

# S.T.R.E.A.M.

- Science
- Technology
- Reading
- Engineering
- Arts
- Math

- 2014 Summer Program Results
- Tuesday, September 23, 2014
- Presented by Rick Cohen  
Assistant Superintendent and NCLB/Title I Director

# SWATT Participants PP in Math NJASK 2013 to 2014

| 2013 Math | 2014 Math |
|-----------|-----------|
| 165       | 209       |
| 184       | 174       |
| 191       | 209       |
| 194       | 222       |
| 163       | 203       |
| 189       | 215       |
| 192       | 203       |
| 196       | 221       |
| 196       | 215       |
| 175       | 141       |
| 186       | 200       |
| 193       | 219       |

% of Edgar students in  
SWATT that went from  
PP to P = 83%  
(10 out of 12)

% of Edgar eligible  
students NOT in  
SWATT that went from  
PP to P = 38%  
(41 out of 107)

# SWATT Participants Proficient in Math NJASK 2013 to 2014

| 2013 | 2014 |
|------|------|
| 208  | 197  |
| 214  | 216  |
| 225  | 239  |
| 229  | 225  |
| 229  | 216  |
| 241  | 250  |
| 200  | 184  |
| 205  | 215  |
| 212  | 218  |
| 250  | 231  |
| 229  | 221  |
| 232  | 240  |

% of Edgar students in SWATT that stayed P = 83%  
(10 out of 12)

% of Edgar eligible students NOT in SWATT that stayed P = 67%  
(37 out of 55)

# SWATT: Student problem solving strategies to attack math word problems

problem solving brainstorm of skills.notebook

February 04, 2014

## Problem Solving - brainstorm

- Skills
- reading
    - vocabulary
    - understand
      - facts
      - question
  - inference
  - writing
  - counting
  - subtracting
  - addition
  - multiplying
  - dividing
  - geometry
  - algebra
  - estimation
  - inverse operation
  - modeling
- basic facts & process

- Steps
- Skills
  - Steps
1. Read the problem.  
whole
  2. Understand what the problem is asking us to do.  
(question)
  3. Underline the important facts. (math/numbers)
  4. Choose the operation.
  5. Write an equation.
  6. Solve (strategy) <sup>model</sup> - Show work
  7. Write the answer.
    - label
    - complete sentence.
  8. Check your answer. <sup>reasonable estimate</sup>

