ThINQ
Inquiry-based Learning

WELCOME!

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coa-author of THINQ 4-6 and 7-9
Agenda
1. Inquiry 101
2. Questioning: The fuel to inquiry learning
3. 10 Steps to doing more inquiry
4. Making sense: helping learners to reason
5. How do you assess inquiry?
What is inquiry-based learning?
Is it inquiry?

Yes, if it has these 3 essential traits.

Source: ThinQ 4-6
Inquiry Skills

Source: ThinQ 4-6
Myths and misconceptions- Are any of these obstacles for you?

1. The teacher has no control.
2. It takes too long.
3. It’s too hard for young learners.
4. It’s difficult to assess.
5. It’s the best learning strategy and should be done all the time.
The Inquiry Continuum

Figure 1.?: The inquiry continuum - As you move from guided to open the level of student autonomy increases and teacher direction decreases.

Source: ThinQ 4-6
Inquiry Dispositions

- **Curiosity**
  - Eagerness to learn or know something

- **Criticality**
  - Objective analysis and evaluation

- **Hopefulness**
  - Feeling or inspiring optimism about the future

- **Open-mindedness**
  - Willingness to consider new ideas

Source: *ThinQ 4-6*
Questioning: The fuel to inquiry learning
Questioning

Why are questions important?

Why do we want students to be curious?
What type of questions do my students ask?

What type of questions would I like my students to ask?

In what ways do I encourage questioning?
Wonder Activities or Provocations that ignite curiosity and promote questioning
# Assessment considerations arising from the content of a student’s question

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>What does this question tell me about this student’s interests and curiosity?</td>
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<tr>
<td>What does this question reveal in terms of gaps in this student’s content knowledge?</td>
</tr>
<tr>
<td>What evidence of existing content knowledge does this student’s question reveal?</td>
</tr>
<tr>
<td>Does this question build on recently learned information or experiences, thereby revealing a consolidation of learning?</td>
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</table>

Source: p. 23 *Natural Curiosity: A Resource for Teachers*
## Assessment considerations arising from the quality of a student’s question

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
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<tbody>
<tr>
<td>Does this question represent this student’s ability to make connections among ideas?</td>
<td>Does this student tend to ask questions that are fact-based or higher-order in nature, or a combination?</td>
</tr>
<tr>
<td>Has this student shown growth in the kind of questions that they ask?</td>
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Source: p. 23 *Natural Curiosity: A Resource for Teachers*
Tools to help students with questioning skills
Question Words?

What? It’s used to ask about specific thing, people, animal, object.

Which? It’s used to ask about choice, alternative.

Where? It’s used to ask about place, position.

Who? It’s used to ask about people, person.

When? It’s used to ask about time, occasion, moment.

Whose? It’s used to ask about who the possessor of something.

Why? It’s used to ask about reason, explanation.

How? It’s used to ask about condition, quality, may, manner, form events and the way things.
<table>
<thead>
<tr>
<th>Questioning Grid</th>
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</thead>
<tbody>
<tr>
<td><strong>Is / Are</strong></td>
</tr>
<tr>
<td><strong>What</strong></td>
</tr>
<tr>
<td><strong>Where</strong></td>
</tr>
<tr>
<td><strong>When</strong></td>
</tr>
<tr>
<td><strong>Who</strong></td>
</tr>
<tr>
<td><strong>Why</strong></td>
</tr>
<tr>
<td><strong>How</strong></td>
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</tbody>
</table>
Asking/Developing a Question

**ROBOT:** who is...? when is...? (surface) what is...? where is...?

**DETECTIVE:** why is...? what is...? what caused...? (digging)

**JUDGE:** who would...? who might...? do you agree...? in your opinion... where could...? (digging deeper)

**INVENTOR:** why would...? how would...? how might...? what would you...? (developing understanding)
### Questioning: A one-point rubric

<table>
<thead>
<tr>
<th>Areas that need work</th>
<th>Standard for asking questions</th>
<th>Exceeding expectations</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Student asks questions from different points of view.</td>
<td></td>
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<tr>
<td></td>
<td>Student ask questions that can be investigated (not too broad or too narrow).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Student produces, improves and prioritizes questions.</td>
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</table>
10 Steps to doing more inquiry

