Visible Thinking Resource Book

Version 1

What We Have Here

This is a resource book for Making Thinking Visible, an online course offered by the WIDE World initiative at the Harvard Graduate School of Education. The course guides educators in the Visible Thinking approach to combining the development of thinking skills and dispositions with deeper learning in the subject matters.

This resource book is meant not as a read-through but as a compendium of useful items. You will find in the pages that follow:

- An acknowledgment of our supporters, sites, and colleagues.
- A table of contents to help you navigate.
- A general description of Visible Thinking.
- A number of "thinking routines," simple strategies meant to be used in company with subject-matter learning, both to cultivate thinking and deepen the learning.
- The thinking routines are organized under four broad categories of thinking – Understanding, Truth, Fairness, and Creativity.
- There are diagrammatic “maps” of each of those four categories that may be helpful.
- A discussion of how teachers work together to build cultures of thinking and thoughtful learning, along with a couple of thinking routines for teachers that help advance that process.

We have also organized the pages so that in most cases it's easy to print a single page as a guide for you to have on your desk in the classroom.

This resource book is compiled from the Visible Thinking website with some modifications and additions. You can find that website at:

http://www.pz.harvard.edu/vt/

Another valuable resource is the Artful Thinking website, which particularly emphasizes the integration of the arts into subject matter instruction along with thinking:

http://pzweb.harvard.edu/tc/

We expect to be updating this resource from time to time. Keep an eye out for further versions.

Acknowledgments

The development of the Visible Thinking initiative spans a number of years and continues today. The original research base toward what became Visible Thinking began with support from the Spencer Foundation and years later continued with support from the John D. and Catherine T. MacArthur Foundation. The development of the Visible Thinking framework itself received support from Peder Wallenberg and the Stiftelsen Carpe Vitam Foundation with intensive site-based work at Lemshaga Akademi in Sweden. The work continued at the Traverse City, Michigan School System in the version Artful Thinking, funded in part by a U.S Department of Education Arts in Education Model Development & Dissemination Grant; and at Bialik College in Melbourne, Australia, in the version Cultures of Thinking with support from Bialik College itself and the Abe and Vera Dorevitch Foundation. The development of the online course this resource serves is part of the activities of the WIDE World initiative, supported by Al and Kate Merck.

All of this work has been conducted as part of the activities of Project Zero at the Harvard Graduate School of Education. The principal researchers and developers involved have been David Perkins, Ron Ritchhart, and Shari Tishman. We have collaborated closely with several key individuals at Project Zero and the development sites mentioned above, and have worked with many school leaders and teachers in several parts of the world who have embraced these ideas, helped to bring them alive in their own settings, and contributed to their advancement. Karin Morrison, the instructor for the WIDE World course on Making Thinking Visible, has long been a partner in this work at Bialik College in Melbourne.

We are immensely grateful for the confidence and commitment of our supporters, colleagues, and friends.

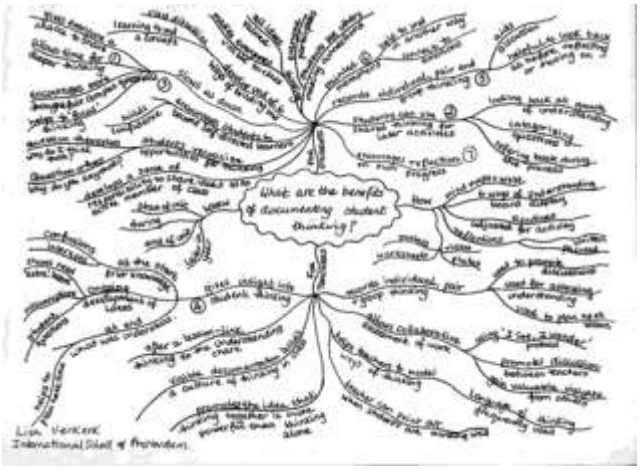
Table of Contents

A Brief Introduction to Visible Thinking

Every committed educator wants better learning and more thoughtful students. Visible Thinking is a way of helping to achieve that without a separate ‘thinking skills' course or fixed lessons.

Visible Thinking is a broad and flexible framework for enriching classroom learning in the content areas and fostering students' intellectual development at the same time. Here are some of its key goals:

- Deeper understanding of content
- Greater motivation for learning
- Development of learners' thinking and learning abilities.
- Development of learners' attitudes toward thinking and learning and their alertness to opportunities for thinking and learning (the "dispositional" side of thinking).
- A shift in classroom culture toward a community of enthusiastically engaged thinkers and learners.



Toward achieving these goals, Visible Thinking involves several practices and resources. Teachers are invited to use with their students a number of "thinking routines" – simple protocols for exploring ideas – around whatever topics are important, say fractions arithmetic, the Industrial Revolution, World War II, the meaning of a poem, the nature of democracy. Visible Thinking includes attention to four big categories of thinking – Understanding, Truth, Fairness, and Creativity. Sometimes we call them "thinking ideals" because they are all ideal aspirations for good thinking and learning. And of course there are other thinking ideals as well. Visible Thinking emphasizes several ways of making students' thinking visible to themselves and one another, so that they can improve it.

The idea of visible thinking helps to make concrete what a thoughtful classroom might look like. At any moment, we can ask, "Is thinking visible here? Are students explaining things to one another? Are students offering creative ideas? Are they, and I as their teacher, using the language of thinking? Is there a brainstorm about alternative interpretations on the wall? Are students debating a plan?"

When the answers to questions like these are consistently yes, students are more likely to show interest and commitment as learning unfolds in the classroom. They find more meaning in the subject matters and more meaningful connections between school and everyday life. They begin to display the sorts of attitudes toward thinking and learning we would most like to see in young learners – not closed-minded but open-minded, not bored but curious, neither gullible nor sweepingly negative but appropriately skeptical, not satisfied with "just the facts" but wanting to understand.

A bit about our research

Visible Thinking is the product of a number of years of research concerning children's thinking and learning, along with a sustained research and development process in classrooms.

One important finding was that skills and abilities are not enough. They are important of course, but alertness to situations that call for thinking and positive attitudes toward thinking and learning are tremendously important as well. Often, we found, children (and adults) think in shallow ways not for lack of ability to think more deeply but because they simply do not notice the opportunity or do not care. To put it all together, we say that really good thinking involves *abilities, attitudes, and alertness,* all three at once. Technically this is called a dispositional view of thinking. Visible Thinking is designed to foster all three.

Another important result of this research concerns the practical functionality of the Visible Thinking approach – the thinking routines, the thinking ideals, and other elements. All these were developed in classroom contexts and have been revised and revised again to ensure workability, accessibility, rich thinking results from the activities, and teacher and student engagement.

Why Make Thinking Visible?

The central idea of Visible Thinking is very simple: *making thinking visible.*

We learn best what we can see and hear ("visible thinking" means generally available to the senses, perceptually accessible so to speak, not just what you can see with your eyes). We watch, we listen, we imitate, we adapt what we find to our own styles and interests, we build from there. Now imagine learning to dance when the dancers around you are all invisible. Imagine learning a sport when the players who

already know the game can't be seen.

Strange as it seems, something close to it happens all the time in one very important area of learning: learning to think, which includes learning to learn. Thinking is pretty much invisible. To be sure, sometimes people explain the thoughts behind a particular conclusion, but often they do not. Mostly, thinking happens under the hood, within the marvelous engine of our mind-brain.

Visible Thinking includes a number of ways of making students' thinking visible to themselves, to their peers, and to the teacher, so they get more engaged by it and come to manage it better for learning and other purposes.

When thinking is visible in classrooms, students are in a position to be more metacognitive, to think about their thinking. When thinking is visible, it becomes clear that school is not about memorizing content but exploring ideas. Teachers benefit when they can see students' thinking because misconceptions, prior knowledge, reasoning ability, and degrees of understanding are more likely to be uncovered. Teachers can then address these challenges and extend students' thinking by starting from where they are.

Introduction to Thinking Routines

Routines Everywhere

Routines exist in all classrooms; they are the patterns by which we operate and go about the job of learning and working together in a classroom environment. A routine can be thought of as any procedure, process, or pattern of action that is used repeatedly to manage and facilitate the accomplishment of specific goals or tasks. Classrooms have routines that serve to manage student behavior and interactions, to organizing the work of learning, and to establish rules for communication and discourse. Classrooms also have routines that structure the way students go about the process of learning. These learning routines can be simple structures, such as reading from a text and answering the questions at the end of the chapter, or they may be designed to promote students' thinking, such as asking students what they know, what they want to know, and what they have learned as part of a unit of study.

The Idea of Thinking Routines

Visible Thinking makes extensive use of learning routines that are thinking rich. These routines are simple structures, for example a set of questions or a short sequence of steps, that can be used across various grade levels and content. What makes them routines, versus merely strategies, is that they get used over and over again in the classroom so that they become part of the fabric of classroom' culture. The routines become the ways in which students go about the process of learning.

Of course, thinking routines are also meant to be useful beyond the classroom – for understanding everyday situations or ideas from the newspaper or TV, viewing sources of information critically, planning just about anything, making decisions, dealing with interpersonal relationships, considering moral problems, addressing situations inventively, and indeed all the circumstances where thinking proves so fundamental to human endeavor. Students and parents often spontaneously report applications outside of school, strong encouragement for our endeavor!

Thinking routines form the core of the Visible Thinking program. What makes these routines work to promote the development of a students thinking and the classroom culture are that each routine:

- Is goal oriented in that it targets specific types of thinking
- Gets used over and over again in the classroom
- Consists of only a few steps
- Is easy to learn and teach
- Is easy to support when students are engaged in the routine

- Can be used across a variety of context
- Can be used by the group or by the individual

Routines are really just patterns of action that can be integrated and used in a variety of contexts. You might even use more than one routine in teaching a single lesson. Thus, you shouldn't think about the routine as taking time away from anything else you are doing, they should actually enhance what you are trying to do in the classroom.

Focus on Integration with Existing Content

Because of their simple nature, the routines do not need to be taught separately. They can simply be used right away as a means of investigating and working with current subject matter, whatever it happens to be.

If you have a topic and routine in mind, take a minute to try out the routine on the topic yourself, just to check that it's generative. That said, often teachers employ routines spontaneously in "teachable moments," and that generally works out well too. Sometimes when teachers first use a routine with their students, they do so with a convenient topic that may not be a regular part of students' study, just to get students used to the routine. For example, the "What makes you say that?" routine might be introduced with an engaging picture or photograph, though later a teacher might want to use it with a poem, artifact, or scientific experiment from the curriculum. But many teachers just jump in with a content-related topic. With all of the routines, teachers will need to think about what topics are most appropriate for their introduction and continued use.

Favorite Routines

Here are several routines that target different types of thinking. These routines are easy to get started with and are commonly found in Visible Thinking teachers' toolkits. You might want to get started with one of these routines. You can find them through the table of contents.

What Makes You Say That? *Interpretation with justification routine*

Think Puzzle Explore *A routine that sets the stage for deeper inquiry*

Think Pair Share *A routine for active reasoning and explanation*

Circle of Viewpoints *A routine for exploring diverse perspectives*

I Used to Think... Now I think... *A routine for reflecting on how and why our thinking has changed*

See Think Wonder *A routine for exploring works of art and other interesting things*

Compass Points *A routine for examining propositions*

Headlines *A routine for capturing the essence*

Claim Support Question *A routine for exploring truth claims*

Tug for Truth *A routine for exploring evidence on multiple sides of a case*

Step Inside *A routine for getting inside viewpoints*

A Compendium of Thinking Routines

Thinking routines in four categories

Below you will find a number of thinking routines, organized under the four categories Understanding, Truth, Fairness, and Creativity – four "thinking ideals." Understanding routines particularly serve the understanding of ideas and objects. There are quite a few of these, because Understanding has proven to be particularly resonant with the needs of classroom teaching and learning. Truth routines address claims and their soundness and different perspectives on claims. Fairness routines address issues of fairness, justice, equity, and the like. Creativity routines concern functioning creatively and recognizing the creative aspects of ideas and objects.

But of course it's not that neat! Almost any routine, whether it's grouped here as an understanding routine or not, can serve understanding – we understand things better by appraising their truth, examining their fairness, and adopting a creative stance toward them. Many routines might be classified in more than one way. And of course, we could have more than four thinking ideals. Please take the grouping below as a grouping of convenience and feel free to use any routine for whatever purpose it seems to be suited.

The profile of a routine

The profile of a routine includes:

- A concise characterization, beginning with a table that summarizes the steps of the routine and going on to describe the purpose of the routine, when it might be used, and how to get started. When possible, this appears on a single page for easy printing and taking to class.
- Often, a Picture of Practice illustrating the routine in action. These generally include text and photos of student work. In a few cases there are videos in the video collection for Making Thinking Visible.
- Often, a brief Connections and Extensions section comments on how to stretch the routine.

However, sometimes we don't have one or another of the last two elements. This does not mean that the routine in question has seen any less use or is less valuable. It's an accident of circumstances: how recently the routine was created and whether anyone got around to constructing Pictures of Practice or Connections and Extensions.

Make up your own by all means!

Teachers commonly not only use these routines but make up their own and share them. Indeed, some of the routines below were adapted from various sources and teachers. Feel free to do this. It's a creative enterprise. There is no final official and "right" set of thinking routines. In the Video Collection, the video of The Thinking Keys by Stephanie Martin, Kindergarten, illustrates a teacher-developed routine.

Understanding Routines

Connect Extend Challenge *A routine for connecting new ideas to prior knowledge*

Explanation Game *A routine for exploring causal understanding*

*Headlines *A routine for capturing essence*

*See Think Wonder *A routine for exploring works of art and other interesting things*

*I Used to Think, Now I Think *A routine for reflecting on how and why our thinking has changed*

Question Starts *A routine for creating thought-provoking questions*

*Think Pair Share *A routine for active reasoning and explanation*

*Think Puzzle Explore *A routine that sets the stage for deeper inquiry*

*What makes you say that? *A routine for interpretation with justification*

3-2-1 Bridge *A routine for activating prior knowledge and making connections*

Color, Symbol, Image *A routine for distilling the essence of ideas non-verbally*

Generate, Sort, Connect, Elaborate *A routine for organizing one's understanding of a topic through concept mapping*

Peel the Fruit *A map for tracking and guiding understanding*

*Consider starting with one of these routines

Connect Extend Challenge: Connecting new ideas to prior knowledge

CONNECT:	How are the ideas and information presented CONNECTED to what you already knew?
EXTEND:	What new ideas did you get that EXTENDED or pushed your thinking in new directions?
CHALLENGE:	What is still CHALLENGING or confusing for you to get your mind around? What questions, wonderings or puzzles do you now have?

Purpose: What kind of thinking does this routine encourage?
The routine helps students make connections between new ideas and prior knowledge. It also encourages them to take stock of ongoing questions, puzzles and difficulties as they reflect on what they are learning.

Application: When and Where can it be used?
The natural place to use the Connect-Extend-Challenge routine is after students have learned something new. It doesn't matter how much they have learned – it can be a lesson's worth, or a unit's worth. The routine is broadly applicable: Use it after students have explored a work of art, or anything else in the curriculum. Try it as a reflection during a lesson, after a longer project, or when completing a unit of study. Try using it after another routine!

Launch: What are some tips for starting and using this routine?
This routine works well with the whole class, in small groups or individually. Keep a visible record of students' ideas. If you are working in a group, ask students to share some of their thoughts and collect a list of ideas in each of the three categories Or have students write their individual responses on Post-it notes and add them to a class chart. Keep students' visible thinking alive over time: Continually add new ideas to the lists and revisit the ideas and questions on the chart as students' understanding around a topic develops.

Connect Extend Challenge: Pictures of Practice

Look at the videos collection to see: Connect Extend Challenge: Susan Loban, Grade 5, Migration, from the International School of Amsterdam

Susan Loban's class has been studying migration for eight weeks and students have made art installations that reflect their understanding of the topic so far. They use the Connect Extend Challenge routine to share the projects and discuss the thinking be. The routine helps the students make *connections* to their original ideas about migration and think about how their ideas have changed, or *extended.* It helps to uncover some questions and puzzles about the topic that are still *challenging* students, and that can be investigated during the final weeks of their study.

Look at the videos collection to see: Connect Extend Challenge: Mark Church, Grade 6, Human origins, from the International School of Amsterdam

Mark Church's social studies class recently viewed a video as part of their study on the origins of human society. Students used the Connect Extend Challenge routine to share and discuss their ideas about the video. In small groups they identified *connections* to things they had already been thinking about and discussed how their ideas about early humans have changed, or *extended,* in new directions. The routine helps to uncover some questions and puzzles about the topic that are still *challenging* or puzzling students. In the final weeks of their study, the class investigated these issues.

Explanation Game: Exploring causal understanding

The routine focuses first on identifying something interesting about an object or idea:

"I notice that..."

And then following that observation with the question:

"Why is it that way?"
or
"Why did it happen that way?"

Purpose: What kind of thinking does this routine encourage?
This is a routine for understanding why something is the way it is. This routine can get at either causal explanation or explanation in terms of purposes or both.

Application: When and Where can it be used?
You can apply it to almost anything: a pencil, cell phones, forms of government, historical documents, and events. Students can work in pairs or groups of larger size, even a whole class. The explanation game can also be used solo. The first time the routine is used, the teacher may need to take an active role in scaffolding the conversation and modeling how to ask questions of explanation and clarification if others. Over time, students can begin to emulate the conversational moves and questioning they have seen modeled.

Launch: What are some tips for starting and using this routine?
Begin with something "on the table" – an object like a cup or a compass, a document like a poem, a picture, an historical event, a scientific theory, etc. The first person (this might be the teacher initially) points out an interesting feature of the object: "I notice that... That's interesting. Why is it that way? or "Why did it happen that way?" (or some similar why question). The other people in the group try to answer the question or at least to propose possible explanations and reasons. As these students share their ideas, the person asking the original question follows up by asking, "What makes you think so?" The group works together to build explanations rather than merely deferring to an outside source, the teacher or a textbook, to provide an answer.

Student questions and explanations become visible to the class as they are shared. Responses to the routine also can be written down and recorded so that there is a class list of evolving ideas. A few key issues or puzzles might then be chosen for further investigations. A conversation could also be recorded as a chart with four columns representing the key structures of the conversation: 1) the Observation that is initially made, 2) the Question that comes out of that observation, 3) the various Explanations/Hypotheses that the rest of group puts forth, 4) the Reasons /Justifications that are given in support of the explanations.

Explanation Game: Pictures of Practice

Look at the videos collection to see: Explanation Game: Debbie O'Hara, Kindergarten, Interpreting a painting, from the International School of Amsterdam

Debbie O'Hara's kindergarten students have been using the Explanation Game as a way of thinking and sharing ideas together. In this video clip students use the routine to explore an abstract work of art. As they make observations and explain their interpretations, students' ideas begin to build on one another.

Explanation Game: Connections and Extensions

The Explanation Game works well as a whole class discussion. Students working in pairs or small groups can also use the routine with Think Pair Share. Use in combination with the What makes You Say That routine or Claim Support Question to help students expand on their ideas and provide support for their explanations. After a discussion ask students to summarize their ideas with the Headlines routine. The Questions Starts routine can also help students flesh out their emerging puzzles and identify good questions to investigate.

Encourage students to keep an ongoing list of their interpretations and questions about a current topic in their notebook or journal and ask them to add to it during the course of study. A class chart can also be posted on the wall in the classroom and revisited and revised as new ideas and information surface through discussions.

Headlines: Capturing essence

This routine draws on the idea of newspaper-type headlines as a vehicle for summing up and capturing the essence of an event, idea, concept, topic, etc. The routine asks one core question:

1. If you were to write a headline for this topic or issue right now that captured the most important aspect that should be remembered, what would that headline be?