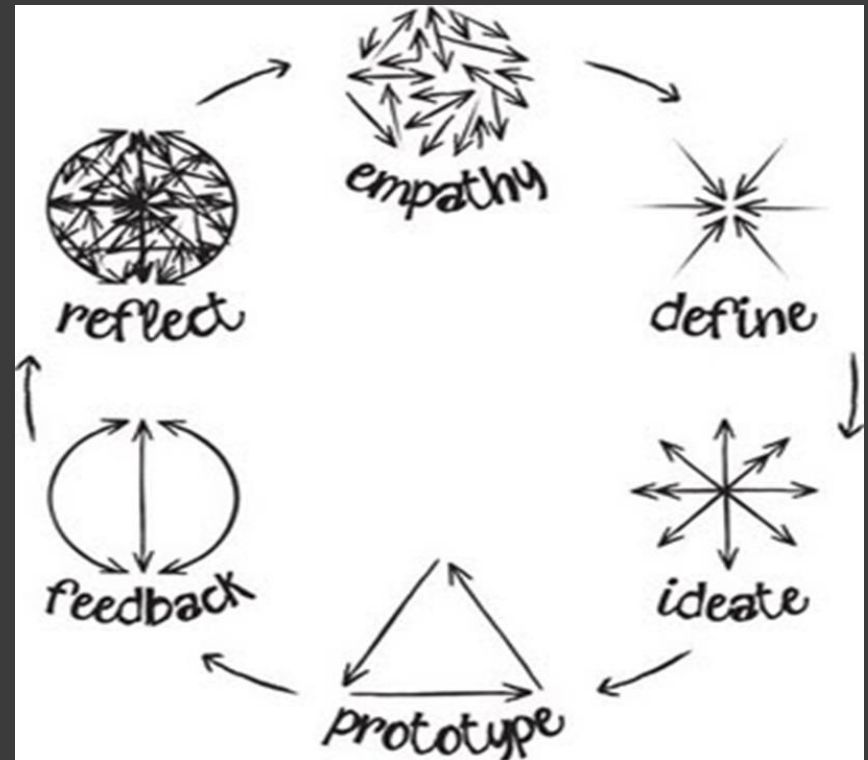
# STREAM Mission

## Summer 2014

STREAM will engage students in a wide variety of complex problem solving experiences through student-directed projects and partnerships that build on student interests and strengths to increase student efficacy in solving real world challenges.

# STREAM Learning Outcomes

- **Step 1:** Search for and Use Information to Identify and Explain the Problem.
- **Step 2:** Gather information and analyze to make inferences about root causes
- **Step 3:** Brainstorm Multiple Solutions
- **Step 4:** Compare, Analyze and Evaluate the Best Solution
- **Step 5:** Develop a Plan and Take Action
- **Step 6:** Monitor, Revise, Correct, Reflect



**Common Core Problem Solving Process (Gr. 1-4)**

**Design Thinking Process (Grades 5-8)**

# STREAM Student Learning Outcomes (Grades 1 – 4)

% of students meeting expectations  
on performance-based assessment

|                            |  |   |                                   |                                      |          |
|----------------------------|--|---|-----------------------------------|--------------------------------------|----------|
| Problem Solving Vocabulary | Gathering Info & Knowing Your Audience | Brainstorm Solutions & Pick Your Favorite | Take Action & Reflect on Solution | Reflection on Individual Performance | Teamwork |
| 86%                        | 84%                                    | 83%                                       | 88%                               | 66%                                  | 71%      |

# STREAM Student Learning Outcomes (Grades 5 - 6)

|                            | Empathy | Define | Ideate | Prototype | Test |
|----------------------------|---------|--------|--------|-----------|------|
| 1= Exceeds Expectation     | 50%     | 46%    | 48%    | 63%       | 71%  |
| 2= Meets Expectation       | 29%     | 16%    | 25%    | 25%       | 12%  |
| 3= Progressing             | 13%     | 21%    | 4%     | 8%        | 13%  |
| 4= Not Meeting Expectation | 8%      | 17%    | 13%    | 4%        | 4%   |



# STREAM Student Learning Outcomes (Grades 7 - 9)

|                        | Empathy | Define | Ideate | Prototype | Test |
|------------------------|---------|--------|--------|-----------|------|
| 1= Exceeds Expectation | 86%     | 55%    | 14%    | 18%       | 59%  |
| 2= Meets Expectation   | 14%     | 45%    | 77%    | 73%       | 41%  |
| 3= Progressing         | 0%      | 0%     | 9%     | 9%        | 0%   |

# Anecdotal Data: Teacher Quotes on STREAM Student Outcomes

***What did you find to be the most meaningful experience for student growth and development?***

“Learning empathy for users which really means challenging students to step outside of the adolescent "self-obsession" and think about what others feel and think when considering designs. This lesson will apply for the rest of their lives.”

“The prototype-test-revisit prototype model helps students to understand that criticism or "constructive feedback" helps us improve. A finished product is never really finished.”

“Students realize that just because they are young does not mean that they can not be active participants of the world in which they live. They can cause change for the better.”

# Anecdotal Data: Perseverance

**“I’m convinced that about half of what separates the successful entrepreneurs from the non-successful ones is pure perseverance.”**

Steve Jobs  
1955-2011



Anecdotal Data:  
**STREAM Video**

**THANK YOU!!!!!!**  
**MIRJANA NOVKOVIC**  
**AND GUS MENEZES**