

How do you make a better wallet?

Why do boats float?

# Student Inquiry

Facilitated Conversation

Why is the sky blue?

What makes a good friend?

What makes a hero?

Are we there yet?

# Goals for today:



- To see how Student Inquiry fits into the new curriculum
- Explore what Inquiry looks like in our classrooms

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**Connect**



The image depicts four stylized, white, 3D human figures arranged around a large, colorful puzzle. One figure on the left is holding a large red puzzle piece. Another figure at the top is holding a large green puzzle piece. A third figure on the right is holding a large yellow puzzle piece. The fourth figure at the bottom is holding a large blue puzzle piece. The puzzle pieces are interlocking and form a larger, irregular shape. The background is plain white.

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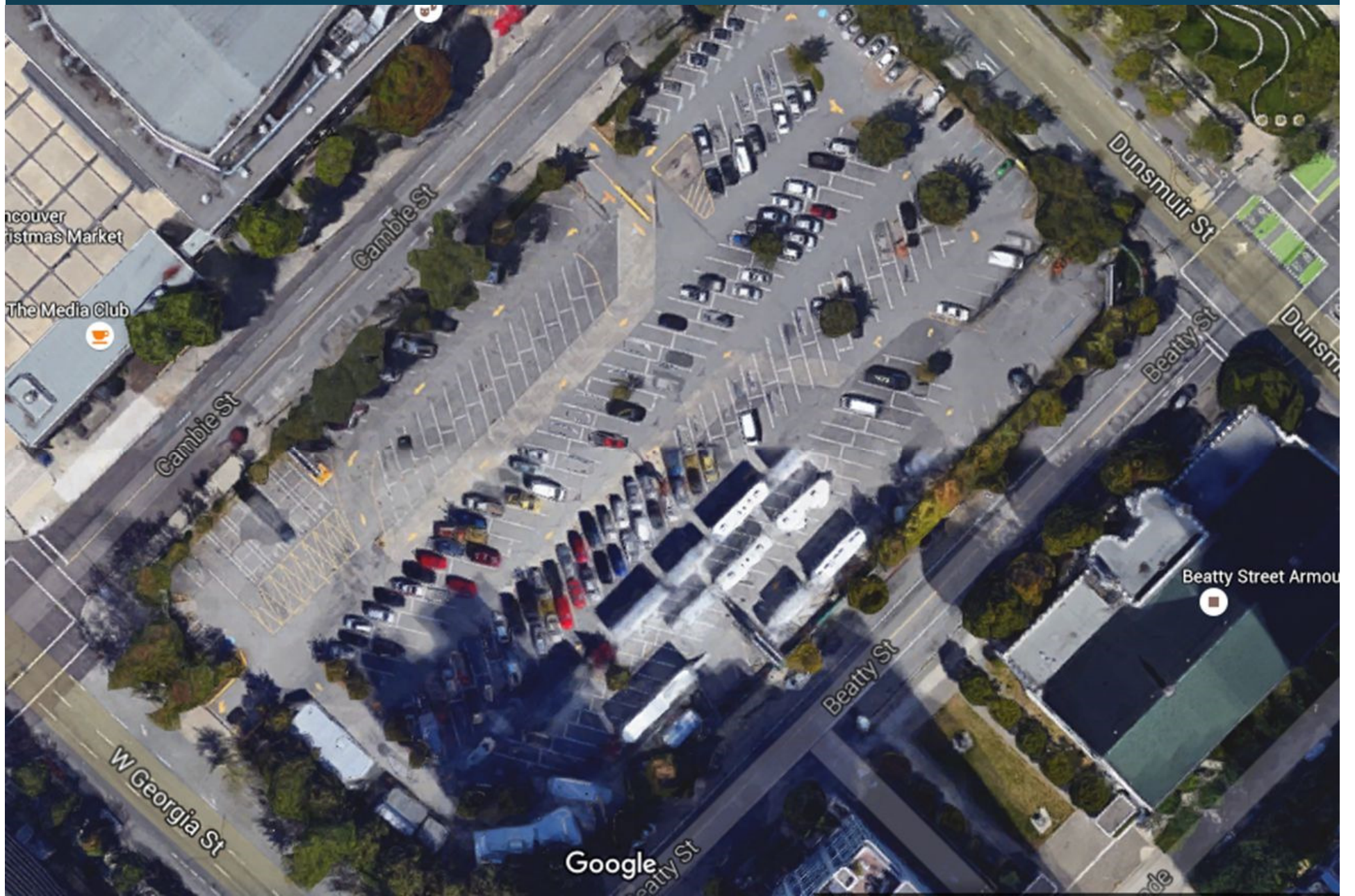
# Inquiry Example

Inquiry is driven by curiosity, wonder, interests or passion to understand or to solve a problem.