A second question involves probing how students' ideas of what is most important and central to the topic being explored have changed over time:

2. *How has your headline changed based on today's discussion? How does it differ from what you would have said yesterday?*

Purpose: What kind of thinking does this routine encourage?
This routine helps students capture the core or heart of the matter being studied or discussed. It also can involve them in summing things up and coming to some tentative conclusions.

Application: When and where can I use it?
This routine works especially well at the end of a class discussion or session in which students have explored a topic and gathered a fair amount of new information or opinions about it.

Launch: What are some tips for starting and using this routine?
The routine can be used quite effectively with think-pair-share. For example, at the end of a class the teachers can ask the class, "Think about all that we have been talking about today in class. If you were to write a headline for this topic or issue right now that captured the most important aspect that should be remembered, what would that headline be?" Next, the teacher tells students, "Share your headline with your neighbor." The teacher might close the class by asking, "Who heard a headline from someone else that they thought was particularly good at getting to the core of things?"

Student responses to the routine can be written down and recorded so that a class list of headlines is created. These could be reviewed and updated from time to time as the class learns more about the topic. The follow-up question, "how has your headline changed or how does it differ from what you would have said? can be used to help students reflect on changes in their thinking.

Headlines: Pictures of Practice

Look at the videos collection to see: Headlines: Mark Church, Grade 6, Human origins, from the International School of Amsterdam

Students in Mark Church's social studies class have been exploring early human beginnings. After discussing the big challenges and puzzles around this topic, students came up with a *Headline* that captures the heart of what the search for early human origins is all about. Examples of students' Headlines include: *Why Do Mysteries Begin and How Do They End?; Is Evidence Enough?; Who We Really Are.* Later in their study students revisited and revised their headlines to show how their thinking evolved.

Headlines: Connections and Extensions

The Headlines routine is flexible and adaptable. It can be used in many contexts and in combination with other thinking routines. The What Makes You Say That routine is a natural follow up that asks students to explain the reasons for choosing a Headline. Headlines can be used to quickly summarize discussions generated by another routine. For example, ask students to capture the essence of their thoughts from the Connect Extend Challenge routine or from Think Puzzle Explore. Students can summarize the perspectives generated in a Circle of Viewpoints in a Headline or try to represent in a Headline their stance on a dilemma after a Tug of War.

The routine is useful when closing a discussion or lesson, but it can also be used when introducing a topic as a way of capturing students current ideas and/or misconceptions about a topic. As an extension, ask students to create a time line of their Headlines that tracks changes in thinking over time during a unit of study. Individually, students can use the routine when reading. Remind students to pause and occasionally write Headlines to themselves on post it notes that capture the essence of a chapter or passage in text.

See Think Wonder: Exploring works of art and other interesting things

- What do you **see**?
- What do you **think** about that?
- What does it make you **wonder**?

Purpose: What kind of thinking does this routine encourage?
This routine encourages students to make careful observations and thoughtful interpretations. It helps stimulate curiosity and sets the stage for inquiry.

Application: When and Where can it be used?
Use this routine when you want students to think carefully about why something looks the way it does or is the way it is. Use the routine at the beginning of a new unit to motivate student interest or try it with an object that connects to a topic during the unit of study. Consider using the routine with an interesting object near the end of a unit to encourage students to further apply their new knowledge and ideas.

Launch: What are some tips for starting and using this routine?
Ask students to make an observation about an object – it could be an artwork, image, artifact or topic – and follow up with what they think might be going on or what they think this observation might be. Encourage students to back up their interpretation with reasons. Ask students to think about what this makes them wonder about the object or topic.

The routine works best when a student responds by using the three stems together at the same time, i.e., "I see..., I think..., I wonder...." However, you may find that students begin by using one stem at a time, and that you need to scaffold each response with a follow up question for the next stem.

The routine works well in a group discussion but in some cases you may want to ask students to try the routine individually on paper or in their heads before sharing out as a class. Student responses to the routine can be written down and recorded so that a class chart of observations, interpretations and wonderings are listed for all to see and return to during the course of study.

See Think Wonder: Picture of Practice

Look at the videos collection to see: See Think Wonder: Lisa Verkerk, Grade 5, Human rights, rights of the child, from the International School of Amsterdam

Lisa Verkerk's fifth-grade students have been studying human rights. In this video clip, her students use the See Think Wonder routine to examine photographs and focus on the Convention of the Right of the Child.

I Used to Think, Now I Think: Reflecting on how and why our thinking has changed

Remind students of the topic you want them to consider. It could be the ideal itself – fairness, truth, understanding, or creativity – or it could be the unit you are studying. Have students write a response using each of the sentence stems:

- I used to think...
- But now, I think...

Purpose: What kind of thinking does this routine encourage?
This routine helps students to reflect on their thinking about a topic or issue and explore how and why that thinking has changed. It can be useful in consolidating new learning as students identify their new understandings, opinions, and beliefs. By examining and explaining how and why their thinking has changed, students are developing their reasoning abilities and recognizing cause and effect relationships.

Application: When and Where can it be used?
This routine can be used whenever students' initial thoughts, opinions, or beliefs are likely to have changed as a result of instruction or experience. For instance, after reading new information, watching a film, listening to a speaker, experiencing something new, having a class discussion, at the end of a unit of study, and so on.

Launch: What are some tips for starting and using this routine?
Explain to students that the purpose of this activity is to help them reflect on their thinking about the topic and to identify how their ideas have changed over time. For instance:

When we began this study of _____, you all had some initial ideas about it and what it was all about. In just a few sentences, I want to write what it is that you used to think about
_____. Take a minute to think back and then write down your response to " I used to think…"

Now, I want you to think about how your ideas about _____ have changed as a result of what we've been studying/doing/discussing. Again in just a few sentences write down what you now think about _____. Start your sentences with, "But now, I think…"

Have students share and explain their shifts in thinking. Initially it is good to do this as a whole group so that you can probe students' thinking and push them to explain. Once students become accustomed to explaining their thinking, students can share with one another in small groups or pairs.

Question Starts: Creating thought-provoking questions

1. Brainstorm a list of at least 12 questions about the topic, concept or object. Use these question-starts to help you think of interesting questions:

   Why...?
   How would it be different if...?
   What are the reasons...?
   Suppose that...?
   What if...?
   What if we knew...?
   What is the purpose of...?
   What would change if...?

2. Review the brainstormed list and star the questions that seem most interesting. Then, select one or more of the starred questions to discuss for a few moments.

3. Reflect: What new ideas do you have about the topic, concept or object that you didn't have before?

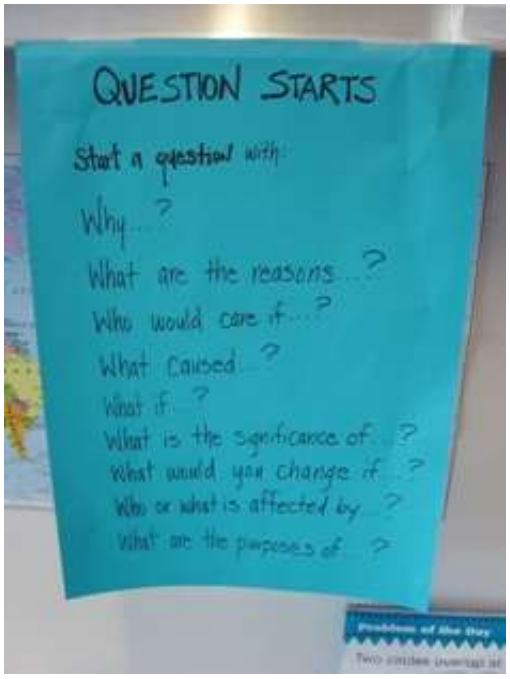
Purpose: What kind of thinking does this routine encourage?
This routine provides students with the opportunity to practice developing good questions that provoke thinking and inquiry into a topic. It also helps students brainstorm lots of different kinds of questions about a topic. The purpose of asking deep and interesting questions is to get at the complexity and depth of a topic. The purpose of brainstorming varied questions about a topic is to get at the breadth, and multi-dimensionality of a topic.

Application: When and Where can it be used?
Use Question Starts to expand and deepen students' thinking, to encourage students' curiosity and increase their motivation to inquire. This routine can be used when you are introducing a new topic to help students get a sense of the breadth of a topic. It can be used when you're in the middle of studying a topic as a way of enlivening students' curiosity. And it can be used when you are near the end of studying a topic, as a way of showing students how the knowledge they have gained about the topic helps them to ask ever more interesting questions. This routine can also be used continuously throughout a topic, to help the class keep a visible, evolving list of questions about the topic that can be added to at anytime.

Launch: What are some tips for starting and using this routine?
Before using Question Starts, you might want to ask students what they think makes a good question. Then, when you show the Question Starts, explain that this routine is a tool for asking good questions. Start the routine by providing a topic – Stockholm, a compass, the Equator, good sportsmanship. Ask them to use the Question Starts to generate a list of questions about the topic. Initially, it's best to work together as an entire group. Once students get the hang of the routine, you can have them work in small groups, or even solo. Or mix it up. For example, do step 1 as a whole class, do step 2 in pairs, and step 3 as a whole class again.

Question Starts: Pictures of Practice

Using the routine to explore the topic of population density



At the beginning of a unit, Anne Clarke's high school biology class brainstormed ideas about their new topic: population density. What did they know about the topic? What kinds of questions did they have? What were they wondering about this new topic? Anne Clarke posted a list of the question stems in the classroom to help students brainstorm interesting questions.

The opening conversation provided a perfect opportunity to use the Question Starts routine. Although they would be addressing the general issue of overpopulation in both humans and animals, Anne focused the discussion on Human Populations. Working individually and then in pairs, students used the questions stems from the routine to modify or transform existing questions from the brainstorm and generate and refine new questions. (See student list of questions below.) The lists of questions were shared with the whole group and served as a touch stone for investigation during the unit. Making the list available to students by posting it in the classroom allowed students to know when puzzles were addressed or when new information about a question was uncovered.

Questions about Human Populations

- What happens if the human population grows beyond carrying capacity?
- What effect would global warming (which may lead to famine, drought, economic crisis) have on human populations?
- What is the impact of war on human populations?
- Is it possible for humans to live sustainably on planet earth?
- What triggers intercontinental migration and how can it be slowed down?
- What are the problems likely to arise as the human population continues to increase?
- Why is the population predicted to even out in 50 or so years?
- Currently what kind of factor would make a significant dent in the growing population?
- What would happen if a laws was imposed to have only one child?
- Why is population increase a problem?
- What are the reasons for population growth?
- Where is the population growth rate highest?
- Can supply keep pace with demand if the population continues to rise?
- Will the increasing role of women in business life hold back population growth?

- What strategies can be used to bring down the rate of population growth?
- Did the Chinese one-child policy work?
- What impact would an economic crisis have on human population?
- Which resources will be lacking if human population continues to increase?
- Once the population starts to decrease is there a danger that it will go on decreasing?
- Will the human population level out eventually or will it increase and then fall?
- Would disease spread more rapidly if there are more people on the planet?
- Why did the population start increasing dramatically in the 20th century?
- Will the planet lack the resources in2050 (food, water, etc.) for the predicted number of humans?
- What are the solutions if the resources will be lacking?
- What is the biggest reason for population increase/decrease?
- What effect will population growth have on international relations?
- How can we slow down the rate of population growth?
- How will life expectancy changes as population increases?
- Why is it important to estimate population trends?
- What role have/will scientific advances play in influencing population trends?
- How do we know the population statistics and how accurate are they, especially for developing countries?
- What can be done, apart from making laws, to reduce the fertility rate?

Think Pair Share: Active reasoning and explanation

Think Pair Share involves posing a question to students, asking them to take a few minutes of thinking time and then turning to a nearby student to share their thoughts.

Purpose: What kind of thinking does this routine encourage?
This routine encourages students to think about something, such as a problem, question or topic, and then articulate their thoughts. The Think Pair Share routine promotes understanding through active reasoning and explanation. Because students are listening to and sharing ideas, Think Pair Share encourages students to understand multiple perspectives.

Application: When and Where can it be used?
Think Pair Share can be applied at any given moment in the classroom. For example, when approaching a solution, solving a math problem, before a science experiment, or after reading a passage or chapter of a book you may ask students to take a moment to think about a particular question or issue and then turn to their neighbor and share their thoughts. Sharing can also be done in small groups. Some times you will want to have pairs or groups summarize their ideas for the whole class.

Launch: What are some tips for starting and using this routine?
When first introducing the routine, teachers may want to scaffold students' paired conversations by reminding them to take turns, listen carefully and ask questions of one another. One way to ensure that students listen to each other is to tell students that you will be calling on individuals to explain their partners thinking, as opposed to telling their own thoughts.

Encourage students to make their thinking visible by asking them to write or draw their ideas before and/or after sharing. Journals can also be useful. Student pairs can report one another's thoughts to the class and a list of ideas can be created in the classroom.

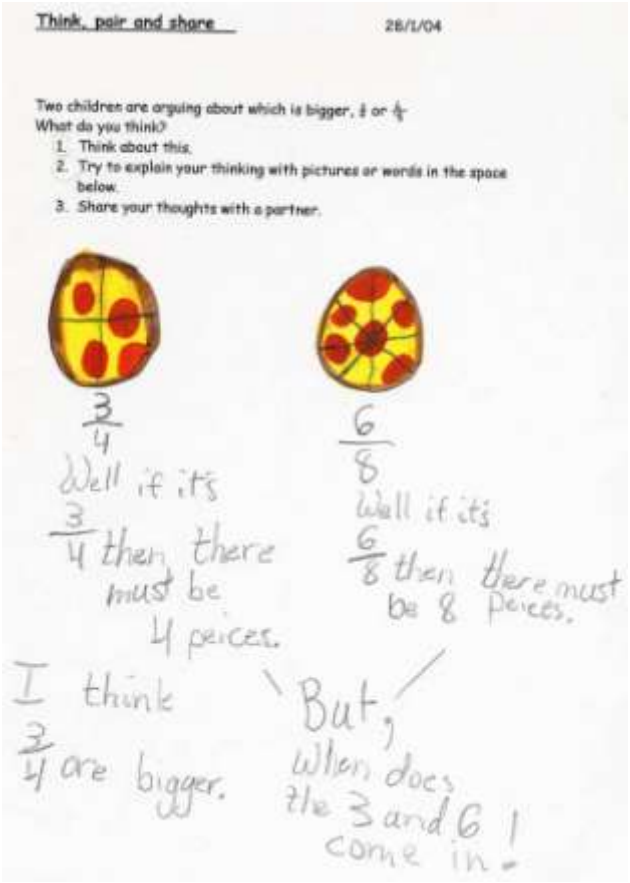
This routine is adapted from Frank Lyman: Lyman, F. T. (1981). The responsive classroom discussion: The inclusion of all students. In A. Anderson (Ed.), Mainstreaming Digest (pp. 109-113). College Park: University of Maryland Press.

Think Pair Share: Pictures of Practice

Using the routine to explore fractions Tamara Cunningham, grade 3 International School of Brussels

After completing a unit on multiplication and division, Tamara Cunningham decided to take a new approach to launching the topic of fractions and decimals. She provided students with a problem, two hypothetical answers and a written text. After reviewing the problem orally, students worked in pairs. They were asked to explain their thinking in words or pictures before discussing the problem with their partner. (See examples of problem and student work below.)

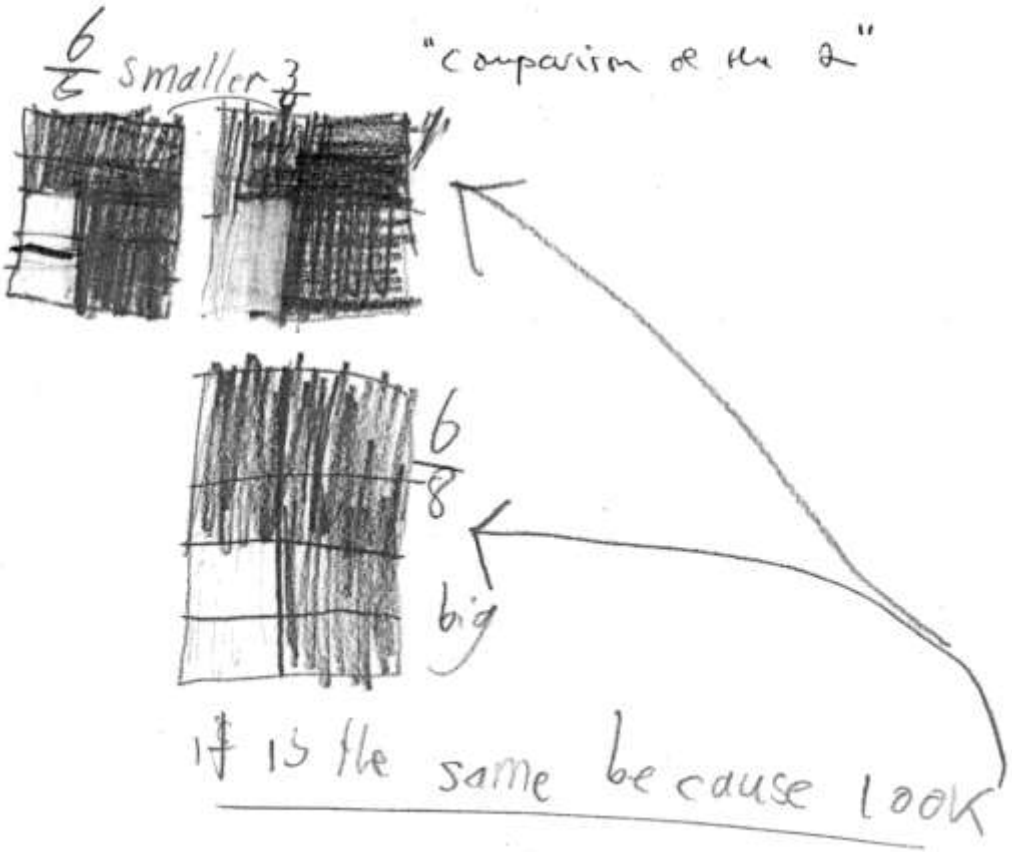
After reviewing the documentation from the routine Tamara noticed striking things about her students' thinking, for example many students seem to understand that fractions have to do with equal parts. Others seemed confused by using terminology on paper, but could explain their thinking orally. Some students were confused when their own drawings did not match equations that they had sketched. Tamara realized she would need to carefully differentiate her instruction for this unit. Some students seemed confident and capable in undertaking the problem, while others needed clarification about basic elements of the numerator and denominator.

