School Year 2013 – 2014
ENGAGING IN GROWTH
The Thinker in Action!
Creating a Culture of Thinking in our Classrooms
Who are we?
Our journey... Your journey?

• Where we’re coming from
• How we’re getting there
• What you’ll see along the way

“...children grow into the intellectual life around them.”
(Vygotsky, 1978)
Examples of Thinking Routines

http://www.pz.harvard.edu/vt/
What Does Thinking Look Like in the Classroom?

• Everyone looks different in their “Thinking Cap”!
• “Healthy Buzz” or “Silent Thinker”?
• Time to think
• Think, Pair, Share®

“Teachers who are successful at promoting students’ thinking tend to develop, adapt, and make use of specific routines to scaffold and support students’ thinking.”

(Ritchhart, 2002)
MYST

**Me**: How do I make my own thinking visible?

**You**: How do I make my students’ thinking visible?

**Space**: How is space in the classroom organized to help facilitate thinking?

**Time**: How do I give thinking time? How does thinking develop over time?
Some tools for you

Creativity
Truth
Fairness
Understanding
See, Think, Wonder

Writing Sample Fall 2013 inspired by Bruegel’s Children’s Games

Look closely at Bruegel’s painting of Children’s Games and use the Thinking Routine of See, Think, Wonder to discuss and describe your thoughts about the painting.

See

Think

Wonder
Hear, Think, Wonder

- Use what you can even if it is not much
- He never gave up despite all his challenges
- He has a good family but is starving
- How hard was it?
- How did he survive with so little food and drink?
- Would I have the courage to do it?
Headlines®

• Asthma in the Air
• Global Warming Affects All
• Health in Chocolate? Who knew?
• Diabetes can devastate people emotionally
• Euro Crisis Abated but Millions Still in Poverty
• Emotions – How Do You Perceive the World?
**Hackers Taking Over the Cyberworld**

Did you know that a hacker can crack your email password in less than 2 minutes? Did you know that over 600,000 Facebook profiles get hacked every day?

If you want to learn more come visit Anton’s Awesome Hacking Booth!

**Origami to Improve Your Health and Brain**

Origami is a Japanese word for paper folding but did you know that origami has some health and brain benefits? Come into the world of origami at Akanksha Bansal’s Booth.

**Bones as Musical Instruments**

Have you heard of Indian music? Well a long time ago sticks and bones were used as musical instruments, and hollow bones were made as flutes and recorders. Creepy, I know!

Come and visit Archita Gupta’s booth and you will enter the world of Indian music!

**Videogames Are a Scapegoat for Numerous Crimes and Robberies**

Yes, an innocent videogame may change our brain both in a good way and in a bad way; crimes or being the best in the class, robberies or living a happy life. Why are they bad for you? How do you know? What are the positive sides?

If you want to know come to Bernardo’s booth and enter the world of videogames!

**Don’t Think It, Ink It!**

Printing... we do it all the time, but do we even notice that the stuff that comes out of the printer, ink, is disappearing? Is it because we want so much, or is it that we need a little help with finding the solution to this problem?

Come visit Anna-Rosa’s ink booth to find out what solutions are available, and much more about ink...

**How Can We Use Snake Venom to Stop Diseases?**

Snakes have been upon us for billions of years and I would like to tell you about them so stick up to Alex Chappelle’s booth.

**Seeing Jumbled Up Words**

Dyslexia: a special learning disability. You will never see words correctly. They will always be jumbled up, but the good news is you will always find strategies to help you. If you want to discover more, go to Blanca Mosquera’s booth and you will find out.

**What Would You Do for Money?**

What drives people to steal, to risk their lives to get precious items? And if the urge gets the better of them what will they steal, and how? Learn about the gadgets police use, and how they work by coming to Abdulla’s world of crime.

**Third Culture Kids**

In the future there is a likelihood that more children will become Third Culture kids. This is because of globalization and social media. Are there advantages and disadvantages? Can it affect your personality? Come to David Lammson’s booth to learn about Third Culture Kids.
Color

Connection
When I was little I used to talk to my stuffed animals before I went to bed.

I tried to draw a lynx but it sort of turned out bad.
Brain Replay

Understanding ideal
I used to worry about moving the decimal point in the right direction and I always felt lucky when I got the answer is right. Now, I know when I am right. (Anna, 10)

I used to think that multiplying or dividing by 100 was all about adding or taking away zeros. Now I know that the number is getting 100 times bigger or smaller. (Kevin, 10)

I used to think division was subtraction, now I think division is splitting into groups. (Robin, 9)
More understanding routines...

Think Pair Share

What makes you say that?
Reporters’ Notebook

Current events – Evaluating media sources

- What facts are you sure about?
- Which ones do you need to know more?
- Try to capture the feelings you notice or imagine

<table>
<thead>
<tr>
<th>Facts &amp; Events</th>
<th>Clear</th>
<th>Need to Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>The region is</td>
<td>The region is without power and without electricity</td>
<td>15000 families without a home</td>
</tr>
<tr>
<td>without electricity</td>
<td>The airport is closed</td>
<td>The first cases of diphtheria have been recorded</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thoughts &amp; Feelings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The children are</td>
<td></td>
<td></td>
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<tr>
<td>frightened</td>
<td></td>
<td></td>
</tr>
<tr>
<td>People are afraid of</td>
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<tr>
<td>the high risk of epidemic</td>
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<td></td>
<td></td>
<td>The president does care about the homeless people</td>
</tr>
</tbody>
</table>

Conflict resolution

- What was the conflict about?
- Point of view of each participant
- Best judgment based on situation

Fairness ideal
Circle of Viewpoints

I am thinking of the idea of Urban Development from Mullet Fingers’ point of view.