# Best Path to Walk

Inquiry is driven by curiosity, wonder, interests or passion to understand or to solve a problem.





Prompt:

$$4_2 \times 12 = 24_4 \times 21$$

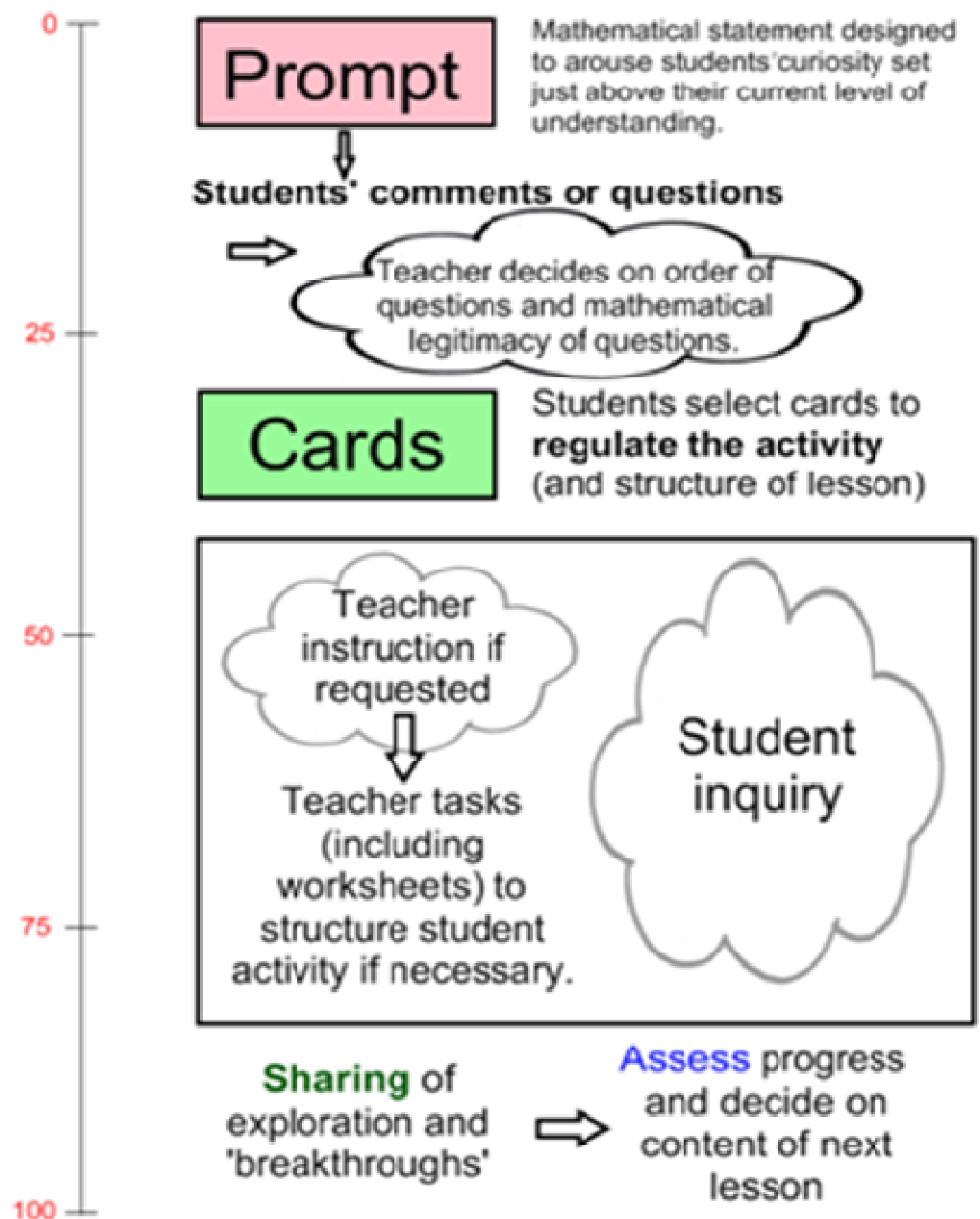
## Turn and Chat

- What is Student Inquiry?
- What questions do you have about Inquiry?