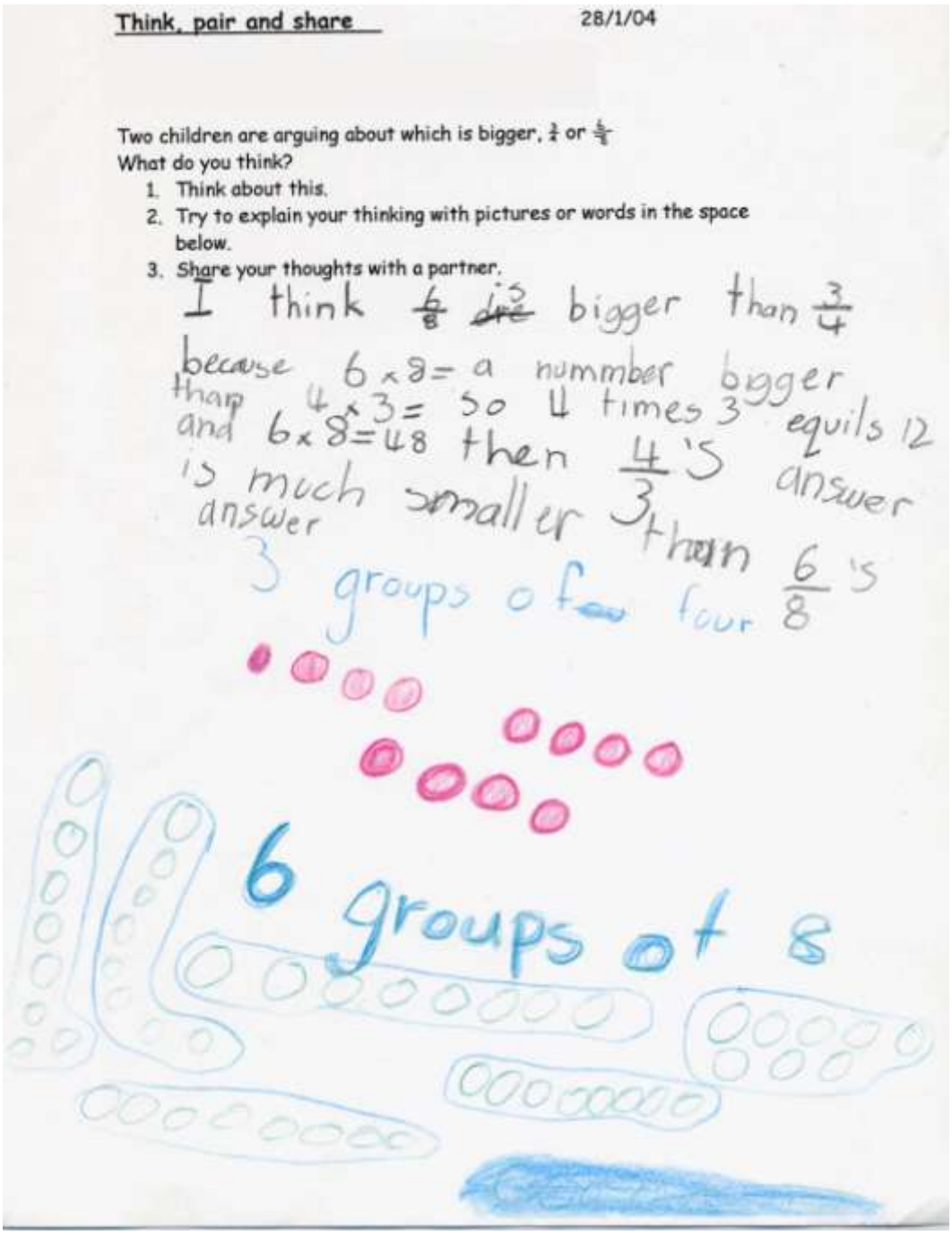


Think, pair and share 28/1/04

Two children are arguing about which is bigger, $\frac{3}{4}$ or $\frac{6}{8}$
What do you think?

1. Think about this.
2. Try to explain your thinking with pictures or words in the space below.
3. Share your thoughts with a partner.





Think, pair and share 28/1/04

Two children are arguing about which is bigger, $\frac{3}{4}$ or $\frac{6}{8}$
What do you think?

1. Think about this.
2. Try to explain your thinking with pictures or words in the space below.
3. Share your thoughts with a partner.

I think $\frac{6}{8}$ ~~are~~ is bigger than $\frac{3}{4}$ because $6 \times 8 =$ a nummber bigger than $4 \times 3 =$ so 4 times 3 equils 12 and $6 \times 8 = 48$ then $\frac{4}{3}$'s answer is much smaller than $\frac{6}{8}$'s answer

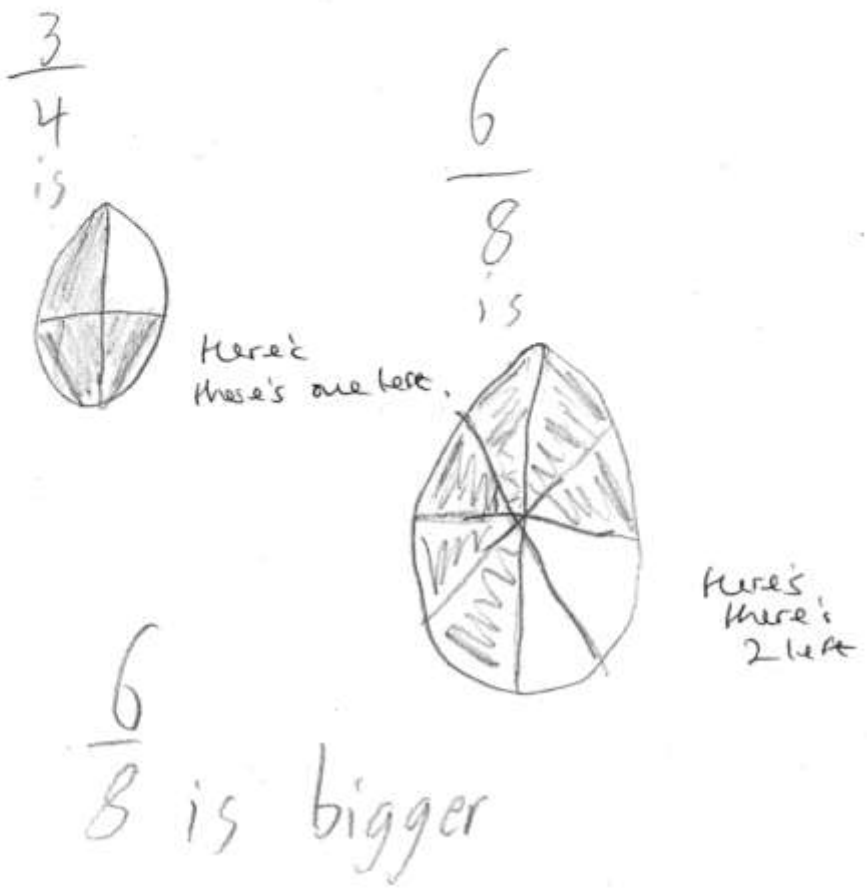
3 groups of four

6 groups of 8

Think, pair and share 28/1/04

Two children are arguing about which is bigger, $\frac{3}{4}$ or $\frac{6}{8}$
What do you think?

1. Think about this.
2. Try to explain your thinking with pictures or words in the space below.
3. Share your thoughts with a partner.

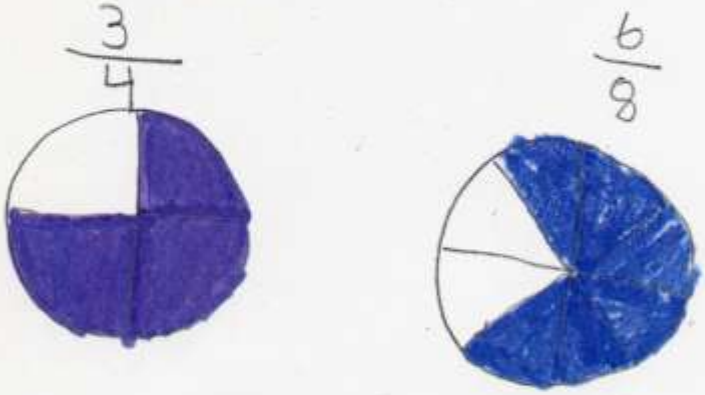


hasn't seen that spaces colored in cover same area

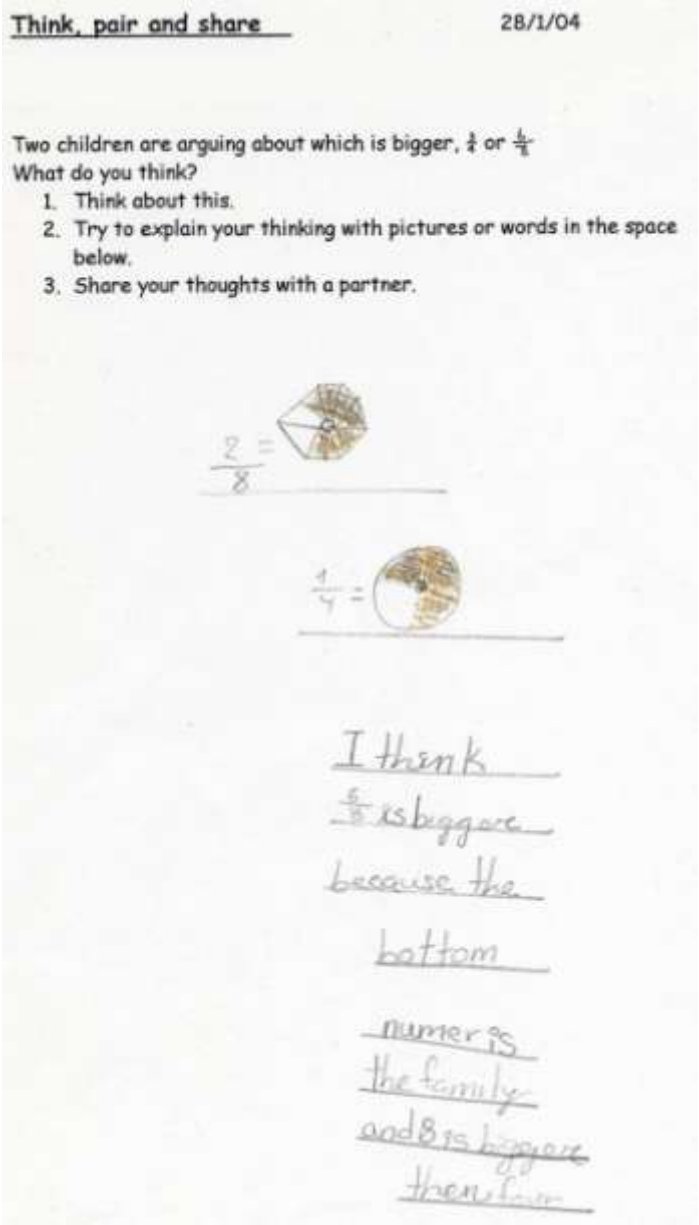
Think, pair and share 28/1/04

Two children are arguing about which is bigger, $\frac{3}{4}$ or $\frac{6}{8}$
What do you think?

1. Think about this.
2. Try to explain your thinking with pictures or words in the space below.
3. Share your thoughts with a partner.



I think $\frac{3}{4}$ is bigger than $\frac{6}{8}$ because the space thats not colored on the blue circle is bigger the space no colored in the purple circle,


Think, pair and share 28/1/04

Two children are arguing about which is bigger, $\frac{2}{8}$ or $\frac{1}{4}$
What do you think?

1. Think about this.
2. Try to explain your thinking with pictures or words in the space below.
3. Share your thoughts with a partner.

$\frac{2}{8}$ =

$\frac{1}{4}$ =

I think $\frac{2}{8}$ is biggere because the bottom numer is the family and 8 is biggere then four

Think Pair Share: Connections and Extensions

This routine is very versatile. Think Pair share provides opportunity for all members of a group to share ideas and make thinking visible. Use it in combination with any other routine when you want students to take a moment to think and then expand their ideas by sharing it with a partner. Students can write or draw their ideas before and/or after sharing, or a list can be created in the classroom. Writing ideas on post it notes and then adding them to a class list or chart is also helpful to make everyone's thinking visible. Student pairs can report one another's thoughts to the class. Journals can also be useful.

Think Puzzle Explore: Setting the stage for deeper inquiry

1. What do you **think** you know about this topic?
2. What questions or **puzzles** do you have?
3. How can you **explore** this topic?

Purpose: What kind of thinking does this routine encourage?
To help students connect to prior knowledge, to stimulate curiosity and to lay the groundwork for independent inquiry.

Application: When and Where can it be used?
Use *Think/Puzzle/Explore* when you are beginning a topic and when you want students to develop their own questions of investigation.

Launch: What are some tips for starting and using this routine?
Begin by giving students a few quiet moments to consider the topic at hand. Then, work as a whole class or in small groups and brainstorm ideas in the three areas. Make sure to give adequate time between each question for students to think about and articulate their ideas.

When beginning to use this routine it is sometimes best to do the *Think* and *Puzzle* questions together first. In some cases, you may want to have students do this part of the routine individually on paper or in their heads before sharing ideas in a group. Return to the *Explore* question after sharing ideas and puzzles. It may be helpful to a think about what makes an interesting question, or puzzle, and then discuss strategies for exploring selected questions.

Note that it is common for students to have misconceptions about a topic at this point – include them on the list so all ideas are available for consideration after further study. Students may at first list seemingly simplistic ideas and questions. Include these on the whole class list but push students to think about things that are truly puzzling or interesting to them.

Keep a visible record of students' ideas. If you are working in a group, ask students to share some of their thoughts and collect a broad list of ideas about the artwork or topic on chart paper. Or students can write their individual responses on Post-it notes and later add them to a class list of ideas.

Think Puzzle Explore: Pictures of Practice

Using the routine to explore a social studies topic
To get her class ready for a new social studies unit, The Changing Earth, Allison Fritscher asked her 5th grade students to look at a photograph of what appeared to be an aerial view of a land mass. She used the "What makes you say that?" routine to help her students observe the image and make interpretations about what the image. The short activity and conversation allowed students think about what they already knew about the planet and primed them for thinking more deeply about their upcoming social studies topic, the changing Earth.

Image of Namibia used with the What Makes you Say That? routine to help launch Social Studies unit, The Changing Earth.

Allison continued the discussion by asking her class to think about their new social studies topic, the changing Earth. "From the kinds of things you noticed in this image of Namibia, it seems we already know a lot about this topic. What other things do you think you know about the way the Earth changes?"

As the class took a few quiet moments to think about this question Allison created a column on chart paper called *Think We Know.* As students offered comments she captured all ideas, including misconceptions, on the list. After most people contributed, Allison moved to a new question. "We seem to have many ideas about the earth and we have some and a knowledge about this topic, but what kind of questions do we have about the

earth? What are you wondering about? What really puzzles you about the way the Earth changes?" Again, Allison gave thinking time before inviting students to share their puzzles. She captured the students' thoughts on a long list.

The next day this list of questions was distributed to the class. Students worked in small groups to reflect on the collective list of puzzles. Their job was to analyze the different kinds of questions that the class wondered about and identify emerging categories: "Think about each puzzle on the list. Which ideas seem similar or related? Use a symbol to identify all the puzzles that would fit into the same category. Come up with as many categories as you can."

Allison later encouraged students to further define each category. "How would you describe each category? Try to come up with a name that gives us some more information and tells us why you sorted the questions together."

After generating a long list of what they *think they know* about how the earth changes, students considered *puzzles* around the topic. Below is a list of things that students wondered about the changing Earth. Note the colored symbols next to each question; in small groups students sorted the wonderings into related categories. They were able to use the

questions and categories as starting points for investigation, and each group designed a research project to explore their chosen topic.

What we ***wonder*** about the changing Earth…

- How earthquakes and volcanoes start
- What is the proof that the Earth has changed?
- How the continents are moving
- Will everybody die during one of the changes?
- Will the plate tectonics stop moving?
- Why are there plate tectonics?
- How do the plate tectonics move?
- Is it possible to dig and accidentally find a plate tectonic?
- Where is the most active volcano?
- Why do the plate tectonics move?
- Does the world change because of earthquakes and volcanoes?
- If Earth changes in a circle (cycle)
- Are there any very small plates or only the large ones?
- Why don't we fall off the ground when the Earth is upside down?
- What machines do they use to know the Earth is moving?
- What happens when the Earth changes?
- Why are there underwater earthquakes and volcanoes?
- When and why will the Earth end?
- Is Mount Vesuvius still alive?
- What makes the plate tectonics meet?
- What is the proof that the Earth is turning?
- Does the Earth change by itself? If so, how?
- How long does a volcano erupt?
- When and how did people discover the Earth is changing?
- What would happen if you were digging and found a plate tectonic?

- How do people know the continents will be one in millions of years?
- Why was the world one continent at the beginning?
- How will we protect ourselves from disasters?
- Is the Earth round? What is the proof?
- Are there any gaps between the plate tectonics? If so, what fills them?
- Why is there gravity on Earth?
- How did the Earth begin?
- Will the Earth be one continent in millions of years?
- What caused Mount Vesuvius to be overdue to erupt?
- What was the due date for Mount Vesuvius to erupt?
- Are we really upside down?

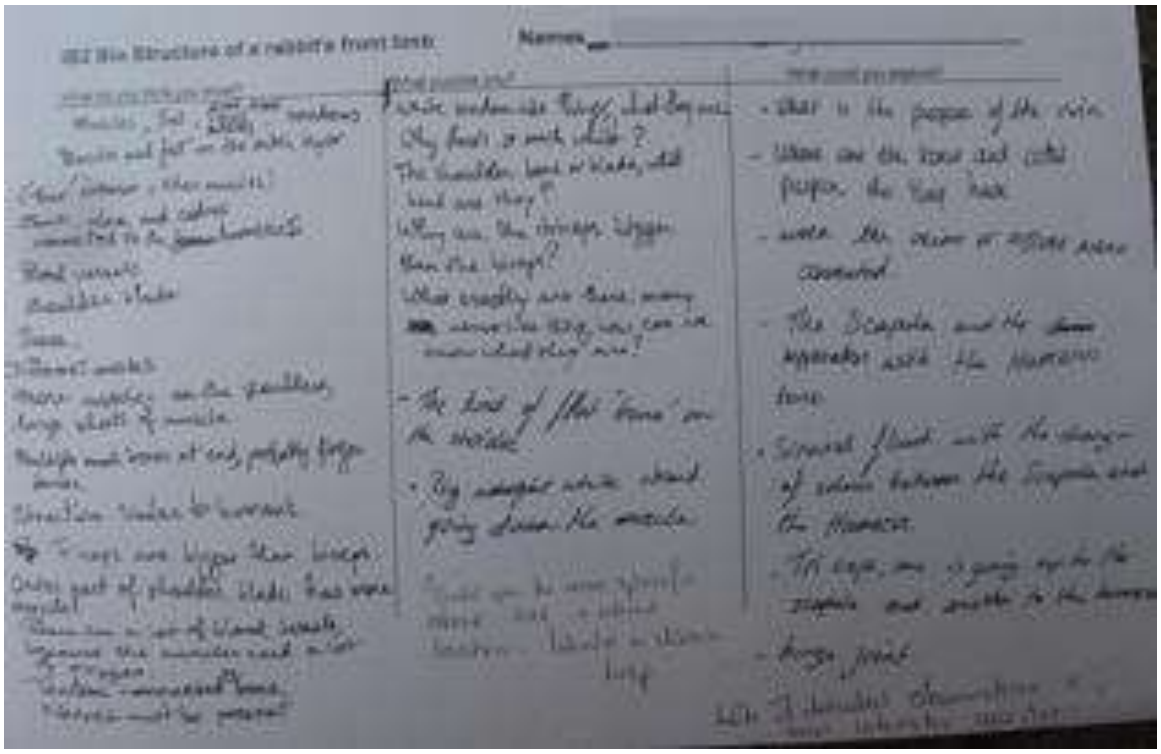
The groups came up with different categories and symbols that help them sort the ideas, for example one group sorted the questions into continents/plate tectonics/disasters/ gravity. Another sorted the same list into: The class explored these puzzles together over the next few weeks through series of research projects.

