

# Playful Mathematical Inquiry (K-5)

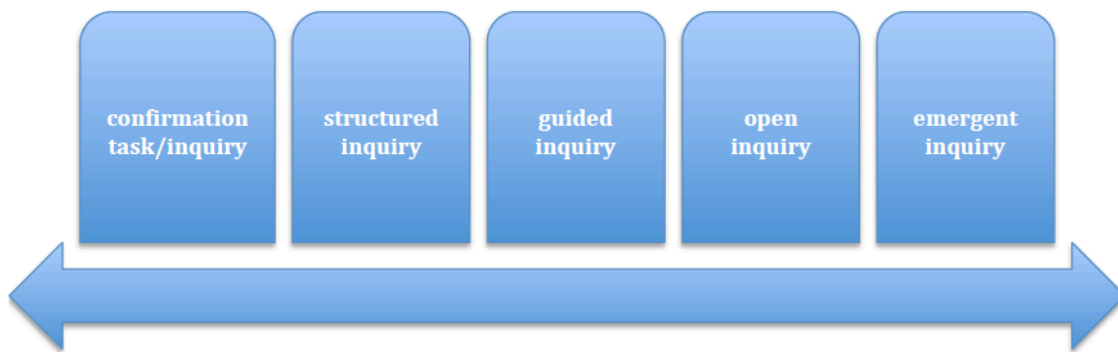
BCAMT Fall Conference  
October 21, 2016

## K-9 Curricular Competency

- ⦿ *Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving*

## Spectrum of Inquiry

*\*goal is to provide opportunities for students to ask their own questions and pose their own problems*



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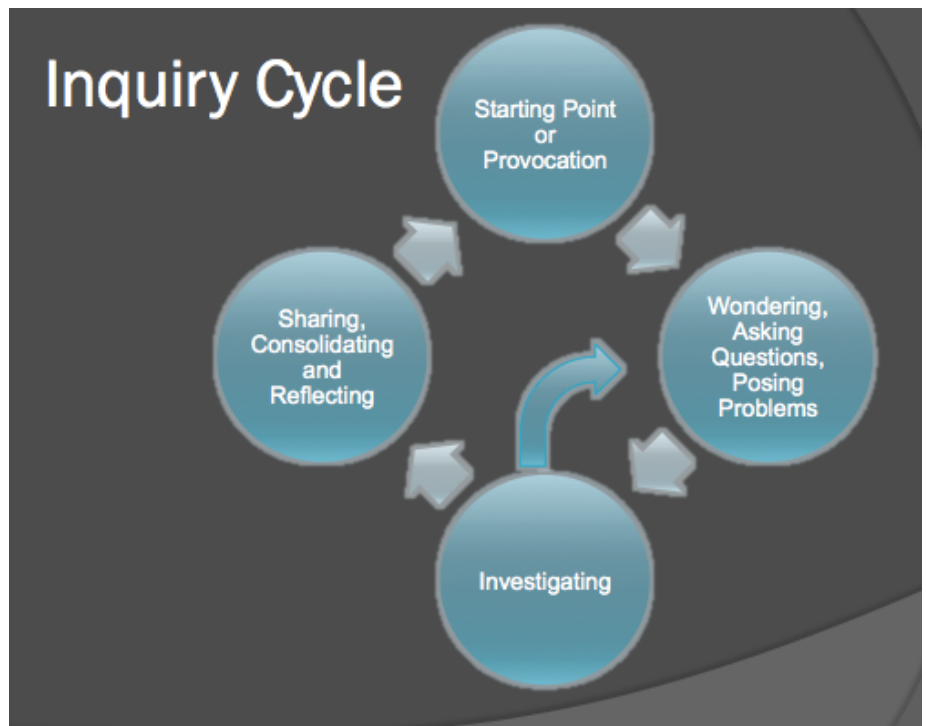
- ⦿ *Connect mathematical concepts to each other and to other areas and personal interests*

## Making Connections

- ⦿ math to self
- ⦿ math to world
- ⦿ math to math

## What is playful mathematical inquiry?

- ⦿ *playing with materials*
- ⦿ *playing with language*
- ⦿ *playing with ideas*



# Provocations

## Where do provocations come from?

- ⊙ the students' wonders and interests
- ⊙ the big ideas and curricular content & competencies
- ⊙ making math to math, math to self or math to world connections
- ⊙ a starting point

## What can be a provocation?

- ⊙ materials or tools
- ⊙ a question, a story, a puzzle or problem
- ⊙ informational text or graph
- ⊙ local or global news
- ⊙ an issue important to the students – school-based, social justice, environmental

## Some frames for provocations:

- ⊙ What stories live within...?
- ⊙ What do you notice? What do you wonder?
- ⊙ What is the relationship between....?
- ⊙ What are the connections between...?
- ⊙ What happens when...?
- ⊙ How many different...?
- ⊙ How do these materials help you think about...?
- ⊙ Where do we see...in the world?

## Developing Provocations

- ⊙ Planning with intention – knowledge of curriculum and your students
- ⊙ Being thoughtful about what materials will be offered
- ⊙ Create opportunities for collaboration
- ⊙ Choose a big idea, curricular competency and/ or content
  - How will you provoke thinking and learning?
  - What materials will you use?
  - Will you use direct prompt, implied prompt through modeling or open exploration?
  - How do you anticipate your students will engage with your provocation?
  - How will students' learning be made visible?

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