

# An Inquiry into Inquiry



---

February 26<sup>th</sup>, 2015



# Reflect on Your Schooling

- How were you taught?
- What are your most memorable learning experiences in school?
- What were your least favorite learning experiences in school?

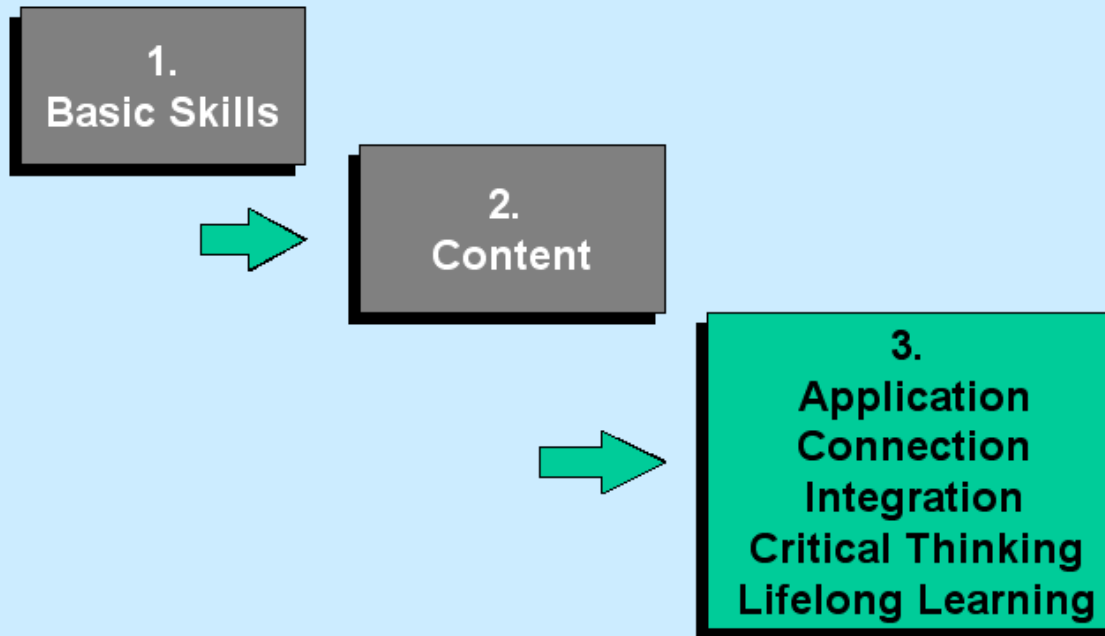
# Central Idea

- Inquiry pushes current understandings of what we THINK we know to enable us to make greater meaning of the world we live in.

# Lines of inquiry.. An inquiry into

- Key elements of inquiry
- Process of inquiry (inquiry cycle)