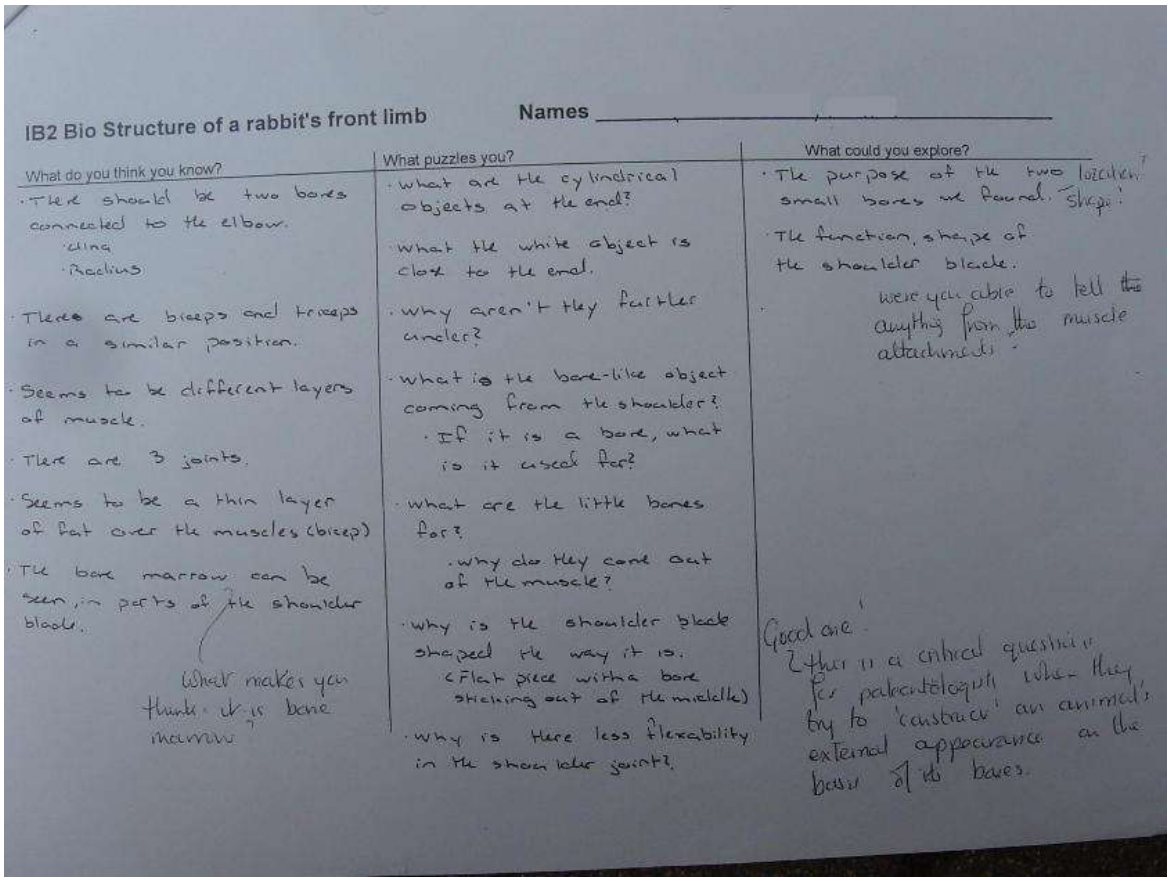
Using the routine to explore bone in a biology class

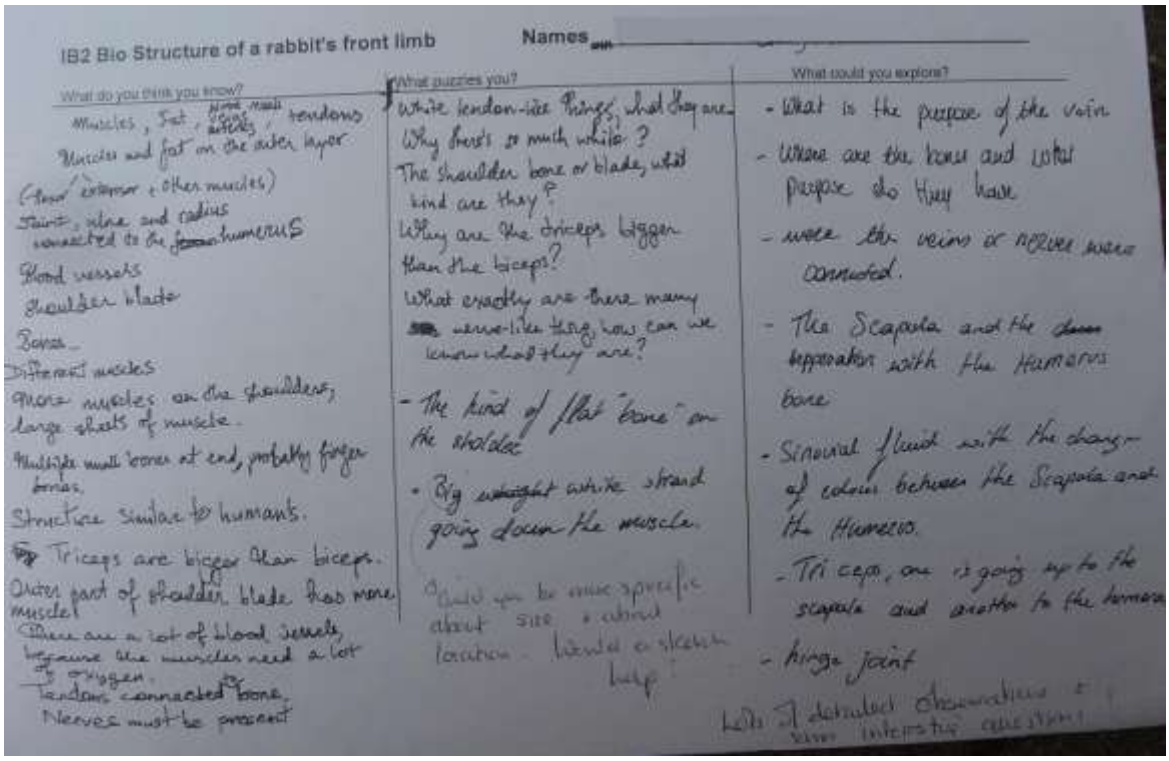
Anne Clarke's high school biology class began the lesson by carefully observing an unidentified bone joint. Using the What Makes You Say That routine in pairs, students made observations about the objects and tried to supply evidence for their interpretations.

Students were then asked to elaborate on their thinking through the Think Puzzle Explore. They were asked to consider what they *think* they know about the bone, what *puzzles* them about the bone and what they could *explore*.

Students used observations from the interpretation process to create puzzles. For example, one student who interpreted the bone as a shoulder wondered about the shape and flexibility of the joint. As part of her exploration she wanted to investigate the function a shoulder blade.




IB2 Bio Structure of a rabbit's front limb
Names
What do you think you know?
What puzzles you?
What could you explore?
What makes you think it is bone marrow?
Good one!



Think Puzzle Explore: Connections and Extensions

Students can do the routine individually, in small groups or as a whole class. Student responses to the routine can be written down and recorded so that a class chart of prior knowledge, puzzles and exploration strategies are listed for all to see and return to during the course of study. Students can write their individual responses on Post-it notes and add them to a class list of ideas. Students can also record their thoughts in a journal.

It's possible to think about all three questions of the routine at once, or think about a question one at a time, or even on different days. Consider using the Question Starts routine to help build and define some of the questions and puzzles that come up in the discussion. The What Makes You Say That routine or Claim Support Question can help students identify some of the things they think they know about the topic.

As a follow up activity to build on or extend the routine ask students to work in small groups and sort the ideas or list of puzzles. What are some common ideas that people have about the topic? What are the common puzzles and questions?

Students can think about the puzzles the class came up with – Ask students to write about which are the most interesting questions on the list and why they think so. A natural follow up activity is to have students investigate these puzzles. Use the exploration strategies generated by the class to find out more about the topic.

What Makes You Say That: Interpretation with justification

1. What's going on? 2. What do you see that makes you say that?

Purpose: What kind of thinking does this routine encourage?
This routine helps students describe what they see or know and asks them to build explanations. It promotes evidential reasoning (evidence-based reasoning) and because it invites students to share their interpretations, it encourages students to understand alternatives and multiple perspectives.

Application: When and where can I use it?
This is a thinking routine that asks students to describe something, such as an object or concept, and then support their interpretation with evidence. Because the basic questions in this routine are flexible, it is useful when looking at objects such as works of art or historical artifacts, but it can also be used to explore a poem, make scientific observations and hypothesis, or investigate more conceptual ideas (i.e., democracy). The routine can be adapted for use with almost any subject and may also be useful for gathering information on students' general concepts when introducing a new topic.

Launch: What are some tips for starting and using this routine?
In most cases, the routine takes the shape of a whole class or group conversation around an object or topic, but can also be used in small groups or by individuals. When first introducing the routine, the teacher may scaffold students by continually asking the follow-up questions after a student gives an interpretation. Over time students may begin to automatically support their interpretations with evidence with out even being asked, and eventually students will begin to internalize the routine.

The two core questions for this routine can be varied in a number of ways depending on the context: What do you know? What do you see or know that makes you say that? Sometimes you may want to preceded students' interpretation by using a question of description: What do you see? or What do you know?

When using this routine in a group conversation it may be necessary to think of alternative forms of documentation that do not interfere with the flow of the discussion. One option is to record class discussions using video or audio. Listening and noting students' use of language of thinking can help you see their development. Students words and language can serve as a form of documentation that helps create a rubric for what makes a good interpretation or for what constitutes good reasoning.

Another option is to make a chart or keep an ongoing list of explanations posted in the classroom. As interpretations develop, note changes and have further discussion about these new explanations. These lists can also invite further inquiry and searches for evidence. Other options for both group and individual work include students documenting their own interpretations through sketches, drawings, models and writing, all of which can be displayed and revisited in the classroom.

What Makes You Say That: Pictures of Practice

Using the routine to explore inspire students at the beginning of a social studies unit
Sandra Hahn, grade 3, American School of the Hague

The Numbering at Bethlehem by Bruegel, Pieter the Elder,1566. Oil on oak.

Sandra used this image, Bruegel's painting of a busy town in winter, to motivate students at the launch of a unit on communities. After observing the image and gathering a long list of interpretations, the class worked together to group their ideas. Students were asked to categorize similar ideas and group them into the different kinds of things that happen in communities, for example, *gathering food, getting shelter, trying to stay warm, preparing for war, religion.* An in-depth investigation of different urban communities followed.

"What Makes You Say That ?" routine
Teacher: Sandra Hahn, American School of the Hague, Grade 3

Transcript time = approx. 6 minutes, about ten minutes into the conversation.
S = student, T = teacher

S: When they say this building is burning (points to building in top center of image), I don't think it is burning. I think since it is snowing and all I think they are trying to get warmer by making the fire.

T: The fire can have a purpose?

S: Yes. I don't think they are trying to put it out because then more people would come and try to help them.

T: So what, why, do you think that fire might be there?

S: To keep them warm, or that building is like a church or something.

T: So the building might mean something to you. What makes think that?

S: Um....

T: I think she was trying to tell us what the building for her means.

S: I think it kinda looks like the fire is meant to be there and this is like a church or something because no other building in this picture has like this stair kind of roof (points to building in top center of image.)

T: Alright. Building shape...

S: Yeah. And there are lots of people crowded around, so it could be important.

T: Alright it might be an important building for the people. What makes you think it might be important

S: Well a lot of other things are falling apart and it looks like they tried to preserve it.

T: Tried to preserve it?

S: So they like, wanted to save it, it's all perfect.

T: Do you have any thoughts about what makes you think they might have wanted to protect it?

S: (unclear.) It looks important

T: It looks important, try to think of why you might think those things.

S: I think they are trying to move the snow out because there is too much snow (points to center area of image).

T: Looks like we have that thought [on the chart paper from earlier in the conversation.] What makes you think that thought?

S: (points to the people on the snow)

T: Looks like they are clearing snow? Good. Anybody else want to put up your point of view what you think is going on? Who's not had a turn and would like to try?

S: I think that they are coming in from war (points) and over there and seeing this guy (lower left corner of image) and they are counting.

T: What makes you say that?

S: The guy looks like he is writing because the book is right in front of his face (boy demonstrates this actions and points to the image).

T: And what do you see to back that up?

S: That they are coming in from war and before the war they counted all the people and they want to see who is still alive.

T: Anybody else got a point of view what they thinks going on in this?

S: I think they are trying to, they came back from war

T: What makes you think that?

S: Cause they got wagons full of snow (points).

T: How does that connect to the war?

S: Oh, you're supposed to say something…?

T: No, you're not supposed to say anything, just what you see.

S: I see they are coming back from war and they just started to do that (points to)

T: Started what?

S: Started to get away snow. And they came back from war. And over here they are trying to get food (points to left corner of image).

T: What makes you think they are trying to get food?

S: I think they are about to kill this pig (points to lower left corner of image, where it seems a person is holding an animal.) They are washing it.

T: A lot of people are talking about war and I'm going to ask one more question before we do one more thing. Who's not had a turn?

S: I think those people are like, how they say – there's a million people in the town – like going up for the country and counting all the people over there, just like Anton said, they're counting. That's why there's all those people in one little town. Some people are coming out, some people are coming in.

T: So what do you think is going on? Anything more you want to say about it?

S: No. I don't think there's a war.

T: What makes you think it might not be?

S: Well, I don't really see anything that might be [a war]. I just see a busy town square. Trees have been chopped down for firewood. There's people that might just be… I don't really know, there's some, I don't really know what that orange stuff is up there. And that's a very…

Other Ss: That's the sun.

T: You mean here (points to orange circle behind tree)?

S: No. Over there (points to different area, on top center building). It could just be reflections. No no no no, on that building. It could have been reflected by something.

T: What makes you think that might be just reflection?

S: Because the way it's going up and like it sort of, not really like fire getting smaller. It's just going up in a straight line and then all of a sudden its stops.

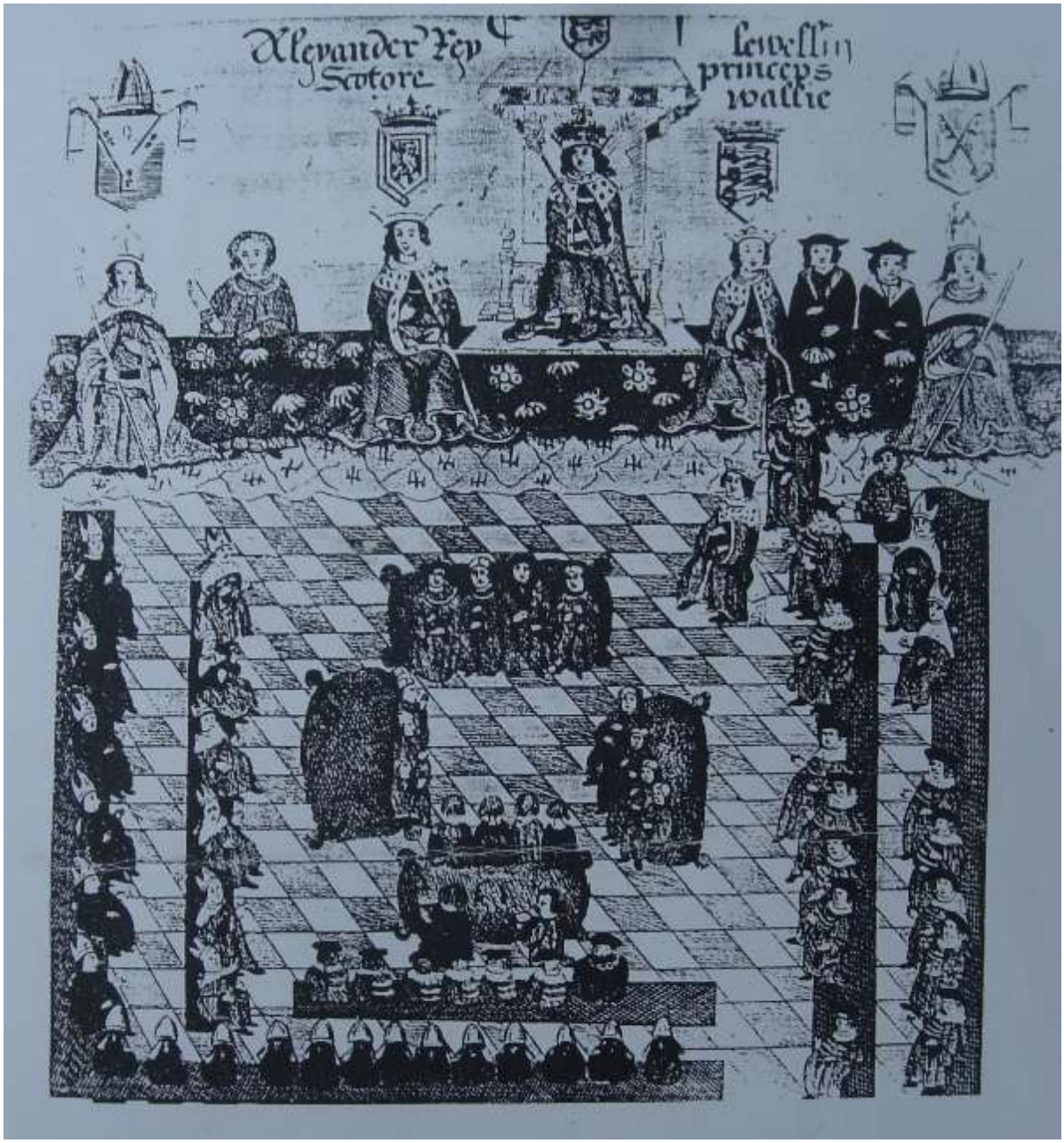
T: So as far as you know that doesn't look like fire to you, that you know about. Anybody else want to express what they think is going on in here?

S: The wood right there, It's really cold in there so they are using the wood for fire to make it warm. And all those things they are going to be making it warm. So they are going to be standing outside or somewhere and they will be warming themselves up and it's really cold there. If you freeze outside, they don't really want to stay outside – they want to stay outside but they just want to get themselves warm.