A possible  
guided approach  
inquirymaths.com  
(from UK)

## Mathematics



# Inquiry and Practices

## Inquiry Based Activities

- **Demonstrated** (teacher driven)

*Cognitive hook with without giving away an answer.*

- **Structured**

questioning /planning – teacher driven  
communicating – by students

*Student analyzing their data and draw implications for subsequent inquiries.*

- **Guided or Teacher-Initiated**

questioning – by teachers  
the rest – by students

*Similar to problem solving*

- **Self-directed or student-initiated.**

## Inquiry Based Argumentation

*Claim – evidence – reasoning*

## Inquiry Based Projects

*Essential questions are investigated and results are communicated.*

## Effective Questioning Skills

*Teachers: pausing, redirecting, acknowledging,*

*Students: 'thin vs thick' questions, reviving the sense of wonder*

**Other:** Socratic dialogue, court room, case studies.





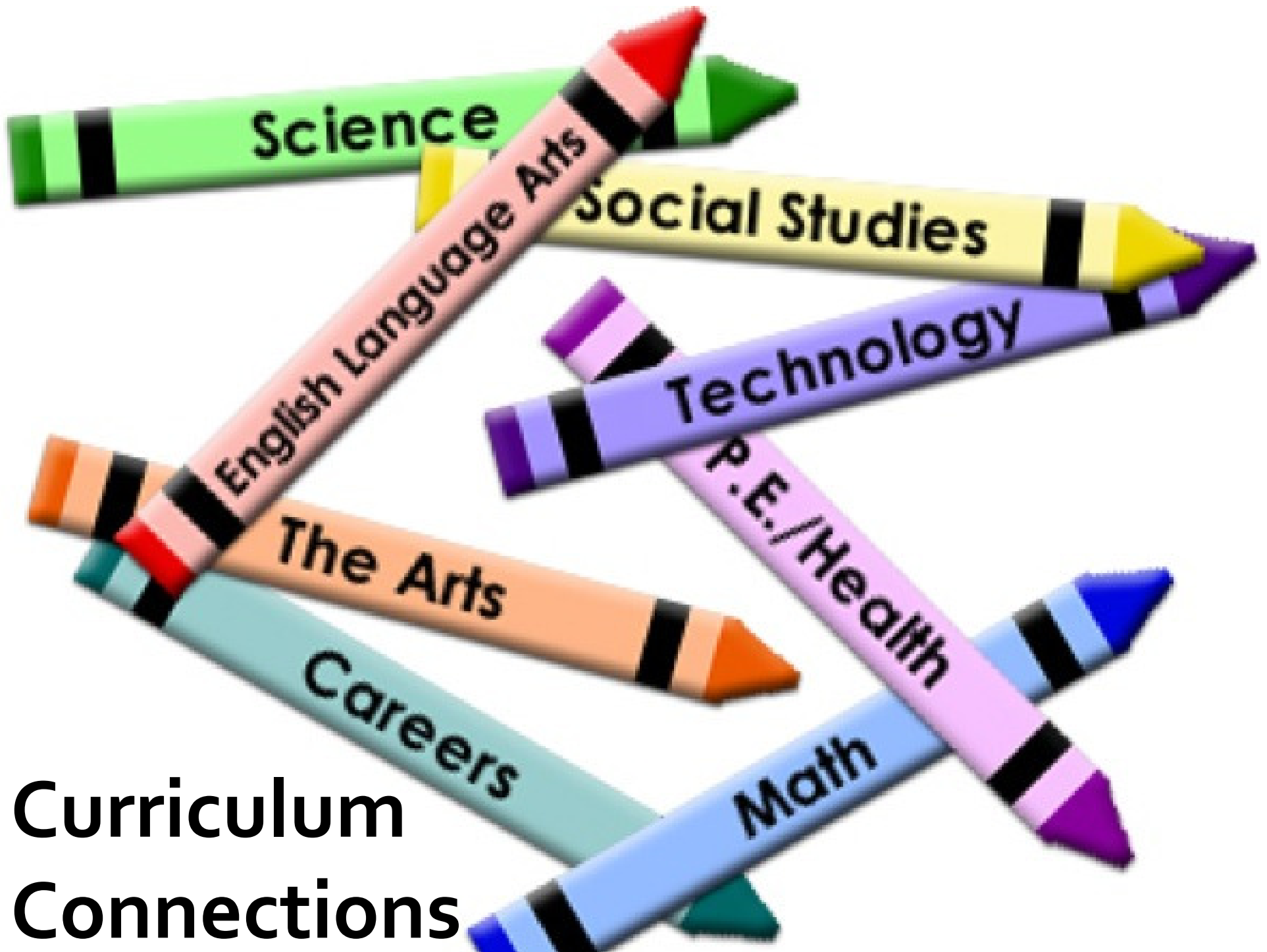
# Process



Jeffery Wilhelm

1. How have you tried Inquiry in your classroom? What have you learned through your successes and failures?
2. What are the characteristics of a successful inquiry?
3. How do you assess Inquiry?





# Curriculum Connections

# Inquiry in the Core Competencies:

## Critical Thinking:

“Students learn to engage in an inquiry and investigation where they **identify and explore questions or challenges related to key issues or problematic situations in their studies, their lives, their communities, and the media. They develop and refine questions; create and carry out plans; gather, interpret, and synthesize information and evidence; and draw reasoned conclusions.** Some critical thinking activities focus on one part of the process, such as questioning, while others may involve a complex inquiry into a local or global issue.”

*-Critical Thinking, page 2*

# Inquiry in the Redesigned Curriculum:

“Through demonstration of the core and curricular competencies, students are bound to form questions that provide teachers with insight into their thinking. Questions generated by both students and teachers are critical to encouraging a sense of wonder and curiosity among students. *This dialogue can take place through many question-based approaches, including, but not limited to:*

- inquiry
- *project-based learning*
- *problem-based learning*
- *self-assessment*
- *research skills*
- *scientific methods*

*-Curriculum overview, page 6*