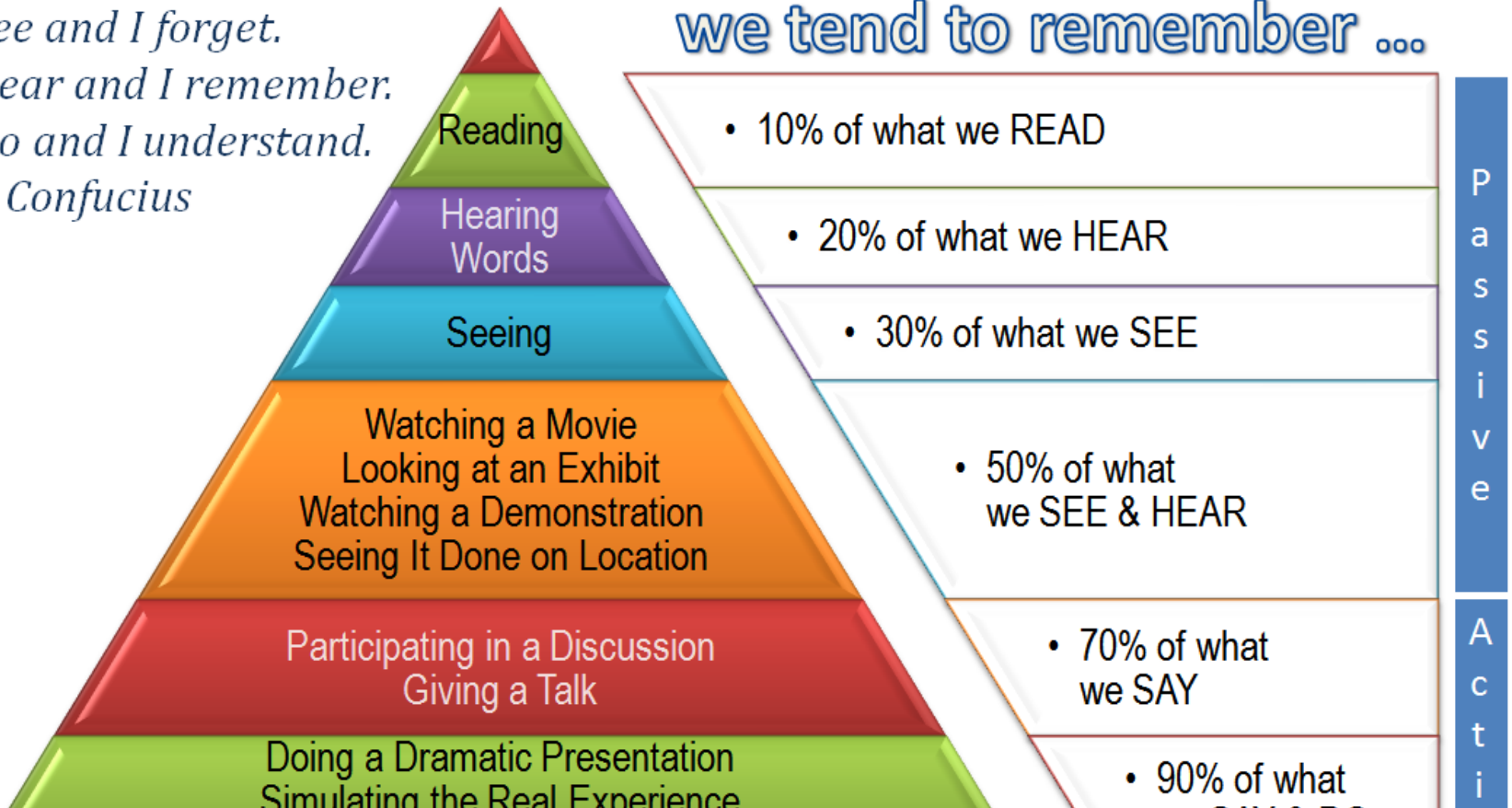
# Traditional Conception of Curriculum

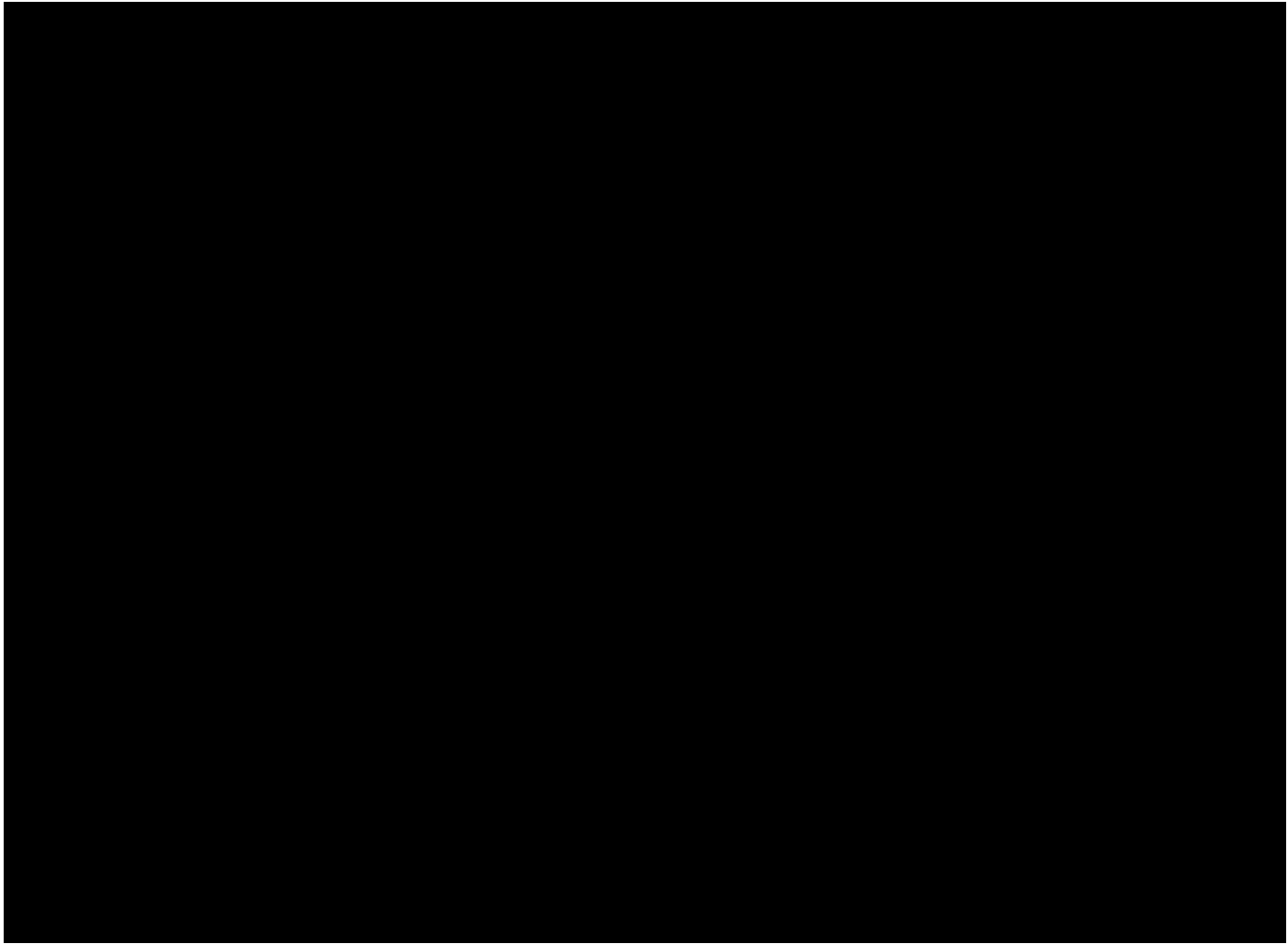


After 2 weeks,

we tend to remember ...

*I see and I forget.  
I hear and I remember.  
I do and I understand.*  
— Confucius





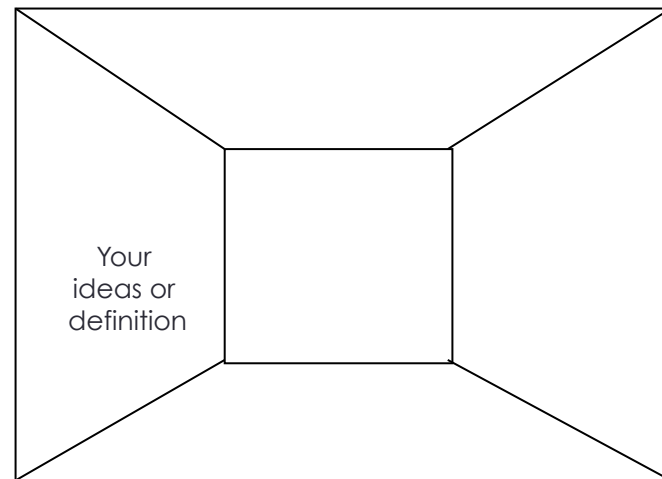
# Placemat Activity

When you think of inquiry, what comes to mind?