T: Okay let's take a quiet read of some of the things you saw… (teacher reviews list of observations and interpretations)

Using the routine to launch a unit
Annie Bruce, grade 5 English as a Second Langague, International School of Brussels

To inspire her students for an upcoming unit on government Annie Bruce shared a image of a what appeared to be a drawing of a royal court. She used the What Makes you Say That routine to elicit observations about the image and captured student response on chart paper, clearly indicating each observation and evidence for the interpretation. Later, as they learned more about government, students could add to and revise their original observations.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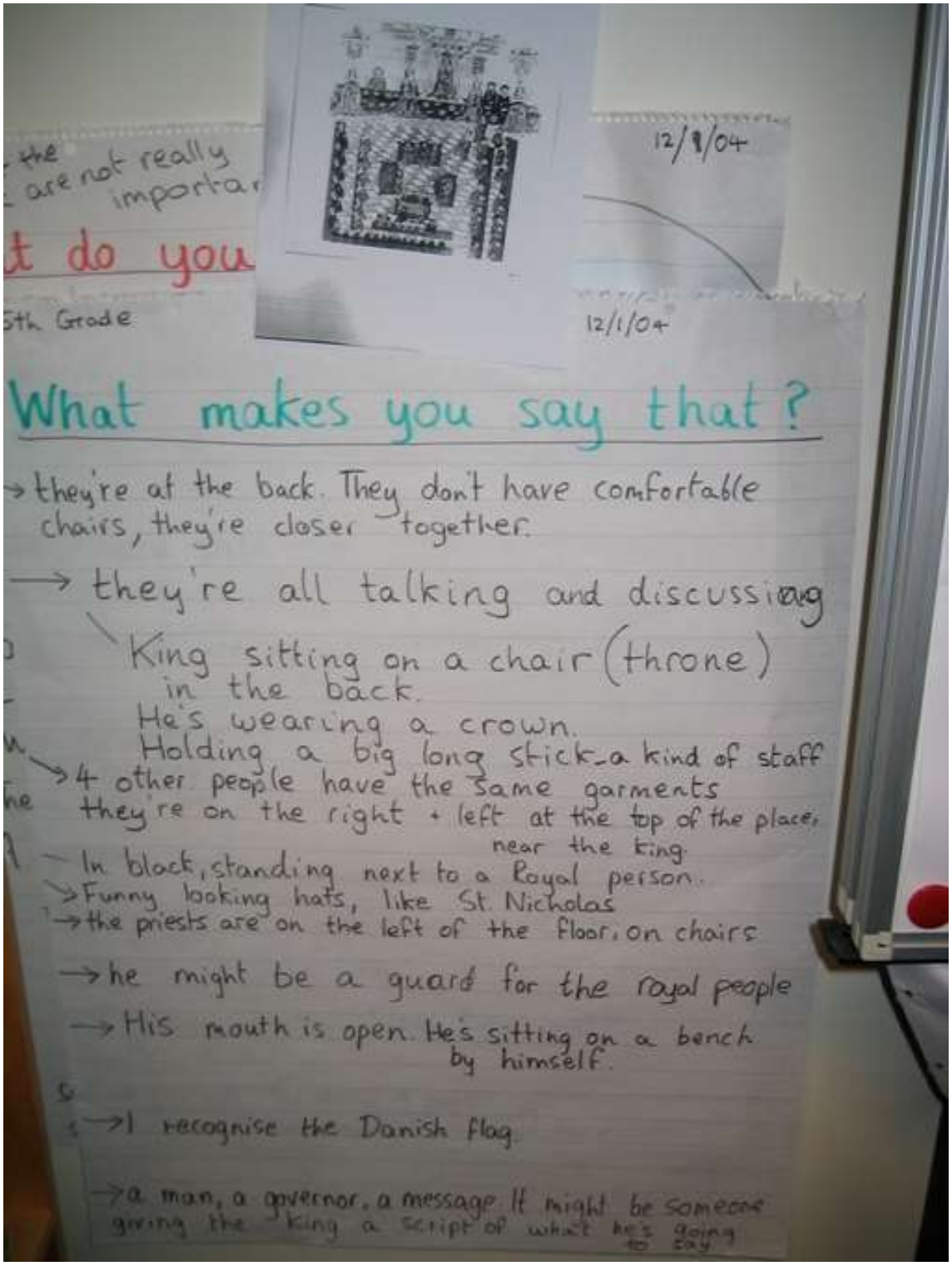
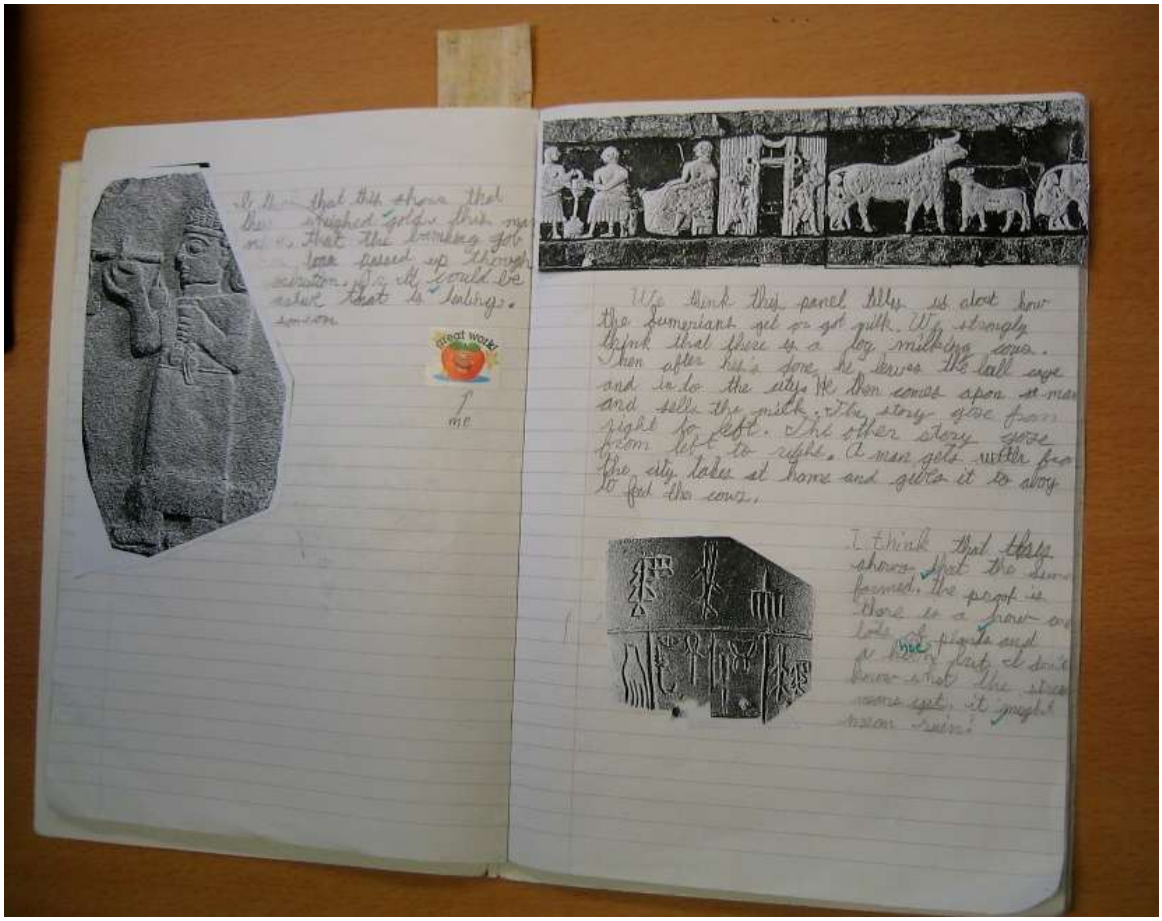
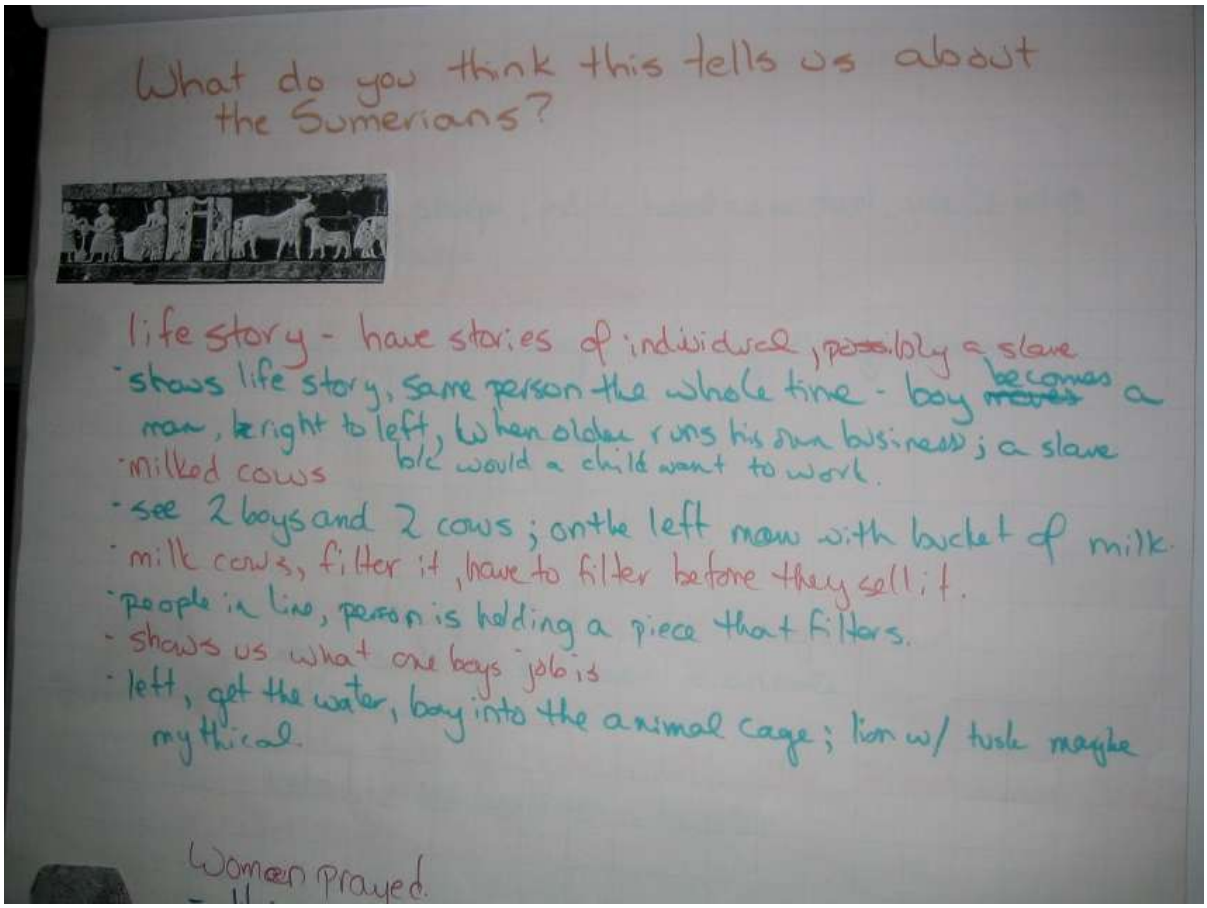

12/1/04
5th Grade
12/1/04
What makes you say that?
→ they're at the back. They don't have comfortable chairs, they're closer together.
→ they're all talking and discussing
King sitting on a chair (throne) in the back.
He's wearing a crown.
Holding a big long stick_a kind of staff
→ 4 other people have the same garments
they're on the right + left at the top of the place, near the king.
→ In black, standing next to a Royal person.
→ Funny looking hats, like St. Nicholas
→ the priests are on the left of the floor, on chairs
→ he might be a guard for the royal people
→ His mouth is open. He's sitting on a bench by himself.
→ I recognise the Danish flag.
→ a man, a governor, a message. It might be someone giving the king a script of what he's going to say

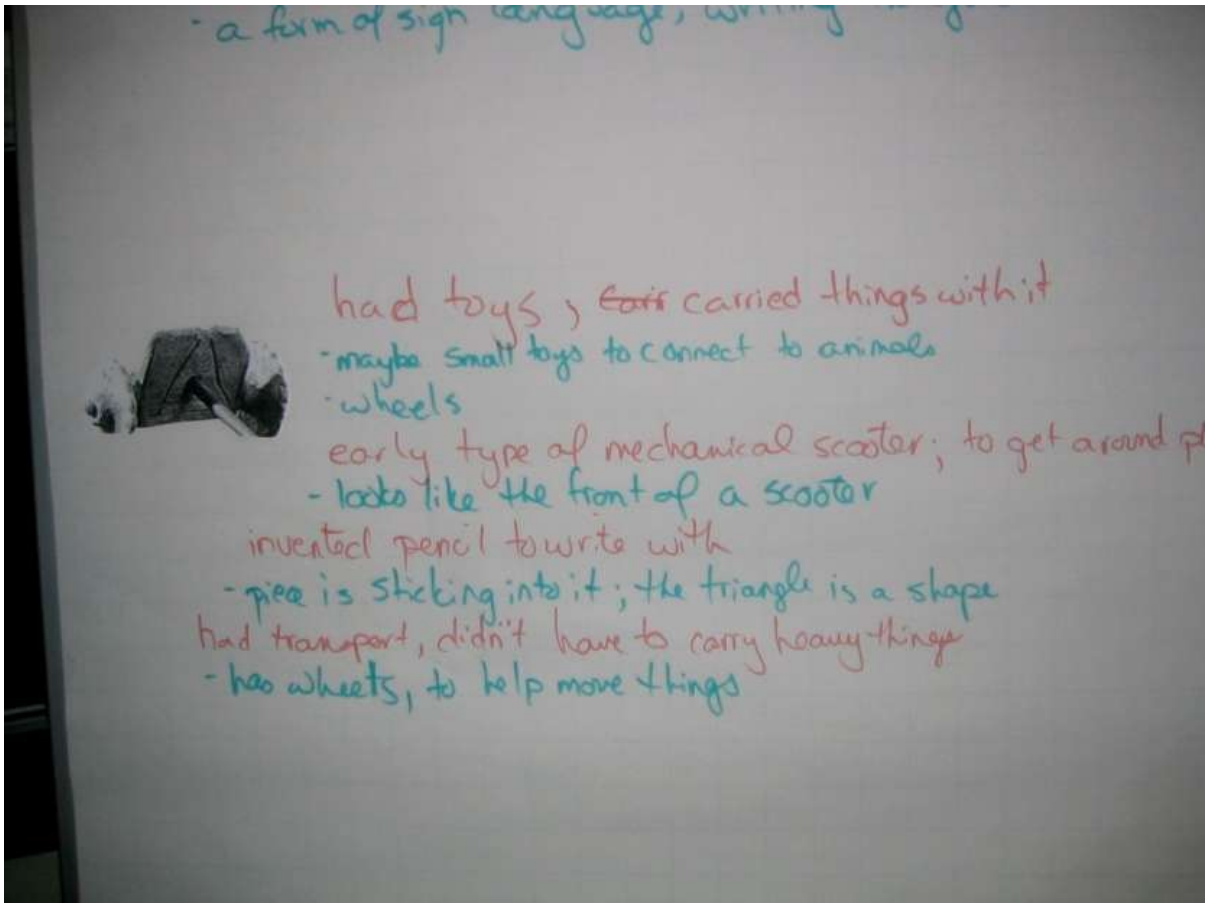
Using the routine to explore images from ancient Sumer civilization
Christopher Leakey, grade 4, International School of Amsterdam



In the middle of a unit exploring ancient Sumer, students in Christopher Leakey's social studies class were asked to examine a series of black and white images. These were images of ancient Sumer ruins and artifact. In their journals students individually wrote interpretations about each of the images. Then , as a whole group, the class shared their various interpretations about the pictures. Ideas were captured on large sheets of chart paper, adding evidence for each interpretation. As they continued their investigation of Sumer, students were able to add to and revise the evolving list.

Students made interpretations about the images in their journals. Later, in a group discussion, the students shared their ideas and evidence for their interpretations. All ideas were written on chart paper and revisited during the unit as students learned more about ancient Sumer civilization.





What Makes You Say That: Connections and Extensions

What Makes You Say That? is a simple and flexible routine can be used in combination with almost any routine. Use it as a way to ask students to expand on their ideas or to explain their thinking and reasoning by simply using the phrase "What makes you say that?" as a follow up question, in general conversation, and in written work.

Have students practice different ways of using the routine. For example, use it with Think Pair Share to practice giving evidence with a partner. Create work sheets that remind students to explain their reasons by asking "What makes you say that?". In a whole group discussion document student ideas on a chart that clearly lists *Interpretation* and *Justification*.

Experiment with different ways to document students' thinking from the routine. Try videoing or audio taping the routine in action and asking students to look or listen for evidence during the conversation. Writing ideas on Post-it notes is always a good option as students' individual ideas can be shared with the class. Students can also experiment with drawing their reasons or acting them out.

3-2-1 Bridge: Activating prior knowledge and making connections

Your initial responses to the topic	Your new responses to the topics
3 Thoughts/Ideas	3 Thoughts/Ideas
2 Questions	**2 Questions**
1 Analogy	1 Analogy

Bridge:
Explain how your new responses connect to your initial responses?

Purpose: What kind of thinking does this routine encourage?
This routine asks students to uncover their initial thoughts, ideas, questions and understandings about a topic and then to connect these to new thinking about the topic after they have received some instruction.

Application: When and Where can it be used?
This routine can be used when students are developing understanding of a concept over time. It may be a concept that they know a lot about in one context but instruction will focus their learning in a new direction, or it may be a concept about which students have only informal knowledge. Whenever new information is gained, bridges can be built between new ideas and prior understanding. The focus is on understanding and connecting one's thinking, rather than pushing it toward a specific outcome.

Launch: What are some tips for starting and using this routine?
This routine can be introduced by having students do an initial 3, 2, 1 individually on paper. For instance, if the topic is "democracy," then students would write down 3 thoughts, 2 questions, and 1 analogy. Students might then read an article, watch a video, or engage in an activity having to do with democracy. Provocative experiences that push students thinking in new directions are best. After the experience, students complete another 3,2,1. Students then share their initial and new thinking, explaining to their partners how and why their thinking shifted. Make it clear to students that their initial thinking is not right or wrong, it is just a starting point. New experiences take our thinking in new directions.

Color, Symbol, Image: Distilling the essence of ideas non-verbally

As you are reading/listening/watching, make note of things that you find interesting, important, or insightful. When you finish, choose 3 of these items that most stand out for you.

- For one of these, choose a color that you feel best represents or captures the essence of that idea.
- For another one, choose a symbol that you feel best represents or captures the essence of that idea.
- For the other one, choose an image that you feel best represents or captures the essence of that idea.

With a partner or group first share your color and then share the item from your reading that it represents. Tell why you choose that color as a representation of that idea. Repeat the sharing process until every member of the group has shared his or her Color, Symbol, and Image.

Purpose: What kind of thinking does this routine encourage?
This routine asks students to identify and distill the essence of ideas from reading, watching or listening in non-verbal ways by using a color, symbol, or image to represent the ideas.

Application: When and where can it be used?
This routine can be used to enhance comprehension of reading, watching or listening. It can also be used as a reflection on previous events or learnings. It is helpful if students have had some previous experience with highlighting texts for important ideas, connections, or events. The synthesis happens as students select a color, symbol, and image to represent three important ideas. This routine also facilitates the discussion of a text or event as students share their colors, symbols, and images.

Launch? What are some tips for starting and using this routine?
After the class has read a text, you might ask the class to identify some of the interesting, important, or insightful ideas from the text and list these on the board. Write CSI: Color, Symbol, Image on the board. Select one of the ideas the class has identified. Ask students what color might they use to represent the essence of that idea? What color captures something about that idea, maybe it is the mood or tone. Select another idea and ask the class what symbol they could use to represent that idea. *You might define a symbol as a simple line representation or uncomplicated drawing, such as two crossed lines to denote an intersection of ideas, or a circle to represent wholeness or completeness*. Then pick another idea from the list and ask students what image they might use to represent that idea. *You might define an image as a visual image or metaphor that is more complex and fully developed than just a symbol*.

Generate, Sort, Connect, Elaborate: Organizing one's understanding of a topic through concept mapping

Select a topic, concept, issue for which you want to map your understanding.

- Generate a list of ideas and initial thoughts that come to mind when you think about this particular topic/issue.
- Sort your ideas according to how central or tangential they are. Place central ideas near the center and more tangential ideas toward the outside of the page.
- Connect your ideas by drawing connecting lines between ideas that have something in common. Explain and write in a short sentence how the ideas are connected.
- Elaborate on any of the ideas/thoughts you have written so far by adding new ideas that expand, extend, or add to your initial ideas.

Continue generating, connecting, and elaborating new ideas until you feel you have a good representation of your understanding.

Purpose: What kind of thinking does this routine encourage?
This routine activates prior knowledge and helps to generate ideas about a topic. It also facilitates making connections among ideas. Concept maps help to uncover students' mental models of a topic in a nonlinear way.

Application: When and where can it be used?
This routine can be useful as a pre-assessment before the beginning of a unit of study if students already have a lot of background information about the topic. Conversely, it can also be useful as a post or ongoing assessment to see what students are remembering and how they are connecting ideas. Individual maps can be used as the basis for construction of a whole classroom map. Maps can also be done progressively, with students adding to their maps each week of the unit.

Launch? What are some tips for starting and using this routine?
Depending on how much familiarity students have with concept maps, you may need to demonstrate making a concept map using this routine with the whole class. However, if students are relatively familiar with the idea of concept maps, you can launch right into the routine explaining that students will be making concept maps but in a structured way. Give time for students to complete each step of the routine before moving on to the next step. It isn't necessary that students generate an exhaustive list of all their ideas initially, but make sure they have time to generate a rich and varied list before moving on. Tell students that at any point they can add new ideas to their list and incorporate them into their map. If you are adding to a map over time, you might want to have students use a different color pencil each time they make additions. Explaining and discussing maps with partners helps students to consolidate their thinking and gain other perspectives.

Peel The Fruit: A Map for Tracking and Guiding Understanding

1. Put some version of the map up in a convenient location or give learners copies. See example below and notes about different ways of using the map.

2. Briefly state that the group will be tracking progress and planning with the map from time to time. Note how the map uses the metaphor of 'peeling the fruit', getting familiar with the surface of something, seeking puzzles and mysteries to investigate, and pursuing these in various ways to arrive at core understandings.