1. Start with a guided inquiry.
2. Determine your broad curricular targets.
3. Develop rich inquiry questions from your targets.
4. Locate and collect age-and grade-appropriate sources to drive the inquiry.
5. Build in opportunities for ongoing collaboration, sharing and reflection.
7. Create and reinforce vocabulary to communicate inquiry thinking.
8. Help students make sense of the evidence.
9. Assist students in drawing conclusions based on their evidence.
10. Include time to reflect on and share conclusions.
Guided Inquiry: An Example

Step 1: Create an inquiry question

Step 2: Use an evidence bundle
Who am I?
Who should lead? Who should follow?
How could I be a better friend?
What makes a good community?
How do you decide whether a book/website/song is good?
How do we know?
What is my responsibility?
What is fair?
What is where, why there, and why care?
What strategy should I use?
How do I live a healthy life?
Moving from questions to investigation . . .
Plan and enact a guided inquiry

1. Determine an inquiry question.
2. Locate age-appropriate sources that consider multiple perspectives (evidence bundle).
3. Gradually release each source one at a time and have students ask questions.
Guided Inquiry example

Inquiry Question

How did Canadian government policies impact the identity of Indigenous Peoples?

Evidence Bundle

- Two photographs
- An excerpt from the Aboriginal Affairs and Northern Development Canada website
- An excerpt from a story from Nunatsiaq News, An Iqaluit newspaper
Non-indigenous Canadian government agents had trouble with Inuit names and naming traditions so they classified people according to assigned numbers rather than actual names.
In 1941, the Canadian government introduced an identification system to help them more easily identify and track the Inuit. Every Inuit was given a disc stamped with a four-digit number. The Canadian government kept a record of Inuit and Christian names, along with the disc number, or E [Eskimo]-number, given to each Inuk. The discs were approximately the size of a quarter with a hole punched in the top, so they could be worn on string around the neck or wrist. They were made from pressed fibre and stamped with the Canadian Coat of Arms as well as the four-digit number.
Kuujjuaq woman Olivia Ikey Duncan shows off her new tattoo.

I cried so much that day--I couldn't believe that my people had gone through that and survived” she said. “How they were categorized, and how they were treated . . . That’s when I said ‘that’s my tattoo.’

“How can you be proud of yourself when you don’t understand where you come from.”
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“...I cried so much that day — I couldn’t believe that my people had gone through that and survived,” she said. “How they were categorized, and how they were treated — that’s when I said ‘that’s my tattoo.’”

… Before she decided on her tattoo, Duncan researched the history of the tags, and how Inuit were administered — a history she wishes was more available to Inuit youth today.

For Duncan, that part of her family’s history seems so close — yet so far away for a generation, like hers, who grew up without them.

But people are trying to understand now and they want their discs back, to keep as a part of our history,” she added.

“How can you be proud of yourself when you don’t understand where you came from?”

Photo caption: “Non-indigenous government agents had trouble with Inuit names and naming traditions so government agents classified people according to assigned numbers rather than actual names.”
Using Evidence Bundles

How could you build on this evidence bundle?
What type of evidence bundle could you create for a guided inquiry for your students?
What is Marine Debris?

Marine debris is any man-made, solid material that enters waterways directly through littering or indirectly via rivers, streams, and storm drains. Marine debris can be simple items such as a discarded soda can, cigarette butt, or plastic bag that ends up in the ocean, potentially harming marine life. Nearly 80 percent of marine debris originates from land-based sources. Lost or abandoned commercial and recreational fishing nets, lines, pots, and traps are another form of marine debris, categorized as debris fishing gear (DFG). These items, whether discarded intentionally or lost accidentally, may sit on the seafloor, get caught on rocky or coral reefs, or float on the ocean surface. The majority of this lost gear does not decompose in seawater and can remain in the

Inquiry Questions

How does marine debris harm humans?
How does marine debris harm the ocean ecosystem?
What actions can I take to reduce marine debris?