Take a few minutes to write your ideas.

Turn paper and read each section. Star any ideas from others that you connect with.

Add to your section.





# So what is inquiry?

“Inquiry-based learning is an interactive fluid and recursive process responsive to the discipline, the teaching goals, and student learning needs.”

(Watt & Colyer, 2014)

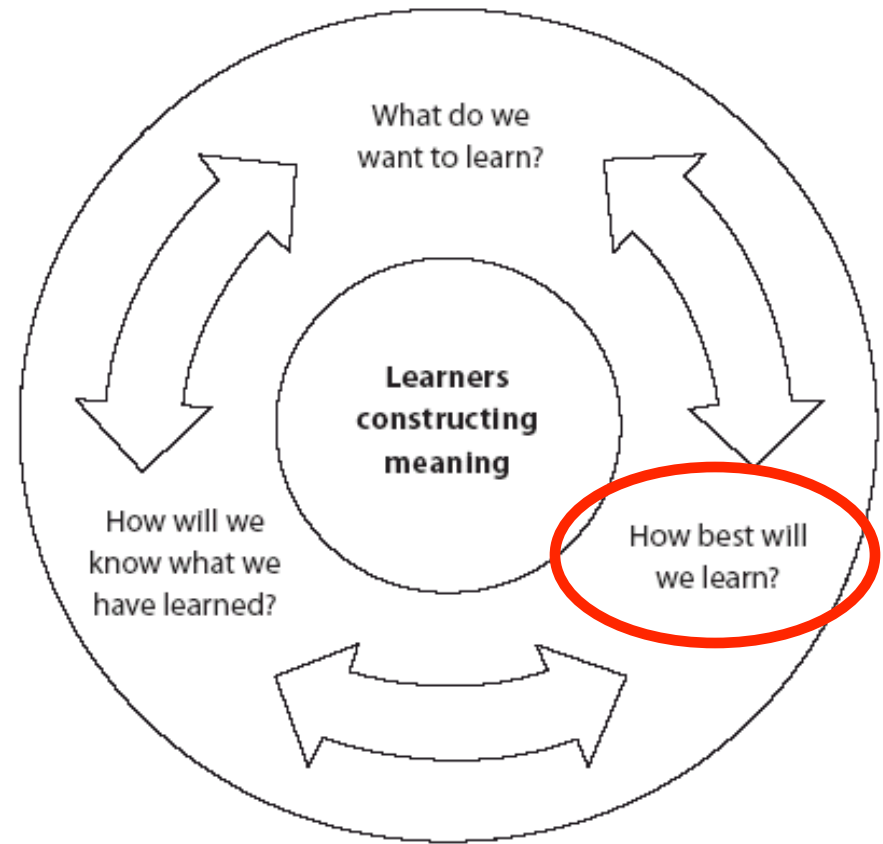


# The Taught Curriculum

## How Best Will We Learn?

At the core of the programme is the idea of the learner constructing meaning.

This is done through the school's Program of Inquiry and each Grade's IB Planner.



# THE IB VIEW ON INQUIRY

- The PYP curriculum model is based on the constructivist approach:
  - Learners have beliefs about how the world works based on their previous experiences and learning. We continually make meaning of our lives and the world by engaging in the cyclic path of constructing, testing, confirming and revising our understandings.
- In the PYP it is believed that inquiry is the way in which students learn best.



# Inquiry is..

## “Living the questions.”

Jeff Wilhelm (2007) . Engaging Readers and Writers with Inquiry (2007)



# Understandings vs. Answers

## Understandings

- Understandings are temporary and can be changed over time

## Answers

- Answers are final and will not change with new experiences

*Learning Together Thought Inquiry-Kathy Short*

Inquiry, interpreted in the broadest sense, is the **process initiated by the students or the teacher** that moves the students from their current level of understanding to a new and deeper level of understanding.