3. Refer to the map to choose next steps and mark progress from time to time during the exploration of a topic (no need to do everything every time). Use it as a way of thinking about what routines to use or simply what kind of conversation or other activity to have.

4. When the map is used collectively by a class, you may want to invite students to put up Post-its on the map over time to mark insights associated with any of the map elements.

Purpose: Why use this map? (see example below)

We often want to develop learners' understanding of a complex topic over days or weeks. This map can help. It's not a routine but a way of planning and tracking over time the exploration of a topic. It can help in choosing good routines too.

Application: When and where can I use this map?

Whenever there's a topic that calls for a broad and rich understanding and learners have enough time to look at it in different ways – anything from a single long lesson to several lessons or a unit. You can use it with students collectively, to help them maintain a bird's eye view of progress through a topic and to make with them good choices about what to do next. You can use it yourself, to plan topics and to track progress. You can also give copies to students for their individual self-management in pursuing a general class topic or individual projects.

Launch: What are some tips for starting and using this thinking map?

Explain that the map is for tracking and guiding the exploration of the topic. Explain the metaphor briefly. Invite learners to help chart progress by using the map.

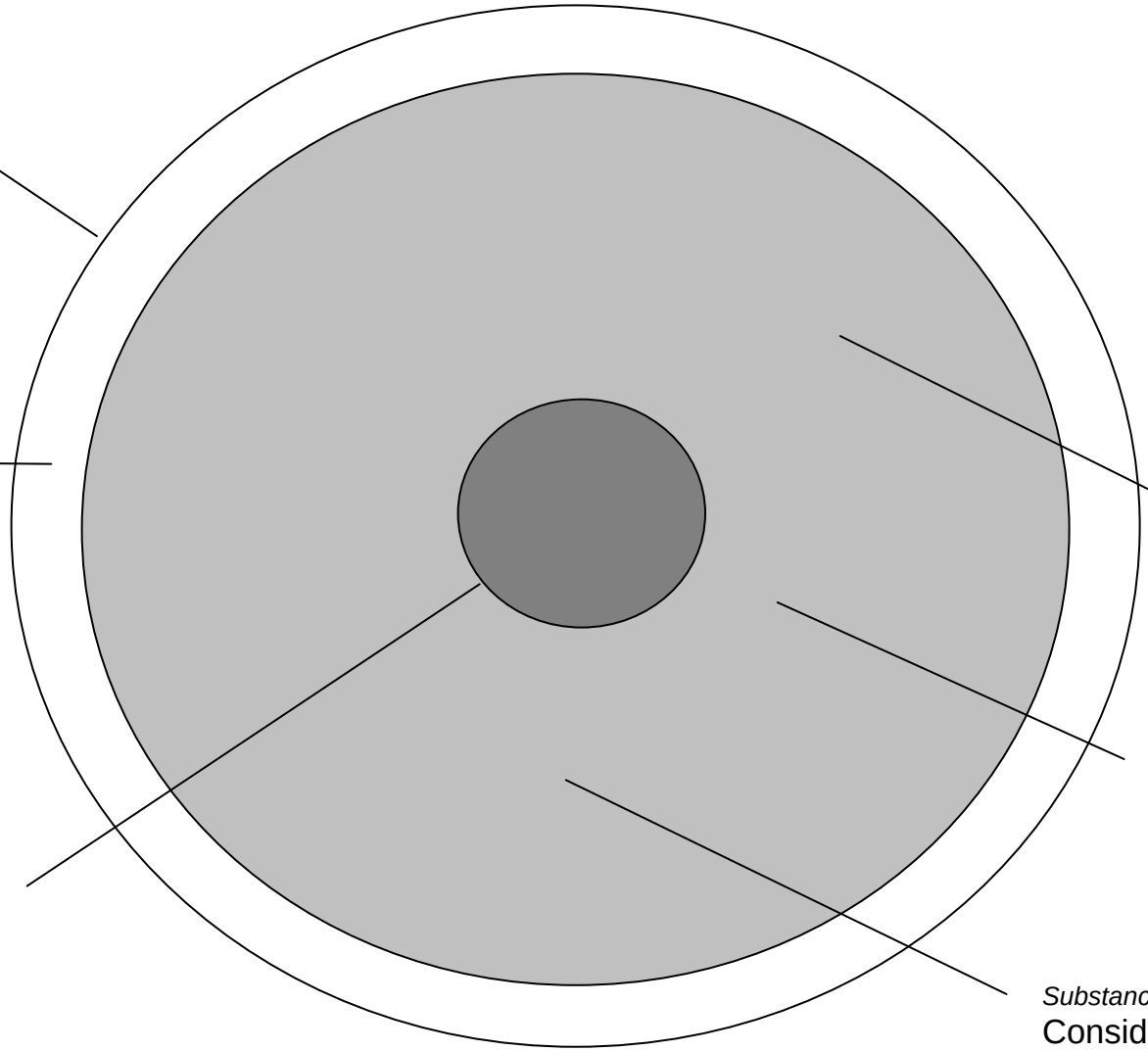
You can create a giant version of the map to put on the wall of a classroom (see diagram below), or just put labels up for the categories if it's easier to organize on the wall, or per-

sonalize the process in some other way. If you're tracking two or three topics at the same time or multiple groups you might: have two or three wall maps, color code paths on a single map, give learners page-size copies to track their own progress, or invent something else. Whatever works! The main idea is to make visible the developing understanding to mark progress and choose next steps.

It usually makes sense to start with the 'skin' and go to 'getting under the skin' with mysteries and then on from there to 'substance' and toward the 'core'. You need not use all of the 'substance' approaches – whatever fits – and there's no fixed order. You can go back to something and add at any time of course!

Understanding Map – 'Peeling the Fruit'

Throughout:
Reason with Evidence
What makes you say that?



Skin
Describe What's There
What do you see and notice?

Getting Under the Skin
Mysteries
What puzzles and questions come up?

Core
Capture the Heart and Form Conclusions
What's at the core or center of this?

Substance
Build Explanations
What's really going on here?

Substance
Make Connections
How does this fit?

Substance
Consider Different Viewpoints
What's another angle on this?

Truth Routines

*Claim Support Question *A routine for clarifying truth claims*

Hot Spots *A routine for noticing truth occasions*

Stop Look Listen *A routine for clarifying claims and seeking sources*

*True for Who? *A routine for considering viewpoints on truth*

*Tug for Truth *A routine for exploring tensions of truth*

Compass points *A routine for examining propositions*

*Red Light, Yellow Light *A routine focusing students on signs of puzzles of truth*

*Consider starting with one of these routines

Claim Support Question: Exploring truth claims

1. Make a **claim** about the topic	-->	**Claim:** An explanation or interpretation of some aspect of the topic.
2. Identify **support** for your claim	-->	**Support:** Things you see, feel, and know that support your claim.
3. Ask a **question** related to your claim	-->	**Question:** What's left hanging? What isn't explained? What new reasons does your claim raise?

Purpose: What kind of thinking does this routine encourage? The routine helps students develop thoughtful interpretations by encouraging them to reason with evidence. Students learn to identify truth claims and explore strategies for uncovering truth.

Application: When and Where can it be used? Use Claim Support Question with topics in the curriculum that invite explanation or are open to interpretation.

Launch: What are some tips for starting and using this routine? The routine can work well for individuals, in small groups and for whole group discussions. Begin by modeling the routine: Identify a claim and explore support and questions in a whole group discussion. On the board make one column for SUPPORT and one column for QUESTIONS. Ask the class for evidence that either supports a claim, or questions the claim and write it in the appropriate column. Take turns using the routine so that each student makes a claim, identifies support and asks a question.

Following each person's report, take a moment as a group to discuss the topic in relation to the claim before moving on to the next person. Be patient as students take a few moments to think. You may need to probe further by asking: What are some other questions you might want to ask about this statement? or Can you think of reasons why this may be true? Encourage friendly disagreement – once a student comes up with an alternative perspective about a claim, encourage other students to follow. The questions can challenge the plausibility of the claim, and often lead to a deeper understanding of the reasoning process. Let students know it is fine to disagree with one another's reasons and encourage them to come up with creative suggestions for support and questioning.

After everyone has had a turn, reflect on the activity. What new thoughts do students have about the topic?

Claim Support Question: Pictures of Practice

Introducing the routine as a "game of truth"

Students in Rich Murray's 5th grade were asked think about three things about themselves that are true, and then to make up one lie. Students were reminded that this was a "game of truth" and to therefore think of things that might not be obvious to their friends in the class. After a few moments to think students wrote down their answers.

Student claims ranged from personal attributes: *I like football; My second favorite sport is soccer*; *I like Social Studies*; *I was born in Florida*; *My favorite Basketball player is…*; and *My favorite animal is a horse*; to more anecdotal claims: *I had a funeral for my pet caterpillar*; *I ate fried snails*; *I broke a kids legs playing football*; or *Once I went to a football game in CT*.

On the board were two columns for SUPPORT and QUESTIONS. To begin the routine, two student's responses were used as examples and recorded on the board. Often the teacher needed to probe asking "What are some questions you might want to ask about this statement?" or "Can you think of reasons why this may not be true?" Once a student came up with an alternative perspective, other students were able to follow. The questions sometimes challenged the plausibility of the claim, and often lead to a deeper understanding of the process. By the second or third statement students usually came up with creative suggestions for support and questioning.

Students often held strong beliefs about their friend's claims. Many indicated that they could immediately tell whether a friend's statement was true or false and called out "True!" or "Definitely a lie!" when a student read a statement. For example, one boy stated "His favorite sport is Football". Many of his friends immediately replied that this was an accurate truth, support being that he played football everyday at recess, he's really good at it and he talks about it a lot. Counterevidence did come up, however. Other students offered questions about this statement: maybe he just has to play football because there is nothing else to do at recess, maybe he wants to fit in with his friends, and maybe somebody can be good at something but not enjoy doing it. While it seemed that the students could accept and understand these questions and suggestions about their friend's statement, in the end few students were swayed to believe differently from their initial presumption. It turned out to be a true statement.

Another girl claimed she broke her wrist skiing. Support for this statement included evidence and accounts of other peoples' injuries on the slopes and thus the possibility that something might have happened to this student as well. After some discussion and general consensus about the dangerous aspects of skiing, another student asked the fundamental question – Has she ever skied? This led to more questioning about the actual evidence – Had anyone ever seen her ski? Had anyone ever seen her with a cast on her wrist? Had she ever talked about it before? What other people might know about this? This was a lively discussion and, in general, students supported both sides of her statements with good questions and evidence. The girl had indeed lied about the skiing accident but

many students thought she had lied about another claim, her pet caterpillar's funeral. This was interesting because it was the statement with the least support or questioning.

With most examples, students ended up with both support and questions for each statement and it was fun to see how many students thought each one was true or not as they were read off again. The class was enthusiastic about continuing and since the students had written down their answers, the teacher agreed to continue the game later in the day. They were encouraged to make their own columns for support/questions and play the game with a partner. Later, with the routine structure internalized, the students used Claim Support Question to investigate claims from their school subject matter.

Claim Support Question: Connections and Extensions

Combine Claim Support Question with other routines, such as the Tug for Truth and Hot Spots routine, when students need to elaborate on a truth claim or give evidence for claim. Experiment with different ways to use the routine – individually, in small groups or in whole class discussions.

Encourage students to practice making claims and giving evidence or support, for these claims. Students might try to identify other times when they can use the Claim/ Support/ Question strategy. Would this strategy be helpful at other times, either in school or in their lives outside of school? Ask students to brainstorm a list and keep it posted in the classroom for future reference.

Hot Spots: Noticing when truth is at issue

Key Prompts:

1. Identify a topic or situation. Is this idea clearly true, or false, or where between the two?
2. What makes it so uncertain? (or almost certainly true or false)
3. How important is it? What makes it important? (important or not so important)

Purpose: What kind of thinking does this routine encourage?
A key part of thinking is spotting situations that need more thought, and where more thought is worthwhile. This spotting routine asks learners to spot "thinking hotspots" about truth within a topic or situation that might be worth more attention. It thus helps them to be more alert to truth hotspots in the future. Also, asking "What makes this idea this way?" draws from learners characteristics that make an idea more or less uncertain and more or less important. This greater awareness helps them to spot truth hotspots in the future.

Application: When and Where can it be used? Spotting truth hotspots can be used on almost any topic or situation. It can be used to introduce a topic, to draw out students' initial thoughts. It can be used to review a topic, to look back at something students have studied, in the middle of a topic to take stock. It can be used to get students started on identifying projects or identifying issues for discussion in small groups or to launch a whole-class discussion.

Launch: What are some tips for starting and using this routine?
The spotting hotspots routine is best used for a topic or situation where students have some knowledge already. They may not have studied it formally, but at least they have some common knowledge. Otherwise, almost everything would come out "uncertain" and with little basis for judging its importance.

Younger children may respond better to concrete situations, like a playground fight or an event in the news, than to abstract topics like nuclear energy.

This routine makes thinking visible by helping students to see thinking opportunities – "thinking hotspots" – in situations. In particular, it helps students become more alert to situations where they might think more deeply about the truth of something. Here are the key steps to the routine:

1. Teacher or student identifies a topic or situation.

2. Students identify ideas about the topic or situation as clearly TRUE, clearly FALSE, or
uncertain and somewhere in the middle. And as more or less important to figure out.

3. Place ideas on a continuum. First, decide where to place the idea on the continuum between true and false. Then use a vertical axis to indicate importance, according to the student's judgment (see simple chart below). The teacher asks something like, “What makes this idea this way?” and draws out characteristics that put an idea “in the middle” rather than plainly true or false or make it important or not so important. The teacher does all this for several ideas from the class.

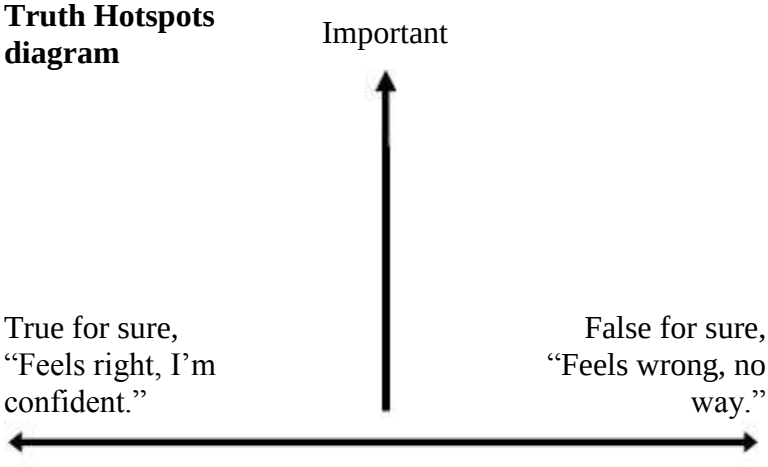
4. NOTE: Some students may reveal misinformation or misunderstandings at this stage. As with other thinking routines, while the students are thinking together it is not your role to correct them. Students may correct misinformation or misunderstandings themselves during the discussion or as they pursue a topic in the last step, or you may provide better information upon coming back to the topic later. Right now, you are functioning as a facilitator, not a source of information.

5. Teacher and students discuss disagreements about true-false and importance and place ideas on the chart, in more than one place if necessary. You do not have to resolve these disagreements, just acknowledge them. The goal is to raise consciousness of uncertainty and the reasons for it. Some disagreements may get resolved in the last step.

6. If the chart is lopsided, say with only some uncertain ideas in the middle or only important ideas, the teacher prompts to fill out the chart a little more. Example: "What are some ideas we are sure of?"

7. Teacher and students select “thinking hotspots” to investigate further, maybe right away or maybe later, perhaps using other routines.

Truth Hotspots diagram



Hot Spots: Pictures of Practice

Using the routine to explore a the topic of Islam

Ulrica Andersson, grade 9 Lemshaga Akademi

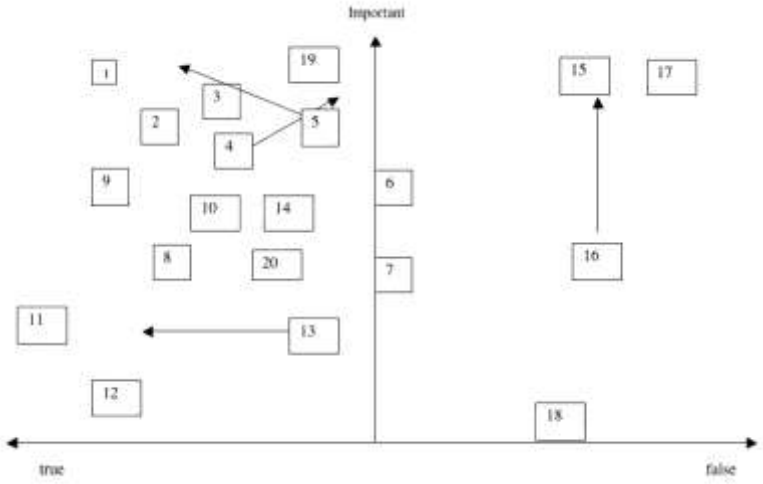
As part of their study of Mediterranean religions, students in Ulrica Andersson's 9th grade used the Hot Spots routine to identify and clarify their ideas about Islam and Muslims. Below is a list of statements generated by the class, and a diagram that document students' thinking. The statements were placed along the line of the continuum from true to false. Students then used the vertical axis to show how the statement's importance and to figure out how important it was to know the truth of that statement.

At first, many misconceptions about the topic were evident. As the ideas were placed on the line and debated, students became more aware of the subjective nature of their views and claims. Several ideas were relocated and it became apparent that there were many ideas that they needed to find out the truth about. A list of questions to investigate was generated for future research during the unit of study.

Student list of ideas about Islam:

1. Osama Bin Laden’s soldiers are Muslims
2. Saddam tortured Muslims
3. Muslim family decide who their children will marry
4. * Muslims are brainwashed to be terrorists
5. * Muslims often beat their children
6. There are many terrorists in Muslim countries
7. A married female Muslim is not allowed to show their face
8. Muslims are not allowed to drink alcohol
9. Most Muslims are very religious
10. Muslims seldom do gymnastics
11. Muslims in Afghanistan were not allowed to watch foreign TV programs
12. Women are wearing burkas / headcloths
13. * Muslims don’t eat pork
14. Most Muslims live in Turkey
15. Muslims brainwash those who they want to use
16. * Muslims want to take the power in Sweden

17. Muslims are in alliance with Bin Laden
18. All Muslims are dark-skinned
19. WTC-terrorists were Muslims
20. Most terrorists have religious reasons



Example of documentation created during the Hot Spots routine about Islam

Hot Spots: Connections and Extensions

The spotting routine surfaces thinking hotspots around truth that otherwise we wouldn't see. It raises our awareness of these hotspots for other situations too. The process is self-documenting through the chart.

Note that there are many reasons why an idea can be uncertain. Importance is also a complex judgment – an idea can be important simply because it's fascinating, or because it's important to understanding the way the world works, or because it has great practical implications. The point about reasons for uncertainty and importance in the spotting hotspots routine is not to judge them but to make them more visible, expanding students' consciousness of them.

Naturally, older students will have more sophisticated ideas and younger students less sophisticated ones in trend. This is fine. Again, the goal is not to push students hard toward greater sophistication but to make visible what they already know, encouraging them to be more alert to problems of truth and think about them more actively.

You can ask students to do the routine by themselves in small groups. When the class is large and students have many ideas, small groups may work better. Also, when the group is large, to save time you can have each student write an idea on a Post-it and stick it up on the chart, and then discuss some of them. Or you can have the students think in small groups, with each group nominating one idea to put up on the chart.

Not only groups but individuals can do hotspot spotting, for instance as part of an assignment.

You can ask students to look for truth hotspots during the week at home and report in on them.