Plastic Marine Debris
What can we do?
• Get involved! Participate in local cleanups in your area.
• Remember that the land and sea, no matter where you are, are connected.
• Reduce the amount of waste you produce.
• Reuse items whenever possible. Choose reusable items over disposable ones.
• Recycle as much as possible. Bottles, cans, cell phones, ink cartridges, and many other items can be recycled.

Marine Defenders website
Good suggestions for prevention - how individuals can help.
My Thesis Statement
In society now zoos should be banned

Inquiry Questions
What? - should zoos be banned
When? - Now
Why? - putting healthy animals in cages when they are supposed to be in the wild. Also animals being harmed after people making mistakes on falling into the exhibit and killing animals with sticks and rocks.
1. Are zoos harmful for animals?
2. How do zoos harm animals?

What can we do?
There are many things we can do to help animals in our world to live a better life. A main help we can do to save our animals is to not going to zoos and paying to see them. We actually convince the zoo to carry zoos by paying money to go visit animals in cages.

Bowmanville zoo
http://www.citynews.ca/2015/12/22/bowmanville-zoo-owner-refuses-peta-video-showing-him-whipping-tiger/

Un fortunately Bowmanville zoo should be banned.

Article

Unfortunately a bear got killed after escaping from a closed enclosure. Zoo keepers say that sedating the bear would take too long to travel.

Video 1
https://www.youtube.com/watch?v=iz1vulAI0uM

In this video shows a gorilla getting its life taken away because of a kid who fell in when it was actually the moms fault for not taking care of the baby. They killed the gorilla saying its too dangerous having to save the kid with the gorilla being alive.

Video 2
http://www.cbc.ca/player/play/695117891718

In this video shows 2 male lions together at a zoo but 2 male lions cannot be together. There would normally be 1 male lion in each pack and the rest would be female lions.

Video 3
https://www.youtube.com/watch?v=Io9lapp0ays

Why do zoos need to be banned?
Zoos have many reasons for it to be banned. The first reason is animals being in cages for people to see when they should be in the wild. Secondly they kill healthy animals when there are too many when they could have lived a normal life in the wild.
Making sense:  
helping the learner to reason
Thinking deeply about evidence

What evidence does the girl gather to support her conclusion?

How does the girl interpret the evidence?

What evidence could you gather to counter her evidence?

What advice could you offer the little girl when she gathers evidence?
ThinQ: Reflection and Sharing

Read 6.2 pp. 89-92

Turn and Talk using some of these prompts.

1. The idea that resonated with me was . . .
2. This reminds me of . . .
3. I used to think . . . now I think . . .
4. A question that remains is . . .
Beyond Guided Inquiry
You are a GENIUS!!
The world expects your contribution!
Genius Hour today 1:45 pm
Term 1

1. How do the parts of a larger system work together to benefit humans?

2. How does the media try to influence our eating habits?

3. How does our government's involvement in current international issues directly affect our lives?

Term 2

4. Do the benefits of space exploration outweigh the negatives related to natural resources and the environment?

5. How safe do you feel?

6. How do the forces acting on and within the structure of a plane allow it to fly?

Term 3

7. Why do others try to influence our decisions?

8. What is my relationship with nature?

9. How does transforming matter and energy affect human health and the health of our planet?

10. How can changes in our bodies influence our behaviour?
Term 1

How can the healthy and unhealthy choices you make affect your growth and development?

Why do you think it is important for humans to protect plants, animals, and the places they live?

Why do you think people live where they do?

Term 2

How do the forces in our lives help or hinder the things we want to do?

Why do you think saying 'no' can be a difficult thing sometimes?

How do you think environmental conditions impact the strength and stability of a structure?

Term 3

How do you think histories and traditions shape a community?

How does what we eat affect our day?

How do our actions impact the quality of air, water, and soil and the Earth's ability to sustain life?

How do we know if a drug is going to be helpful or harmful?
Final Thoughts

What are my next moves in inquiry-learning?

What professional learning do I need to deepen my practice and refine my skills?

How might I measure impact?