# Why Inquiry?

- **Vehicle for integration of the curriculum**
- **Fosters connected rather than episodic teaching and learning**
- **Caters for range of learning styles**
- **Transferable process**
- **Taps into students' curiosity**

**(Kath Murdoch)**

# Inquiry is the finding of new understandings by...

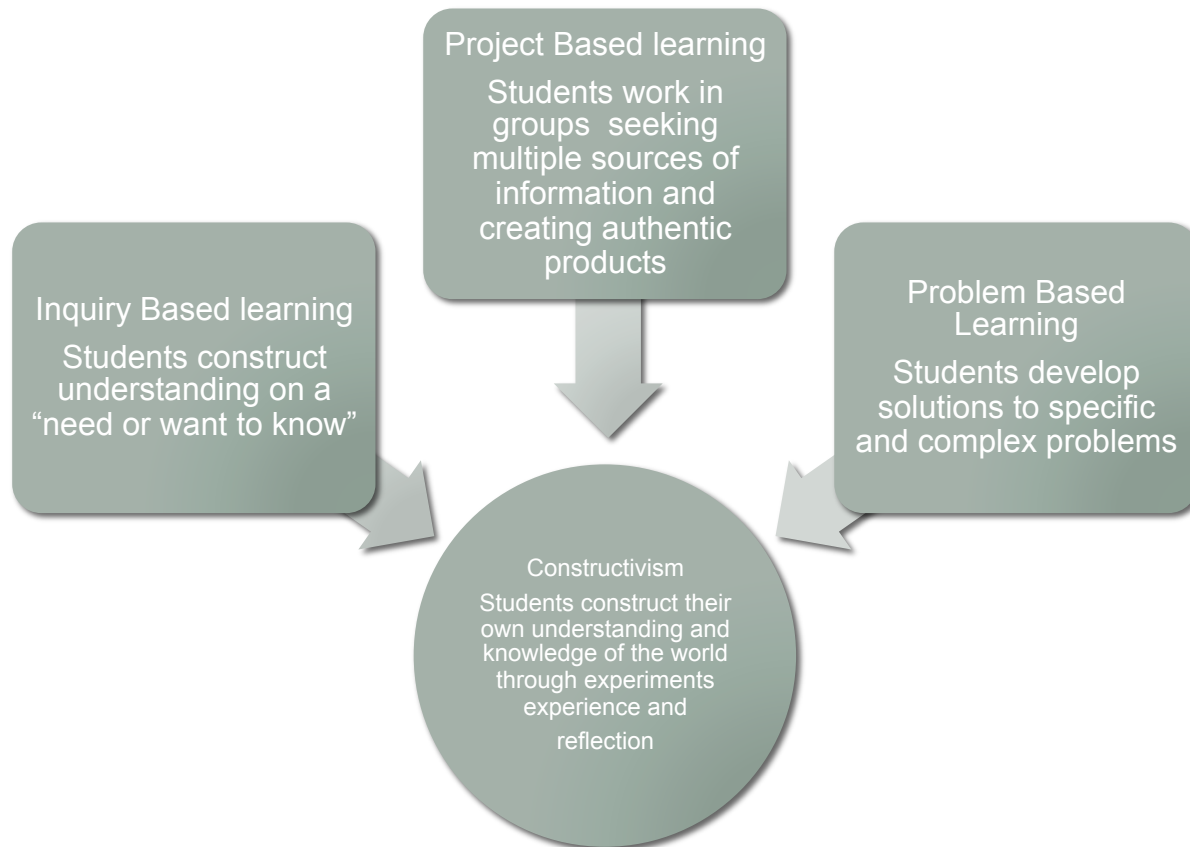
- Exploring, wondering, questioning
- Experimenting and playing with possibilities
- Making connections between previous learning and current learning
- Using dialogue to work through misconceptions, clarify ideas, and construct new understandings
- Making predictions and acting purposefully to see what happens
- Collecting data and reporting findings
- Clarifying existing ideas and reappraising perceptions of events
- Deepening understanding through the application of a concepts
- Making and testing theories
- Researching and seeking information
- Taking and defending a position
- Solving problems in a variety of ways
- Synthesis, analysis, and manipulation, and transfer of knowledge, skills, understandings