You can ask students to look in a newspaper as homework, examining editorials for uncertainties.

You can continue on after spotting truth hotspots with many different thinking routines, focusing on one of the hotspots, for instance circle of viewpoints, what do you see that makes you say that, etc.

You can use truth hotspots as a basis for brief assignments or longer projects that students do.

You can do a map at the beginning of a unit and go back to it half way through and at the end to take stock.

Finally, students may say, "That's important but we can't really find out information about it!" You can acknowledge that and say, well, then we just have to keep it in mind for the future. Or you might say, "Suppose we had all the resources we needed, what *could* we do to investigate it?"

Stop Look Listen: Clarifying claims and sources

The routine follows a simple 3-step structure:

Stop: Be clear about the claim.
Define your question from your list of facts and uncertainties.

Look: Find your sources.
Where will you look? Consider obvious and non-obvious places.

Listen: Hear what the sources tell you with an open mind.
Is it possible for your source to be biased and how does it affect your information?

Purpose: What kind of thinking does this routine encourage?
The Stop Look Listen routine helps students investigate truth claims and issues related to truth. It allows students to stand back and think about ways to obtain information when trying to find out about the truth of something. Students are encouraged to think critically about sources. It helps students appreciate the deeper complexity of truth situations by addressing issues of bias and objectivity

Application: When and Where can it be used?
This routine invites students to think carefully about the process of initiating truth investigations. It can be used in any situation in which students need to find out more about a truth claim. It helps students step back and take questioning stance in order to clarify a claim. Use the routine when you want students to be open minded and to think broadly about sources of information.

Launch: What are some tips for starting and using this routine?
Begin by helping students to pin down a claim about a topic. Students may have a good idea about a question or claim they would like to investigate. Help them take stock of what they know by creating a list of facts and uncertainties around their claim. Students may need to redefine or restate their claim.

Once a clear claim has been identified, ask students what they can do to investigate it. Brainstorm source by encouraging students to think broadly about different kinds of information available to them. Consider having students make a mind map of sources that can provide information about their claim.

Document students' ideas by creating a chart of identified sources, the perspectives of the source and potential biases they might represent. Display the chart on the wall and add comments as each source is investigated. Keep this chart accessible so students can return to it during the investigation of future truth claims. Track the instances or types of bias that students identify and use it as a way to further conversations about new situations in the classroom.

Stop Look Listen: Connections and Extensions

The Stop Look Listen routine can be done in small groups, in pairs, and even solo. It can also be combined with other routines. Use it with True for Who routine to help think of perspectives related to the claim and then brainstorm sources from these perspectives. Use it with the Claim-Support-Question routine to help students define and clarify a claim.

A natural follow-up to the activity is to have students investigate the sources and come up with stances. Another follow-up activity is to ask students to a write short essay explaining their position on the truth claim. Yet another follow-up activity is to have students take on the opposite stance to what they think is the truth.

True for Who?: Exploring truth claims from different perspectives

1. **Discuss**. What kind of situation was the claim made in? (Who made it? What were people's interests and goals? What was at stake?)

2. **Brainstorm**. Make a list of all the different points of view you could look at this claim from.

3. **Dramatize**. Choose a viewpoint to embody and imagine the stance a person from this viewpoint would be likely to take. Would he or she think the claim is true? False? Uncertain? Why? Go around in a circle and dramatically speak from the viewpoint. Say:

    - *My viewpoint is...*
    - *I think this claim is true/false/uncertain because...*
    - *What would convince me to change my mind is ...*

4. **Stand back**. Step outside of the circle of viewpoints and take everything into account: What is your conclusion or stance? What new ideas or questions do you have?

Purpose: What kind of thinking does this routine encourage?
The *True for Who* routine helps students cast a wide net for facts and arguments by imagining how an issue looks from different points of view. The routine also helps students see how different viewpoints and situations might influence the stances people are likely to take.

Application: When and Where can it be used?
What we think is true often depends on what we see and care about from our own perspective. Like the Circle of Viewpoints routine in the Fairness Ideal, this routine helps students consider the roles of context and perspective in shaping what people believe. It can be used at any point in the process of puzzling about truth, once the truth-claim has been clarified.

Launch: What are some tips for starting and using this routine?
Begin the discussion by clarifying a claim and imagining various perspectives on the topic. After the brainstorm, ask each student to choose one of these viewpoints to embody. Give them time to prepare to speak about the topic from that perspective and to elaborate on the viewpoint using the three sentence stems to structure what he or she says. Taking turns, students can go around the circle and speak briefly about their chosen viewpoint. The circle of viewpoints can be graphically documented on the board or on a poster using the formatted sheet on the next page. After many different viewpoints are dramatized, ask students to step out of their role playing and reflect on the issue. What do they think about the claim now? What are some questions about the claim now?

True for Who? Pictures of Practice

Using the Routine to Explore a topic in the news

The class has been discussing a newspaper article with the headline: *Children who watch more than two hours of television a day don't do well in school.* The newspaper article was written by a reporter who said he got his information by interviewing lots of parents.

The class began by considering the claim as stated in the headline, but quickly realized it was too broad: Many students objected that it couldn't be true that every single child in the whole world who watched more than 2 hours of TV did poorly in school! So they clarified the claim as: *Most of the time, children who watch more than 2 hours of television a day don't do well in school.* After discussing the issue for a while, the children brainstormed possible perspectives, including TV producers, the editor of the newspaper, children who watch more than 2 hours of TV, children who watch less than 2 hours, teachers, and parents. Each student chose a viewpoint to dramatize. Here is how one student imagined the viewpoint of a TV producer.

- **My viewpoint is…***I'm a TV producer*
- **I think this claim is true/false/uncertain because…***It depends on what they watch! Some programs are very educational. It also depends on what else they are doing in addition to watching TV. For example, one kid might watch three hours of TV and spend the rest of his time doing homework. Another kid might spend it playing video games.*
- **What would convince me to change my mind is***…If you could show me that even kids who watch more than 2 hours of educational TV do poorly in school, regardless of what else they do with their spare time.*

After many different viewpoints were dramatized, the students stepped out of their role-playing and reflected on the issue. Many students concluded that they thought the claim was unlikely to be true about every kid who watched more than 2 hours of TV, but that it was probably true for a lot of kids who do. As far as new ideas and questions, several students talked about how important it was to look at the other things in kids' lives that might affect how well they do in school, not just the amount of TV they watch. One student even raised the question of whether it was the other way around: Maybe instead of TV causing bad grades, getting bad grades causes kids to want to watch a lot of TV. For example, maybe when kids do poorly in school it makes them feel so bad that they start watching as lot of TV to escape from things. Maybe they'd still do badly – or even worse – even if they stopped watching TV!

True for Who? Connections and Extensions

Dramatizing viewpoints in the True for Who? makes students' thinking audibly visible: By hearing diverse viewpoints, students "see" the thinking behind different perspectives.

Additionally, the circle of viewpoints can be graphically documented on the board or on a poster. Keep this poster available in the classroom during the unit of study and add ideas to it as necessary.

The routine can be used in a whole-class discussion, or students can work in small groups, in pairs, or even solo. You can also just do part of the routine, in the context of a larger activity. For example, you might spot a truth claim in the context of a class discussion. Even though it may not be the right time to do a whole "truth" activity, you can ask students to quickly brainstorm several different viewpoints on the claim, and then move on.

For follow up, the viewpoints students identified can be dramatized further, by having students create a play or skit, or write a story. Students can stage a debate, or a Tug of War, between two contrasting viewpoints. Students can continue to investigate the issue, either by collecting more information or by staging an experiment to test the truth of the claim.

Tug for Truth: Exploring evidence on multiple sides of a case

1. Identify a question of truth – a controversial claim that something is true or false – where you know there is some evidence on both sides that students can bring forward.
2. Ask students if they have an opinion about it (it's okay not to have one).
3. Draw a tug of war diagram on the board (or tape a piece of rope on the wall and use Post-its to make it more dramatic). Explain that students can add two kinds of things. One is evidence – tugs in the Yes, True direction or the No, False direction. The other thing to add is a question about the tug of war itself, a question that asks for more information or about "what if" we tried this or we tried that, what would the results be?
4. Finish the lesson by asking students what new ideas they have about the question of truth. Can we decide now? Do some people lean one way and some the other? Is the best answer in a "gray area" – most of the time true but not always, or half the time? How could we settle it if we had to?

Purpose: What kind of thinking does this routine encourage?
It encourages students to reason carefully about the "pull" of various factors that are relevant to a question of truth. It also helps them appreciate the deeper complexity of matters of truth that can appear black and white on the surface.

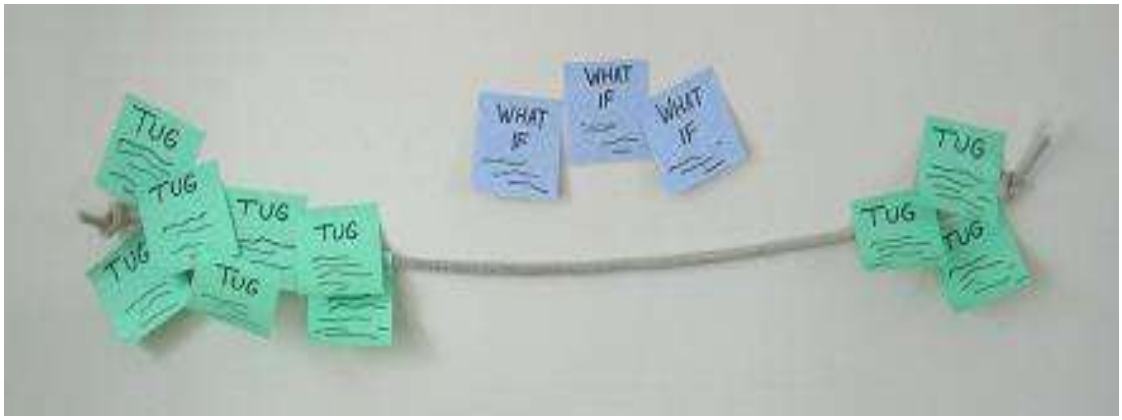
Application: When and Where can it be used?
It can be used in any situation in which questions of truth come up, and there is evidence to be considered, evidence from common knowledge or from information resources like newspapers or encyclopedias or the Internet. Questions of truth can come from school subjects or everyday life. Newspaper headlines are full of claims from politicians and others that can be evaluated. Science brings many issues like whether genetically engineered foods are dangerous or how old the universe is. History comes with endless controversies, for instance about who really started a particular war or what everyday life was like at various times in the past. Many works of literature create suspense by offering only bits and pieces of information until the end: Before the end, can you the reader figure out who the culprit really is or what secret from the past the heroine is hiding?

Launch: What are some tips for starting and using this routine?
This is a routine that builds on children's familiarity with the game of Tug of War to help them understand the complex forces that "tug" at either side of a question of truth (there is also a Tug of War for fairness dilemmas with the same basic structure). The routine uses a rope or a diagram to represent pulls toward true or false in evaluating a claim. The tug of war is between True and False. Help students think about the various factors that tug at one side of the rope or the other, as well as other considerations related to the issue. A natural follow-up to the activity is to have students investigate facts related to the questions written above the Tug of War.

Tug for Truth: Pictures of Practice

Using the routine to explore a truth claim
Lotta Norell, grade 7, Lemshaga Akademi

Lotta Norell's 7th graders have been thinking about the concept of truth as they learn about and practice how to debate. Students in this class used the Tug of War routine to debate the claim "Computer games make children violent."



Example of "tugs" and "what if" questions posted on a rope in the Tug for Truth. Moveable Post-it notes make it easy to change and relocate ideas on the rope continuum.

Students first used the think, pair, share routine to develop their ideas. Then, as students began to place their Post-it notes on the rope, they found out that some of the ideas would not fit on neatly on true or false, but needed to be somewhere in the middle. See student responses below. When all ideas were represented and the tug of war was complete, the group looked over the documentation on the board and the agreed that there were a lot of things to think of before you come to a conclusion that something is true or not. Although some students changed their mind after this discussion he claim that video games make children violent remained undecided.

The lesson was continued by staging an actual debate around the same topics. The students created two groups representing both sides of the tug of war, with one student acting as a moderator. Students were able to find arguments around this statement and understood how important the "what if" questions can be. They could see the problem from different viewpoints – for example a young child's or a parent's.

True	Not true
If you play bad games	
Some children want to be the hero.	If a child is violent it doesn't mean that he/she has played video games.
Children do no understand that it is only a game.	Children understand that it is only a game
It is a difference to films because games are more realistic.	It is useful because you learn a lot.
There are no age limit on computer games.	The ability to live the part means everything.
Some parents do not know what their children are playing.	The games are not realistic.
Affects most boys(girls are mostly prompted to be cute and play with dolls)	Some children get more violent from the news and other programs on TV.
Small children are affected	
If you do not do anything else but play computer games.	

What ifs

Depends on how the game is constructed

What your friends are like

Depends on how your parents act on your behavior

How much a child watches TV

How you look at computer games

How often you play

Compass Points: Examining propositions

1. **E = Excited**
   What excites you about this idea or proposition? What's the upside?

2. **W = Worrisome**
   What do you find worrisome about this idea or proposition? What's the downside?

3. **N = Need to Know**
   What else do you need to know or find out about this idea or proposition? What additional information would help you to evaluate things?

4. **S = Stance or Suggestion for Moving Forward**
   What is your current stance or opinion on the idea or proposition? How might you move forward in your evaluation of this idea or proposition?

Purpose: What kind of thinking does this routine encourage?
To help students flesh out an idea or proposition and eventually evaluate it.

Application: When and Where can it be used?
This routine works well to explore various sides and facets of a proposition or idea prior to
taking a stand or expressing an opinion on it. For instance, the school may be considering the idea of a dress code, a teacher might present the class with idea of altering the room arrangement, a character in a book might be confronted with making a choice, a politician might be putting forth a new way of structuring taxes, and so on.

Launch: What are some tips for starting and using this routine?
The routine needs to be modeled with the whole group initially with responses recorded for the entire class to see. This enables students to build on each other's ideas. You might record responses using the directions of a compass to provide a visual anchor. That is, draw a compass in the center of the board and then record responses corresponding the appropriate direction: E, W, N, or S. It is generally easiest for students to begin with what is exciting or positive about the idea or proposition and then move to worrisome and need to know. Students might be asked to write down their individual stance or suggestion for moving forward after the initial group discussion.

You can also ask students to make an initial judgment or evaluation of the idea or proposition before doing the compass points and then ask them how their thinking has changed after discussion using the compass points routine.

Compass Points: Pictures of Practice

We don't have full documentation for this example, but here is a layout of Post-its illustrating how one teacher organized a compass points discussion.

Red Light, Yellow Light for Truth: Focusing students on signs of puzzles of truth

1. Identify a source or range of experiences to investigate, e.g. the editorial page, a political speech, a pop science source, rumors on the playground.
2. Students look there for "red lights" and "yellow lights," specific moments with signs of a possible puzzle of truth, like sweeping generalizations, blatant self-interest.
3. Round up students' observations. Make a list of specific points marked R for red or Y for yellow with the sign (see sample chart). Also, ask students to identify "red zones" and "yellow zones," whole areas that tend to be full of red or yellow lights. Write them on the board in circles.
4. Ask: What have we learned about particular signs that there could be a problem of truth? What have we learned about zones to watch out for?

Red light, Yellow light only identifies potential issues of truth. You may want to go on to some other truth routines to dig into a couple of the issues.

Purpose: What kind of thinking does this routine encourage?
In the general clutter of everyday life, moments that need deeper thinking tend to be invisible. Students have to learn to see them. This routine focuses students on signs of puzzles of truth, and also on typical red zones and yellow zones where such puzzles are common. To build up this sensitivity, use the routine often in deliberately different ways.

Application: When and Where can it be used?
Wherever there might be interesting puzzles of truth: a text that might have questionable claims, the daily paper, TV news, political speeches, a mystery story, a math proof that might have weaknesses, playground activities and conversations, home life, pop science, potentially risky behaviors, self-critique of something one has written, etc. For settings outside of school, students can keep logs over a day to a week. Typical red zones are the editorial pages of newspapers, political speeches, playground arguments, because so many red lights occur within them.
The source should be large enough to take some time, like a chapter or keeping track of rumors for a few days. That way, students have to keep alert in a sustained way, which practices their skills of noticing puzzles of truth.

Launch: What are some tips for starting and using this routine?
Explain that "red lights" are specific moments with signs of a possible puzzle of truth,

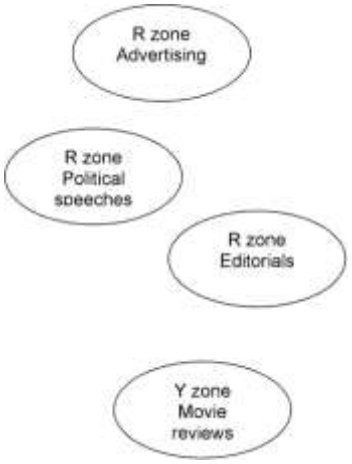
signs like sweeping statements, one-sided arguments, obvious self-interest, etc. See the sample chart for others. Yellow lights are milder versions of the same thing.
Naturally students may disagree on what's red vs. yellow vs. green in particular cases. Have students explain the signs and their judgments briefly, but mainly the routine is for detecting *potential* puzzles of truth. The real way to investigate a couple of the more important red or yellow lights is to dig further into the issue with another truth routine.

List of some signs to start with. Students can add to this.

Red Lights/Yellow lights for problems of truth

Sweeping generalization
One-sided arguments
Bold claim, no argument
Blatant self-interest
Extreme conviction
No obvious expertise
Angry claims
Feelings: seems implausible, uncertain, tentative
Plainly an opinion

Students investigating a newspaper might find examples (abbreviated) like these



R The only honorable way out is to win on the battlefield (political, extreme statement, no argument)
Y The majority of people agree… (evidence?)
R I'm sick and tired of the way…. (editorial, angry claim)
Y The senator expressed his judgment that… (tentative)
R You can save more now than ever before… (ad, blatant self-interest)
Y Thousands of people flock to these kinds of self-medication (re the medications, lack of expertise)
Y Both teenagers and young adults will like this film (opinion)

Fairness Routines

*Circle of Viewpoints *A routine for exploring diverse perspectives*

Here Now There Then *A routine for considering presentist attitudes and judgments*

Making it fair: Now Then Later *A routine for finding actions*

Reporter's Notebook *A routine for separating fact and feeling*

*Tug of War *A routine for exploring the complexity of dilemmas*

*Consider starting with one of these routines

Circle of Viewpoints: Exploring diverse perspectives

Brainstorm a list of different perspectives and then use this script skeleton to explore each one:

1. **I am thinking of** ... the topic... **From the point of view of** ... the viewpoint you've chosen

2. **I think** ... describe the topic from your viewpoint. Be an actor – take on the character of your viewpoint

3. **A question I have from this viewpoint is** ... ask a question from this viewpoint

Wrap up: What new ideas do you have about the topic that you didn't have before? What new questions do you have?

Purpose: What kind of thinking does this routine encourage?
This routine helps students consider different and diverse perspectives involved in and around a topic. Understanding that people may think and feel differently about things is a key aspect of the Fairness Ideal.

Application: When and Where can it be used?
This routine can be used at the beginning of a unit of study to help students brainstorm new perspectives about a topic, and imagine different characters, themes and questions connected to it. It can be used after reading a book or chapter. Provocative topics and issues are encouraged and the routine also works especially well when students are having a hard time seeing other perspectives or when things seem black and white. The routine can be used to open discussions about dilemmas and other controversial issues.

Launch: What are some tips for starting and using this routine?
After identifying a topic, ask students to brainstorm various viewpoints about this topic. This can be done solo, or as a class, but make sure to give the initial brainstorm enough time for students to really stretch and explore diverse ideas. If students need help thinking of different viewpoints, try using the following prompts:

- How does it look from different points in space and different points in time?
- Who (and what) is affected by it?
- Who is involved?
- Who might care?