# Inquiry in Science:

“The redesigned Science curriculum is rooted in inquiry. **Inquiry is the tool with which students gain knowledge, learn the habits of mind and skills and processes associated with the doing of science**, develop a deeper understanding of science concepts through big ideas, and acquire core competencies as scientifically educated citizens.”

*-Introduction to Science curriculum, page 4*

## Curricular Competencies:

- Questioning and predicting
- Planning and conducting
- Processing and analyzing data and information
- Evaluating
- Applying and innovating
- Communicating

# Inquiry in Social Studies:

“Throughout the Social Studies curriculum, students investigate significant issues so they can make informed decisions... [Students reach] deeper understandings by investigating open-ended questions; debating and discussing historical and contemporary issues; and developing and supporting their own hypotheses, solutions, and conclusions.”

*-Introduction to Social Studies curriculum, page 2*

## **1<sup>st</sup> Curricular Competency for every grade K-9:**

- Use Social Studies **inquiry processes and skills to: ask questions; gather, interpret, and analyze ideas; and communicate findings and decisions**

# Inquiry in Mathematics:

“The redesigned Mathematics curriculum continues to support the application of foundational math skills to problem solving.”

*-Introduction, page 4*



# Resources





# Doing Good Science in Middle School

A Practical Guide to Inquiry-Based Instruction

# INQUIRING MINDS

LEARN TO READ AND WRITE

# GUIDED INQUIRY

LEARNING IN THE 21ST CENTURY

# MAKE JUST ONE CHANGE

# Why Are Schoolhouses Always Yellow?

# ESSENTIAL QUESTIONS

Opening Doors to Student Understanding

# Teaching for Inquiry, PreK-5

# AUTHENTIC LEARNING in the Digital Age

# Inquiry Circles in Action

# COLLABORATION



**Personalize**



What questions do you still have?  
(sticky notes – parking lot)

Compass:

- what Excites you about Inquiry?
- what Worries you?
- what Needs do you have?
- next Steps?



# Ed Camp

## What is it?

- This is a valuable opportunity to collaborate on a topic that is important to you with your colleagues from across the district

## When is it?

- 1:15 pm – 2:30 pm

## What to do I need to do?

- Sign up for a topic (North – north cafeteria; Byrne – atrium) and note the room
- Bring your thoughts, questions, ideas, and/or resources connected to this topic

## What do we talk about?

- Conversations grow naturally and organically from your topic
- To help you, we have created a list of Starting-Point questions that you *may* use