# Inquiry is empowering

- Inquiry enables students to take responsibility for their learning
- Students identify problems and pose questions that are significant in the context in which they are learning
- They use proper tools and procedures to solve the problems and answer the questions
- They work together and co-construct meaning
- They share what they've learned with others



# Different Inquiry Models



*High Teacher Control*

*Low Student Initiative*

**Structured Inquiry**

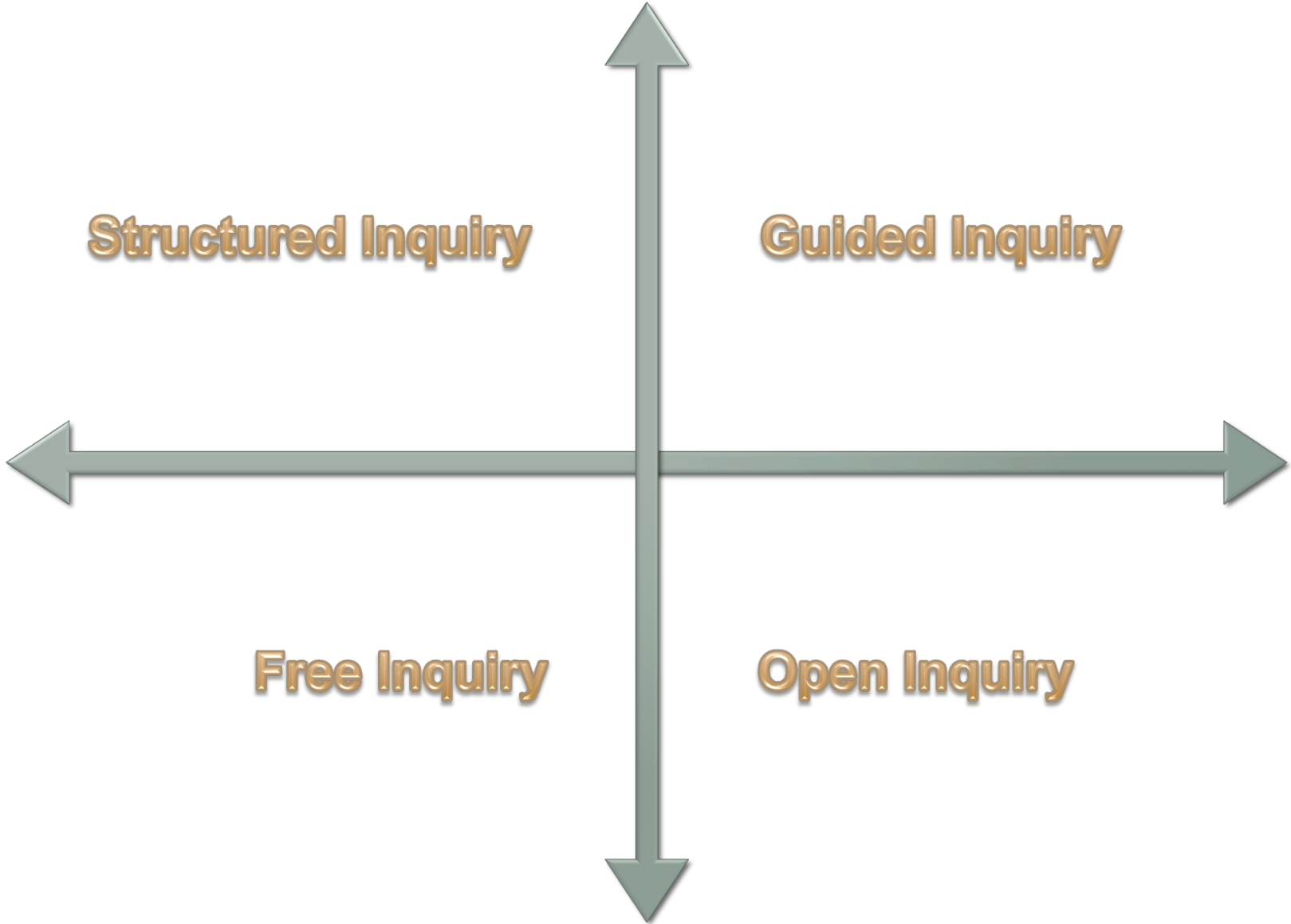
**Guided Inquiry**

*High Student Initiative*

**Free Inquiry**

**Open Inquiry**

*Low Teacher Control*



# INQUIRY STATIONS

- Station 1
  - Popsicle Stick and Modelling Clay
- Station 2
  - Newspaper & Masking Tape
- Station 3
  - Sentence Sort
- Station 4
  - Living and Non-Living Sort

# INQUIRY STATIONS Debrief

- Station 1- **FREE INQUIRY**
  - Popsicle Stick and Modelling Clay
- Station 2- **OPEN INQUIRY**
  - Newspaper & Masking Tape
- Station 3- **GUIDED INQUIRY**
  - Sentence Sort
- Station 4- **STRUCTURED INQUIRY**
  - Living and Non-Living

# INQUIRY CYCLE



KATH  
MURDOCH

# What is a mib?

## Mib Trials

Trial 1

This is a mib.



Is this a mib?



Trial 2

Trial 1 is not a mib.