I personally think that developing this site for a pancake house is wrong because it is ruining the owl’s habitat. A question I have from this viewpoint is ‘How can they do this knowing that the owls are in danger?’ ‘Does an owl have a price?’
Question Circles
Looking at perspectives

Truth/Fairness ideal
Questions about Over-Population

• What is it?
• What are the factors that contribute to over-population?
• Why are more animals dying and more people being born?
• How could we reduce the amount of people?
• Will we run out of food to feed everybody?
• Why are there more people than there were back then?
• How many people live on earth?
• How many more people live now than before?
• How is it affecting our world?
• What will happen?
• In how long/are there to many people on earth?
• Why is the over-population a big problem?
• If we had two earths, would both have too many people on them?
• Will poorer people be annoyed if the world over-populates?
• Will the world over-populate?
• Do some people not care if the world will over-populate?
Compass points®

- North (N)
- South (S)
- East (E)
- West (W)

- Need to know
- Excited about
- Worried about
- Suggestions for success

Truth ideal
Share your thoughts
Claim Support Question

Claim: Hydroelectric power is more reliable than other renewables.

Truth ideal
True for Who?

Possible issues to discuss:
- School food
- Uniform
- Fur coats
- Wind turbines
- Staff issues

- Identify the different perspectives (company building/developing, environmentalists, villagers, government, politicians...)
- Dramatize each role (individually or in groups) and present a stance
- Stand back and evaluate reflect on perspectives presented. Come to a conclusion (argument) and what are the new questions, what solutions could be suggested to reach a consensus

Truth ideal
What would if be like if we had a walking school bus?

What would change if petrol was rationed?

How would it be different if there were no cars?

What would it look like if the city centers were pedestrian only?

Suppose that all students had to come to school by bikes?

Traffic

SWOT analysis

Conduct survey
Investigate bike storage
Investigate possible bike routes

Creativity ideal
If this wind turbine were an animal, it would be an elephant because it is very tall like an elephant and the blades are like the tusks and they are also like the trunk.

If this wind turbine were a plant, it would be a wheat because it looks like a windmill and its origin was in Holland where they used to grind up the wheat.

If this wind turbine were a city, it would be Scotland because I know as a fact that Scotland is very windy and they have a lot of wind turbines.

If this wind turbine were a building, it would be a crystal because it is a sustainable source of energy like the crystal which runs on sustainable energy.
Step Inside
Perceive-Know about-Care about

Creativity ideal
Selecting the thinking routines

key thinking ideals

- fairness
- truth
- understanding
- creativity

types of thinking/
key thinking moves

- looking closely
- reasoning
- building expectations

the most commonly used in different subject areas or levels
### MTV Arc of Learning Organizer

#### Context:
- Name of Team: Grade 5
- Grade level/Subject area: Grade 5 UOI How the World Works
- Main topic explored: Light
- Length of the Unit:
- Content Area: Science

#### Understanding Goals:
1. Light reacts in different ways according to the matter it comes into contact with.
2. Light travels in a straight line and lenses, water or prisms show that light beams can be bent (refract).
3. Through an understanding of its properties, light can be controlled to achieve a particular purpose.

#### What Students Will Be Doing:

<table>
<thead>
<tr>
<th>Lesson 1</th>
<th>Lesson 2</th>
<th>Lesson 3</th>
</tr>
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<tbody>
<tr>
<td>Observe natural, every day effects of light and ask questions</td>
<td>Observe a periscope, experiment with it and explain how it is made with a labeled sketch</td>
<td>Analyze how a popular game app uses the properties of light</td>
</tr>
</tbody>
</table>

#### Thinking Routines
- Lesson 1: Creative questions
- Lesson 2: Circle of View points; Fairness – Is the use of a periscope respectful of all parties? Try – Think – Wonder -
- Lesson 3: Think – Puzzle – Explore

#### Art/Artifacts Provocations
- Lesson 1: Creative questions
- Lesson 2: 3D object – not a photo
- Lesson 3: The ‘Explore’ will lead to a series of inquiries into light related topics such as moon light, lightning, shadows, fog lights...

#### Documentation
- Lesson 1: A collection of creative questions generated by the students. These questions should be posted in a visible location as prompts to further inquiries.
- Lesson 2: Students’ sketches of what they imagine is inside. A printed sketch to compare.

#### Cultural Forces
- Lesson 1: The 3 pictures provide opportunities to address light separation, light traveling in a straight line, opaque (shadows) and translucent materials.
Building Blocks

Creative questions

Light reacts in different ways according to the matter it comes into contact with.

- How would the designs change if with the heat the water drops got smaller?
- What would the pattern look like in the summer?
- How would the pattern show if the ground was not covered in snow?
- Could the art work be the reflection of the stained glass?
- How could we make the stained glass window reflection sharper?
Light travels in a straight line and lenses, water or prisms show that light beams can be bent (refract)
Think Puzzle Explore®

What properties of light are used in this game?

What are you still not clear about?

What seems strange about the behaviour of light?

What important questions would you like to inquire about?

Through an understanding of its properties, light can be controlled to achieve a particular purpose.

What important questions would you like to inquire about?
PMI® Edward de Bono

\[ P = \textbf{Plus} - \text{The good things about an idea - why you like it} \]
\[ M = \textbf{Minus} - \text{The bad things about an idea - why you don't like it} \]
\[ I = \textbf{Interest} - \text{What you find interesting about an idea} \]
Minds On! Thinking for the Future
Have we given you something to think about?

Q&A
Think you!

Keri, Janie, Anne-Françoise
References


MTV Arc of Learning Organizer @2012 President and Fellows of Harvard College