Math Advisory Committee Recommendations
Our process

first

next

last
Overview

Goals:
- Participate in a comprehensive math program review for Penn-Harris-Madison.
- Establish a focused, rigorous, coherent instructional program that will increase student achievement through a systematic district-wide approach.
- After investigation and data analysis, determine if additional (or different) math resources are needed for our students.

Plan of Work:
- Convene committee; review the scope of the work
- Program review (data analysis, teacher perception review)
- Collectively review recent research on best practices and program evaluation
- As needed, review (through both a horizontal and vertical trace) programs that may benefit our students
Comparisons and Predictions

In 1970, Fortune 500 most valued skills:

1. Writing
2. Computational Skills
3. Reading Skills
4. Oral Communications
5. Listening Skills
6. Personal/Career Development
7. Creative Thinking
8. Leadership
9. Teamwork
10. Organizational Effectiveness

In 2019:

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment/Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

Jobs that might not exist in the future:

1. Cashier
2. Newspaper Delivery
3. Travel Agents
4. Taxi Dispatch
5. Taxi Drivers
OUR JOB IS NOT TO PREPARE STUDENTS FOR SOMETHING. OUR JOB IS TO HELP STUDENTS PREPARE THEMSELVES FOR ANYTHING.

- A.J. JULIANI -
What IS good math???
The six Principles address overarching themes:

- **Equity.** Excellence in mathematics education requires equity—high expectations and strong support for all students.
- **Curriculum.** A curriculum is more than a collection of activities: it must be coherent, focused on important mathematics, and well articulated across the grades.
- **Teaching.** Effective mathematics teaching requires understanding what students know and need to learn and then challenging and supporting them to learn it well.
- **Learning.** Students must learn mathematics with understanding, actively building new knowledge from experience and prior knowledge.
- **Assessment.** Assessment should support the learning of important mathematics and furnish useful information to both teachers and students.
- **Technology.** Technology is essential in teaching and learning mathematics; it influences the mathematics that is taught and enhances students' learning.
Standards for Student Mathematical Practice

1. Make sense of problems and persevere in solving them.
   - Keep on going!

2. Reason abstractly and quantitatively.
   - Write a story for the mathematical equation: \( \frac{1}{2} \times 4 \)
   - DuJuan exercises 1/2 hour a day for 4 days. How many total hours does he exercise?
   - Think what makes sense.
   - Talk and explain.

3. Construct viable arguments and critique the reasoning of others.
   - I agree.
   - Show your thinking.

4. Model with mathematics.
   - \( \frac{1}{2} \times 4 = 2 \) or \( 4 \times \frac{1}{2} = 2 \)
   - Show your thinking.

5. Use appropriate tools strategically.
   - Use the right tools.

6. Attend to precision.
   - 120 minutes = 2 hours
   - Check your work.

7. Look for and make use of structure.
   - See the pattern or connection.

8. Look for and express regularity in repeated reasoning.
   - See the pattern or connection.
$18 \times 5$

Neil: $(9+9) \times 5 = 9\times 10$
$45+45 = 90$

Ricardo: $18 \times 5 = 9 \times 10$
$(10 \times 5) + (8 \times 5) = 50 + 40 = 90$
$20 \times 5 = 100$
$2 \times 5 = 10$
$100 - 10 = 90$
$20 + 20 + 18 + 18 = 90$

Sammi: $18 \times 5 = 9 \times 10$
$50 + 40 = 90$
$3 \times 5 = 15$
$75 + 15 = 90$

Jaime: $18 \times 2$
$2 \times 5 = 10$
$100 - 10 = 90$
$36 + 36 + 18 = 90$

Ariane: $15 \times 3$
$15 \times 5 = 75$
$75 + 15 = 90$

Bryan: $18$
Is math anxiety real or perceived?
MISSION CRITICAL:
A strong math program focused on critical thinking and reasoning.
Elementary Recommendation

More Info About EM
Secondary Recommendations

More Info About CL

More Info About AM
Special Thanks To Our Teacher Representatives

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