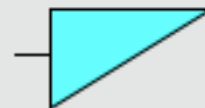
Is this a mib?



Trial 3

Trial 2 is not a mib.

Is this a mib?



# Mib Trials

Trial 4

Trial 3 is a mib.

Is this a mib?



Trial 5

Trial 4 is a mib.

Is this a mib?



Trial 6

Trial 5 is not a mib.

Is this a mib?



Trial 7

Trial 6 is a mib.

Is this a mib?

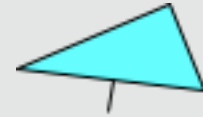


# Mib Trials

Trial 8

Trial 7 is not a mib.

Is this a mib?



Trial 9

Trial 8 is not a mib.

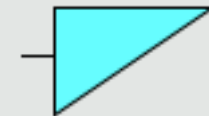
Is this a mib?



Trial 10

Trial 9 is not a mib.

Is this a mib?



Trial 11

Trial 10 is a mib.

Is this a mib?





# Mib Trials

Trial 12

Trial 11 is a mib.

Is this a mib?



Trial 13

Trial 12 is a mib.

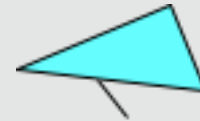
Is this a mib?



Trial 14

Trial 13 is not a mib.

Is this a mib?



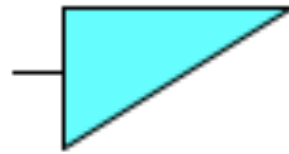
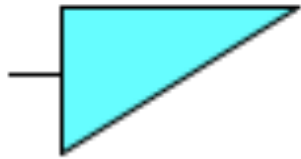
Trial 15

Trial 14 is not a mib.

Is this a mib?



**Trial 15 is mib!**



Please write a  
definition of a mib!



# 2 Digit by 1 Digit Multiplication

16

x3

24

30

54

<sup>2</sup>

16

x3

54

What is happening in each algorithm?

How are these algorithms the same?

How are they different?

Invent another algorithm that will do the same thing!

