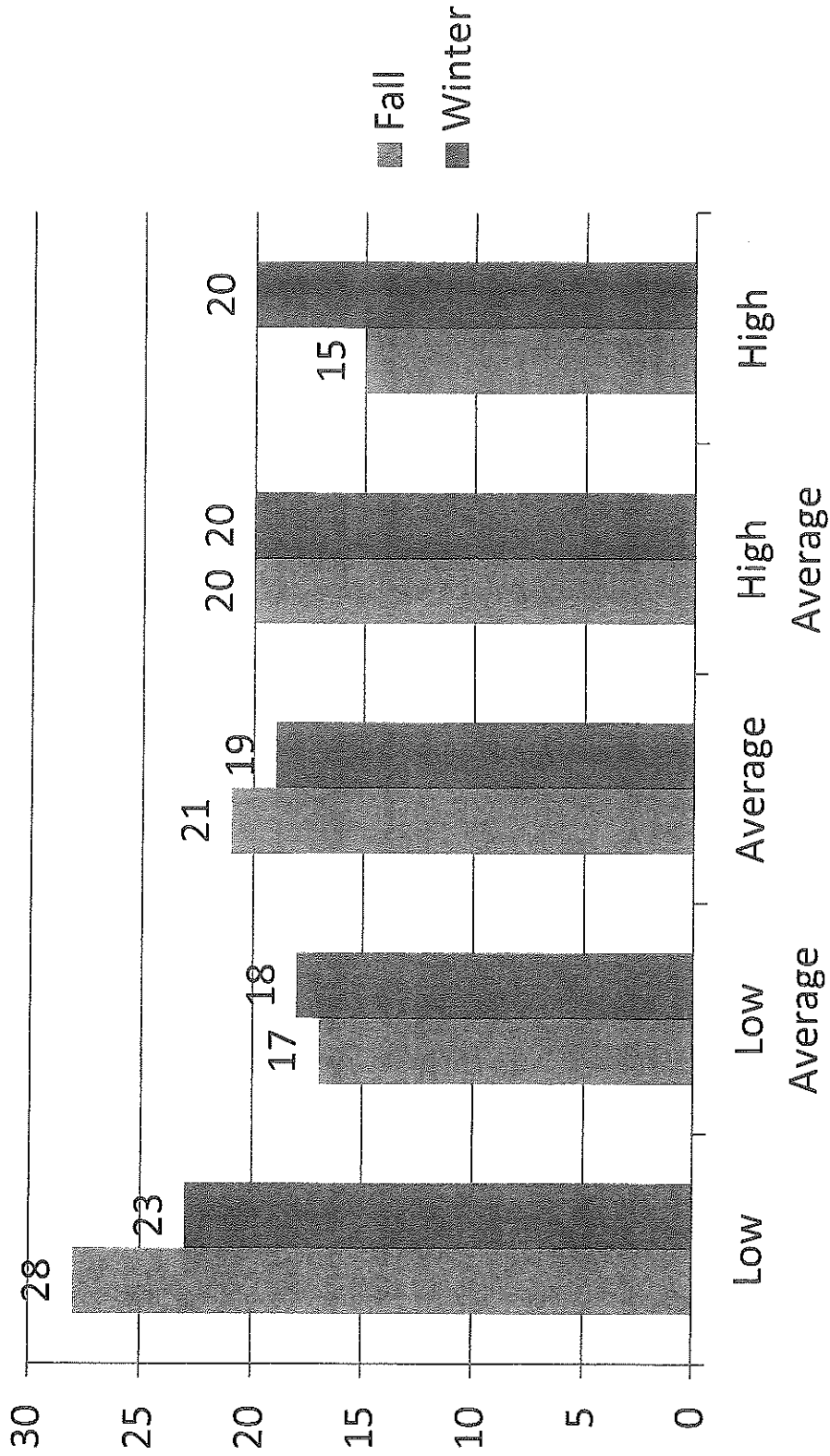
Student Growth

Grade 4: Operations & Algebraic Thinking:



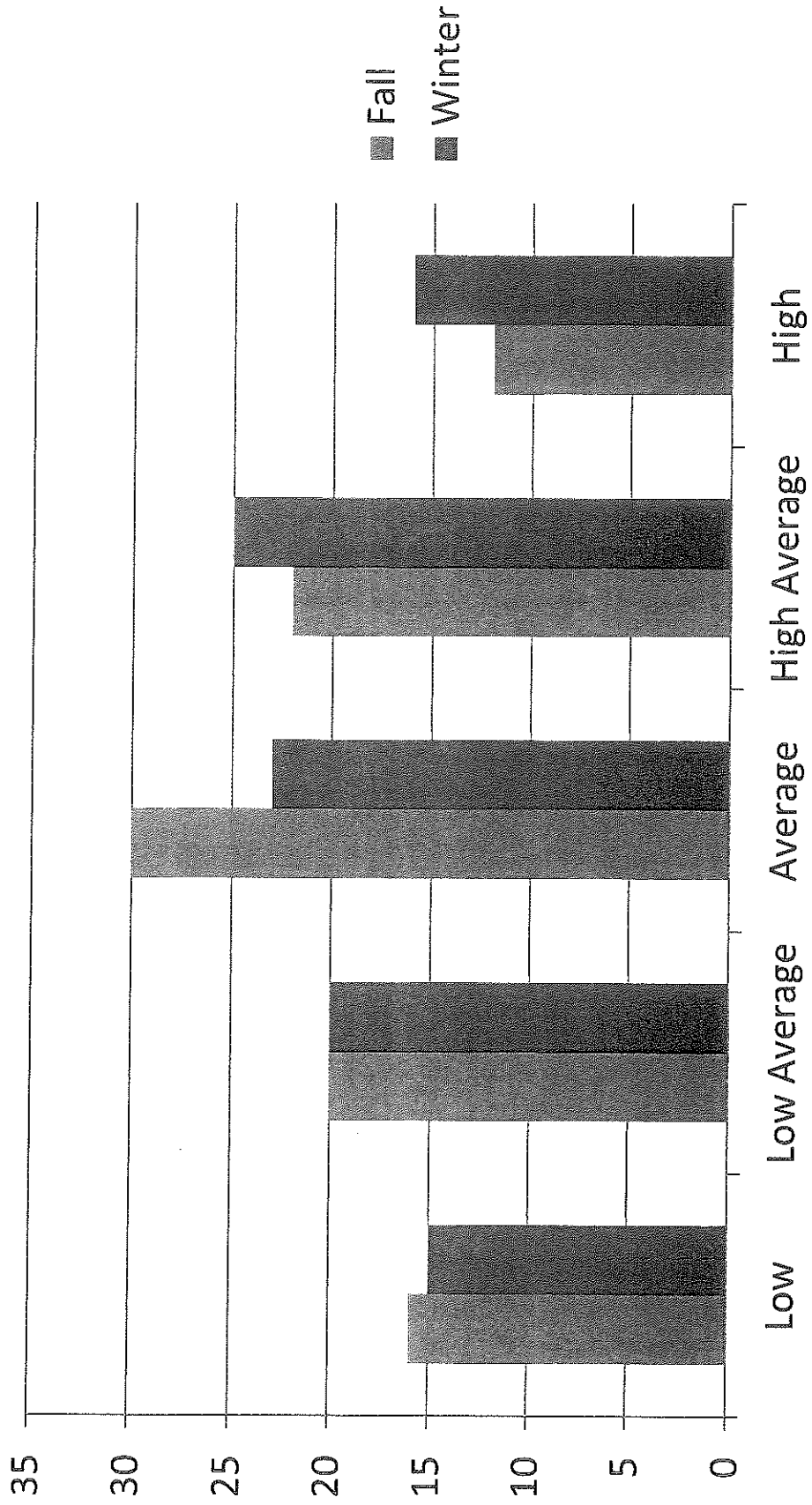
Student Growth

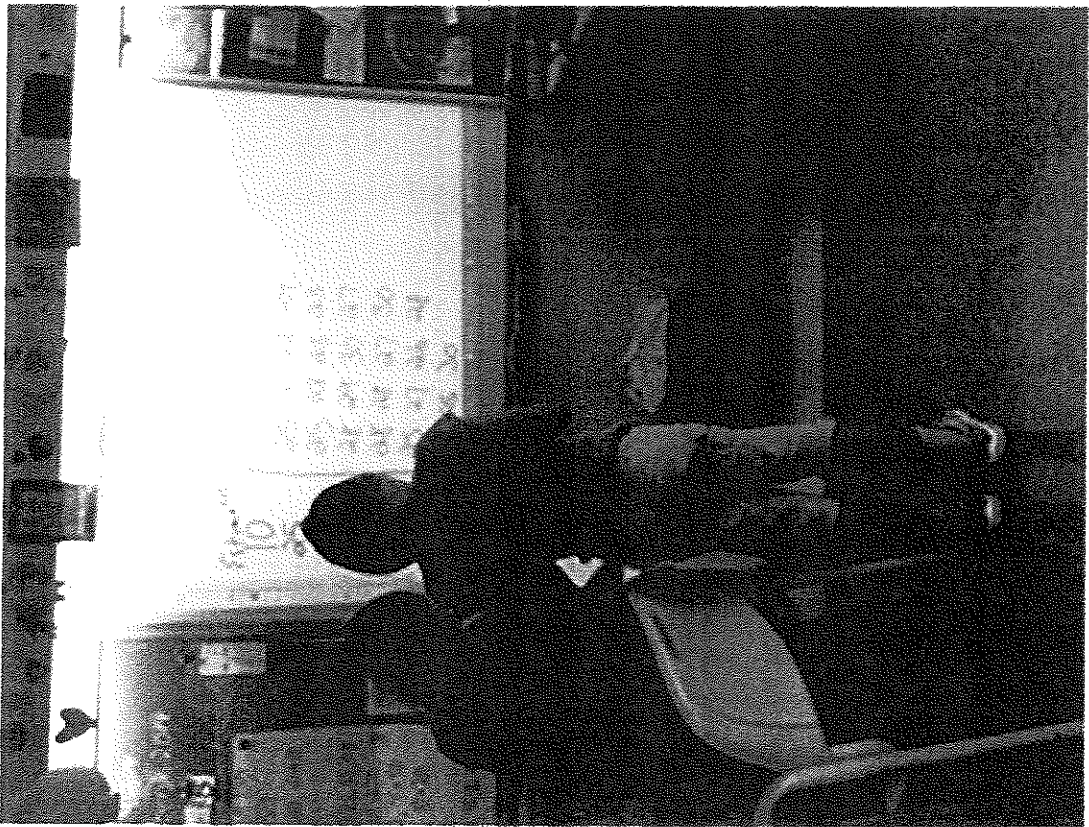
Grade 5: Measurement and Data



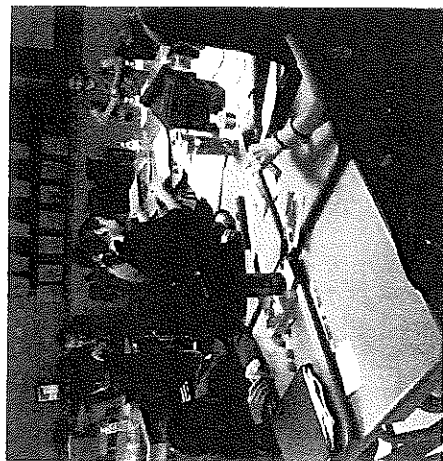
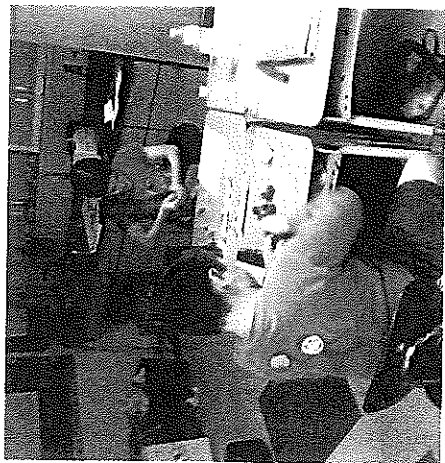
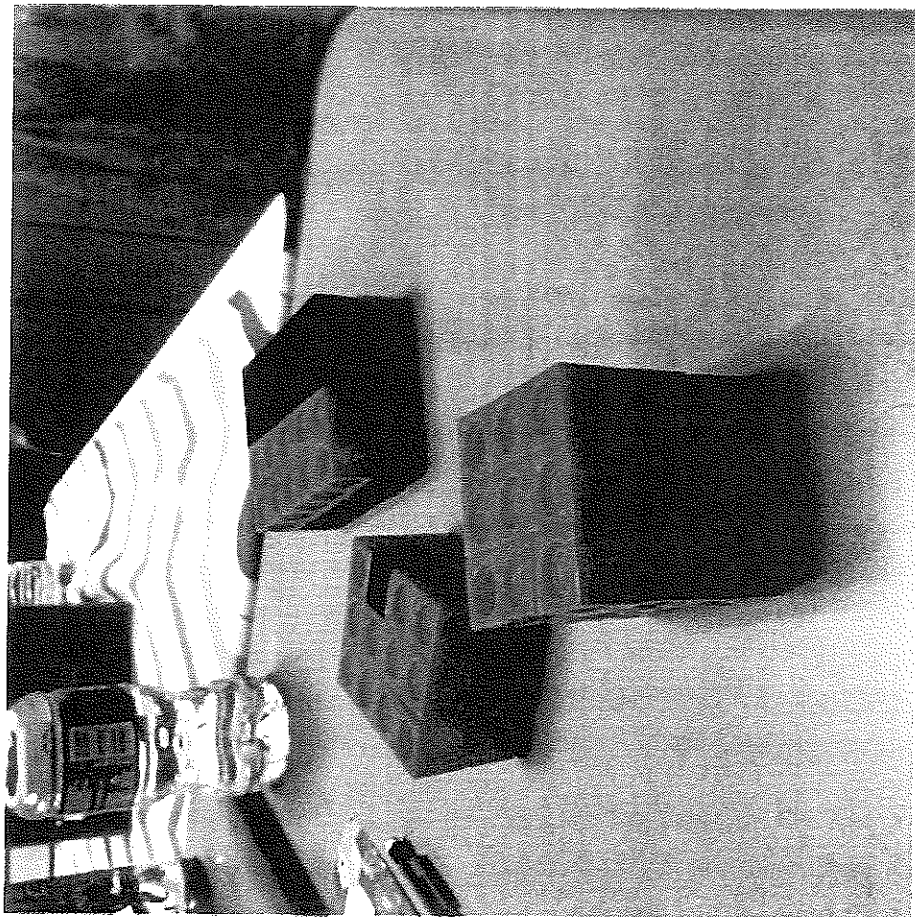
Student Growth

Grade 6: Real and Complex number Systems









Teacher Feedback

- Teachers and administrators find it far more effective than Saxon; pacing is slow since the program is new this year
- Generally pleased with the program
- Tangible difference in how students are thinking
- Shifting grade level expectations

Parent Feedback

- Parents faithfully join a weekly grade 2 Math Recess Club and enjoy assisting the teacher and students
- Elementary parents at Family Math Nights were generally impressed with student conversations and mathematical thinking.
- I am defiantly not smarter than a fifth grader

Next steps

- Update the pacing calendar for teachers
- Debrief as to what worked well, what didn't and what professional development is needed
- Train paras and tutors in the program