Telling our students to sit quietly and listen will not turn them into lifelong learners or engaged citizens...inquiry-based teaching can transform our classrooms and spark a love of learning

Steven Wolk 2008



Teachers are viewed as facilitators of learning rather than vessels of knowledge.  
Harvey & Daniels 2009

### The teacher's role in Inquiry:

- Exemplifies and celebrates curiosity
- Models the inquiry process
- Encourages authentic questions
- Shares examples of how inquiry happens in the real world
- Stays alert to inquiry topics and searches for relevant texts and examples
- Links curriculum to inquiry
- Helps students locate, organize, and use resources
- Monitors inquiry circles
- Regularly meets and confers with groups and individual students
- Observes group work and provides feedback
- Supports kids in taking action beyond the classroom
- Responds to and assesses individual and group work



# Tuning into Inquiry

Children's **inquiry utterances** might involve language which is:

- **Tentative**: unsure; uncertain; not definite or positive; hesitant
- **Conjecturing**: an opinion or theory formed or expressed; guess; speculation
- **Reflective**: characterised by contemplation; thoughtful, connecting to prior experiences
- **Creative, imaginative**: basic wondering, using examples or images
- **Clarifying ideas**: both their own and others

We also need to recognize that learners can easily move back and forth between these types of comments and between seeking information and wondering.

## Inquiry Language

### **Tentative**

I don't know...

This is sort of like...

There's a part I didn't understand.

There's a part I want to ask about...

I'm trying to figure out...

This is what I don't get...

### **Conjecturing:**

Well maybe if...

I think...

So you think maybe...

### **Creative, imaginative**

I wonder why...

I wonder if...

I think that...

### **Reflective**

I thought it was...

Last time I tried this...

That surprised me.

I thought it was...

I noticed...

### **Clarifying ideas**

I'm trying to figure out...

This is what I don't get...

Help me understand...

Tell me more...

I wanted to ask you about...

It makes sense that...

What do you think...

How do you know...

# Facilitating Discussion that Promote Inquiry

- What do you think?
- How could you find out?
- How could you solve this problem?
- What ideas do you have?
- What made you think of that?
- Can you explain your reasoning?
- Tell me more about...?
- Where did you get stuck and what did you do when that happened?
- What did you wonder about when you were working on...?
- What pictures are you seeing in your mind to help you think about that?
- What do you think about that idea?
- Do you agree or disagree? Why?
- What could you /they/ she/ he have done instead?



# Inquiry Language/ Phrases

- Help me understand...
- Tell me more...
- I wonder if..
- That surprises you...
- So you think maybe..
- What do you think...
- In what ways do you know...
- There's a part I want to ask about...
- I'm trying to figure out..
- I wonder why..
- Well maybe...
- I think that...
- I noticed..
- This is what I don't get..
- It makes sense that...
- I thought it was...
- I wonder...



# Inquiry is like a Tornado



- Conditions have to be right for it to occur
- Natural
- Converging of systems (prior knowledge)
- Electricity in the air (excitement)
- Dissonance outside (inside calm)
- Sucks in everything- inclusive (Gathers resources/ideas/consequences) to build and increase intensity
- Chucks out misconceptions and misunderstandings
- Messy and can be scary and uncomfortable
- Path unknown
- Circular/spiral (reflection)
- Starts small and grows
- When gone the effect and memory lingers and stays
- Changes the landscape (mind)

Inquiry transforms education  
from learning *about* to  
learning to *be* – to the process  
of becoming

Kathy Short

Taking the PYP Forward



# Thank You!

## Questions?

Jen Wilson

[jwilson@sd44.ca](mailto:jwilson@sd44.ca)

Sandra Singh

[ssingh@sd44.ca](mailto:ssingh@sd44.ca)

Natasha Dash

[ndash@sd44.ca](mailto:ndash@sd44.ca)

# References

Watt & Colyer 2014

MTPYPH p. 29

Jeff Wilhelm Engaging Readers and Writers with Inquiry 2007

*Learning Together Thought Inquiry*-Kathy Short

Kath Murdoch – Taking the PYP forward

Steven Wolk 2008

Harvey & Daniels 2009