After the brainstorm, ask each student to choose one of these viewpoints. Give them time to prepare to speak about the topic from that perspective and to embody the viewpoint using the script skeleton to structure what he or she says.

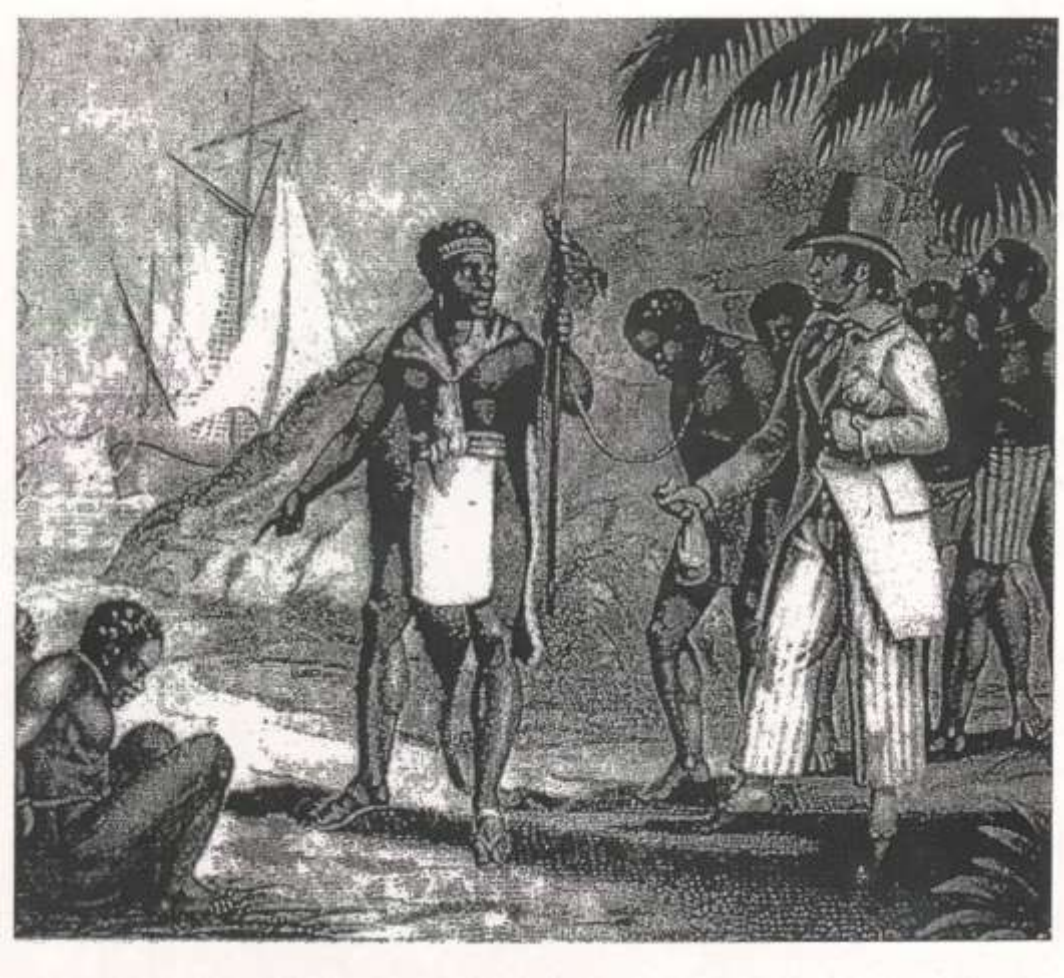
Once students have prepared their "characters", the class should be ready to go around the circle and act out their various perspectives. Taking turns, ask students to speak briefly about their chosen viewpoint using the script skeleton. Invite them to stand up and use gestures and movement if necessary. The discussion at this point might move fairly quickly, capitalizing on the immediacy of the experience as each student goes through the script and presents a perspective. The array of responses will hopefully be broad and distinct, as each student should strive to produce a unique viewpoint. If some students choose the same character, encourage them to perform differently. For example, if several students choose the viewpoint of an explorer, one may be trying to seek out wealth through trade, another explorer might be adventurous or want to become famous. Ask them to raise different questions in order to elaborate their viewpoints.

Viewpoints connect to the idea of physical perspective taking and you may notice that your students interpret this literally at first by naming and describing what their characters *see*. While it is fine to help students get started with concrete examples, try to move your students to consider *thoughts and feelings* of characters, rather than describing a scene or object.

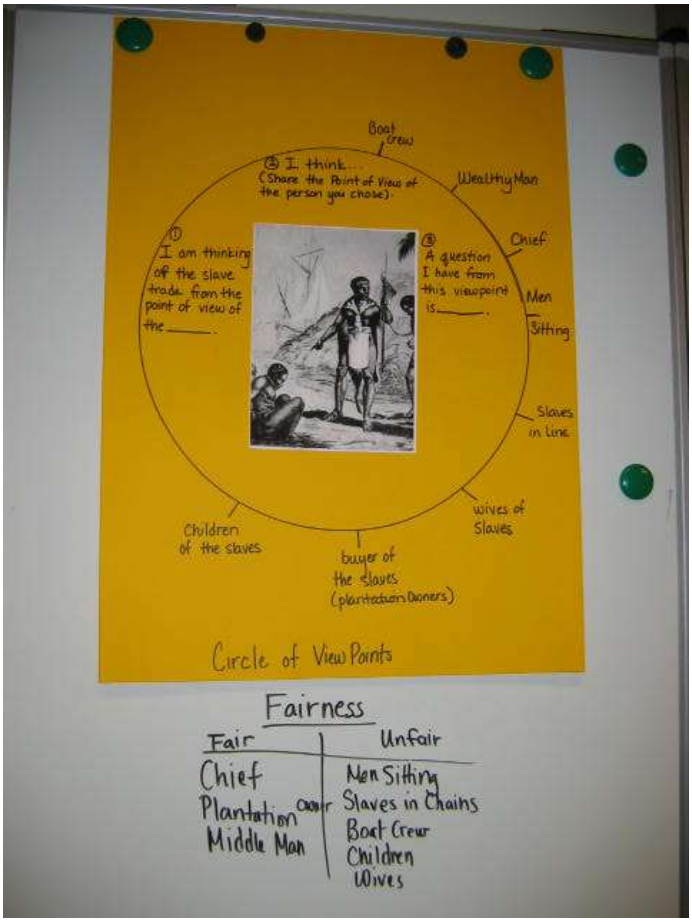
As students perform their viewpoint in the circle, their ideas can be recorded or written on the board so that a class list of perspectives is created. The last question of the routine asks students to think of a question they might have from their chosen viewpoint. Collect these questions or ask students to write them down and answer them as they think more about the topic as it is studied in class. Once everyone in the circle has spoken, the teacher can lead a discussion by asking: "What new ideas do you have about the topic that you didn't have before?" and "What new questions do you have?

Circle of Viewpoints: Pictures of Practice

Using the Routine to Explore a...
Jenn Aza, grade 6 International School of Brussels



As part of their study of the history of the slave trade in western civilization students in Jenn Aza's social studies class examined an picture of an apparent slave trade involving an ambiguous negotiation between the central characters in the image. Students were asked to think of various perspectives connected to the image. Who would be interested in this image? Who might care about it? What people might be affected by what you see in the image?



Individually, students brainstormed various perspectives on the image and topic of slavery. They chose a single viewpoint and used the routine's script skeleton to investigate the perspective more deeply, imagining what the character might be experiencing or thinking. Students were also asked to generate a question from the perspective of their character.

16.11.04

Circle of Viewpoints

- Wealthy Western Man
- Chief of the Tribe
- Men on the Ground
- Line of Slaves
- The Boat Crew
- Wives of the Slaves
- Buyers of the Slaves
- Animals/Dog
- Children of the Slaves

① I am thinking of the Slave Trade from the point of view of children of Slaves.

② I think that the white men are scary what if they take my mom and take who will take care of me? Where will I get food? The white men are taking my parents away.

③ Why do the white people need our parents?

cameron

The Picture

① I am thinking of the slave trade from the point of view of the man sitting down being pointed at.

② I think this white guy is full of him self. I just hope he doesn't pick me. I want to stay with my family. Why would the chief be doing this to us. He is our chief he should be protecting us.

③ A question I have from this viewpoint is "Why is he pointing at me? What is he saying to the white man?"

① These chains are making my throat sore. Anyways, who is that guy wearing strange clothes? I've been told that I was given to him so other people could own me. I remember when I was thrown out of the town and put in chains. I have a bad feeling about this...

② If I'm going to live like this for the rest of my life, I'm going to for sure hate it. And I heard I'm going to do hard labor. That especially hard with those chains.

③ Where am I going? What's happening? Why is my chief making me a slave?

Circle of Viewpoints 16-11-2004

- Wealthy Western Man
- Chief of the tribe
- Slave on the ground being pointed to
- Line of Slaves
- Boat crew
- Wives of the Slaves
- The people buying the Slaves
- animals (dogs)
- The children of the slaves being dragged away

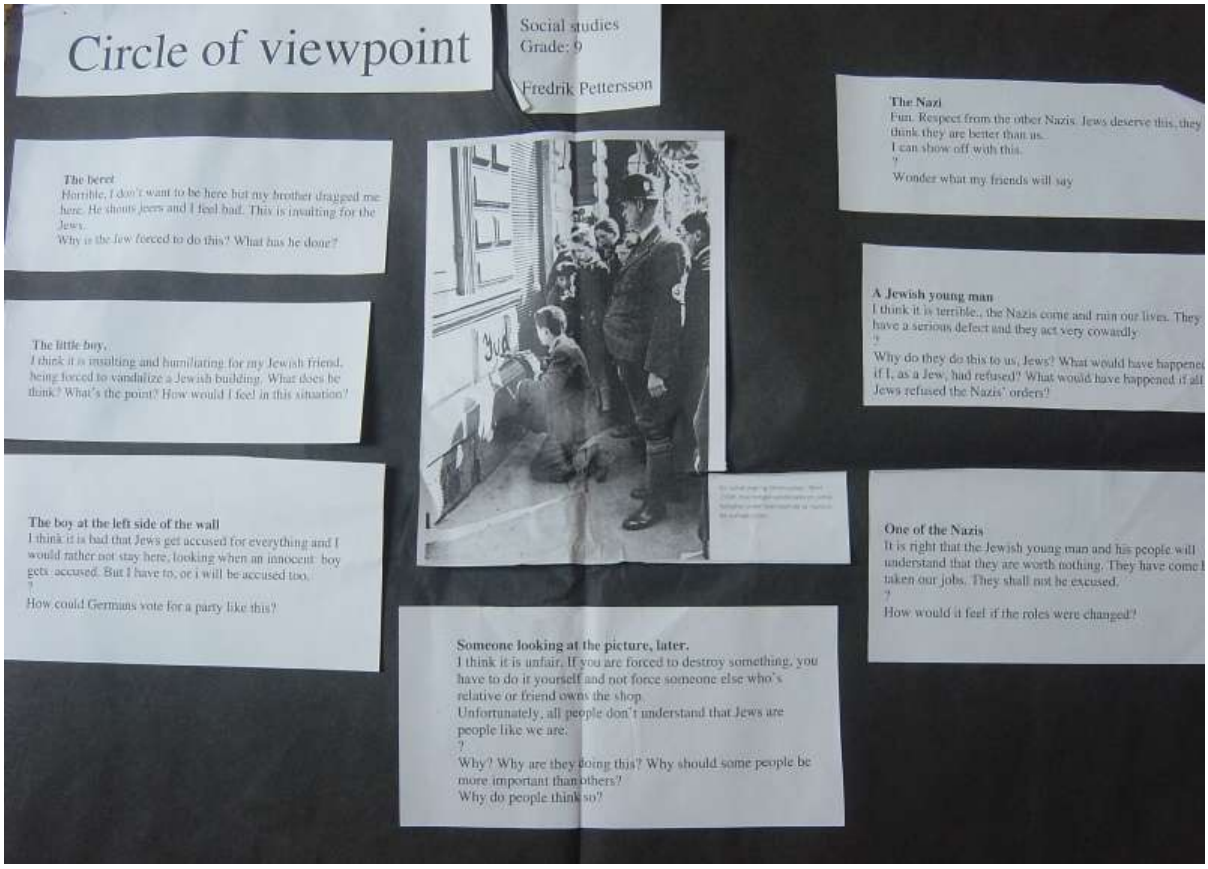
1 I am thinking of the point of veiw of children of the tribe
2 I am thinking ..... Why have these evil white monsters come to take away my father. I wish these white men had never come, they have ruined everything.
3. A question I have from the childrens point of view is that how did the white men find us and why are they so evil. Is he the white devil I have heard so much about? Will we survive with the men of tribe gone, and who will hunt for food
the chief! the one I admired the most, he has turned his back on us. He only cares about himself!

I am thinking the slave from the point of view of the children.

I think. (This is what the children think)
Where are our perants? What are they doing? We are scared, upset and angry? Why are they not here? Will we ever see them again? am I going to see them soon?! I don't know whats going to happen!!

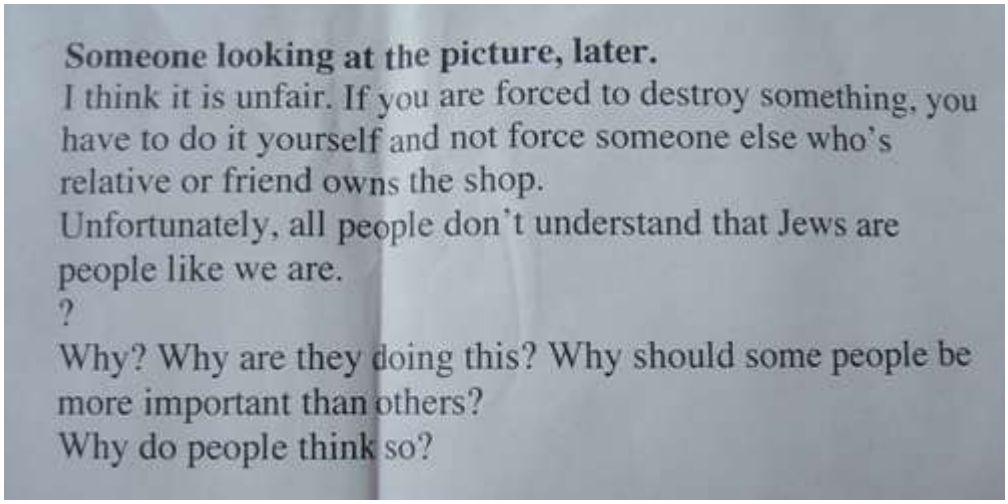
Using the routine to explore a topic from history
Fredrik Pettersson, grade 9, Lemshaga Akademi

Fredrik used the Circle of Viewpoints routine to help students get inside the perspectives of people living in Germany during World War II. Students were first asked to observe the photograph, and then brainstorm various perspectives connected to the image. Who would be interested in this image? Who might care about it? What people might be affected by what you see in the image? Students were then asked to imagine the thoughts and feelings of their chosen perspective, and to generate a question from this particular point of view.



The boy at the left side of the wall
I think it is bad that Jews get accused for everything and I would rather not stay here, looking when an innocent boy gets accused. But I have to, or i will be accused too.
?
How could Germans vote for a party like this?

The little boy.
I think it is insulting and humiliating for my Jewish friend, being forced to vandalize a Jewish building. What does he think? What's the point? How would I feel in this situation?



Someone looking at the picture, later.
I think it is unfair. If you are forced to destroy something, you have to do it yourself and not force someone else who's relative or friend owns the shop.
Unfortunately, all people don't understand that Jews are people like we are.
?
Why? Why are they doing this? Why should some people be more important than others?
Why do people think so?

Circle of Viewpoints: Connections and Extensions

Students perform their ideas in the circle, therefore making their thinking visible to the class. Their ideas can be recorded or written on the board so that a class list of viewpoints is created. The last question of the routine asks students to think of a question they might have from their chosen viewpoint. Collect these questions or ask students to write them down and answer them as they think more about the topic as it is studied in class.

Use the routine in small groups or ask students to perform in pairs. Try an abbreviated form that asks students to just quickly think of a "circle of viewpoints" during a discussion.

The "characters" created can later be expanded or developed more fully through more acting or writing. You can also ask students to draw or create objects they might see from their chosen viewpoints or to think about things or objects that might represent their viewpoints. It is possible to connect this to other routines, such as Tug of War, too.

Here Now / There Then: Considering presentist attitudes and judgments

1. **Identify a controversial issue or fairness topic that has changed significantly over time and uncover student's basic knowledge about the topic.**
   Column A: List *present* stances, values and judgments about the topic.

2. **Ask kids to imagine they could travel back to a time when the attitudes about the fairness of this topic were different.**
   Column B: List *past* stances, values and judgments about the topic.

3. **Compare the past and present perspectives in Columns A and B.**
   Why do you think things have changed? Why did people in the past not think the way we do today?

4. **Close the discussion.**
   How could we find out more about the way people thought back then?

Purpose: What kind of thinking does this routine encourage?
The routine encourages students to consider past perspectives and develop a better understanding of how thinking changes over time and across cultures. It helps students acknowledge that we have strong stances regarding controversial issues, and that our stances are influenced by social and historical context. It is also helps to uncover stereotypical perceptions as well as ethnocentric and presentist judgments.

Application: When and Where can it be used?
The routine works best when dealing with issues that at one point in time or in a different culture were considered controversial. It can be used with topics about which we have strong stances that are not necessarily shared by people from other cultures or people in the past. Examples of these topics might include: slavery, holocausts, genocide, human rights, women's rights, child labor, war, and so on. This routine works well when students have had some experience with the topic and have at least a basic knowledge of its historical development.

Launch: What are some tips for starting and using this routine?
This routine works well as a whole class discussion. Use the idea of the time traveler to help students think about fairness issues and values that have changed significantly over time or place. When comparing past and present stances acknowledge that certain issues may not be controversial to us today. List how we think about it presently and ask students to step back and consider how people thought about the topic during another place and time. What was their reasoning? Make these ideas visible. Explore the possible reasons for our shifts in thinking about this topic. Why do we view it differently? How could we find out more information?

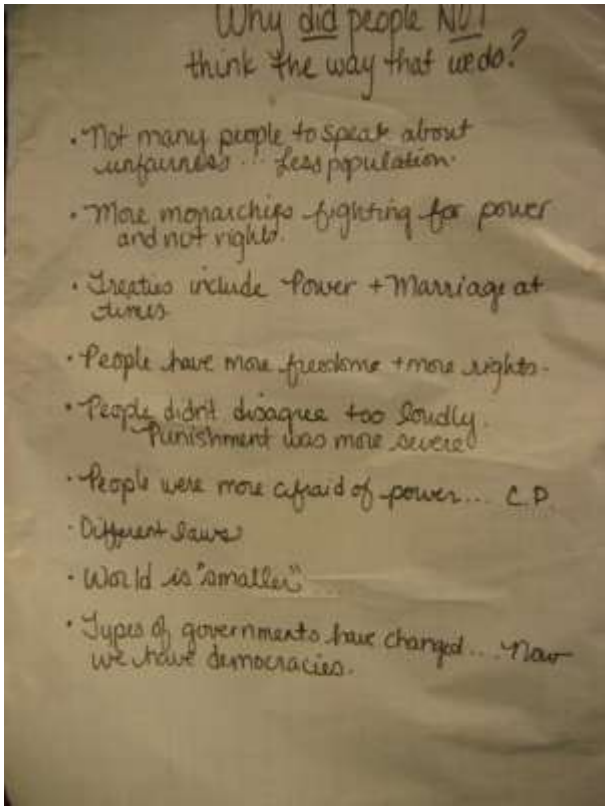
Here Now There Then: Pictures of Practice

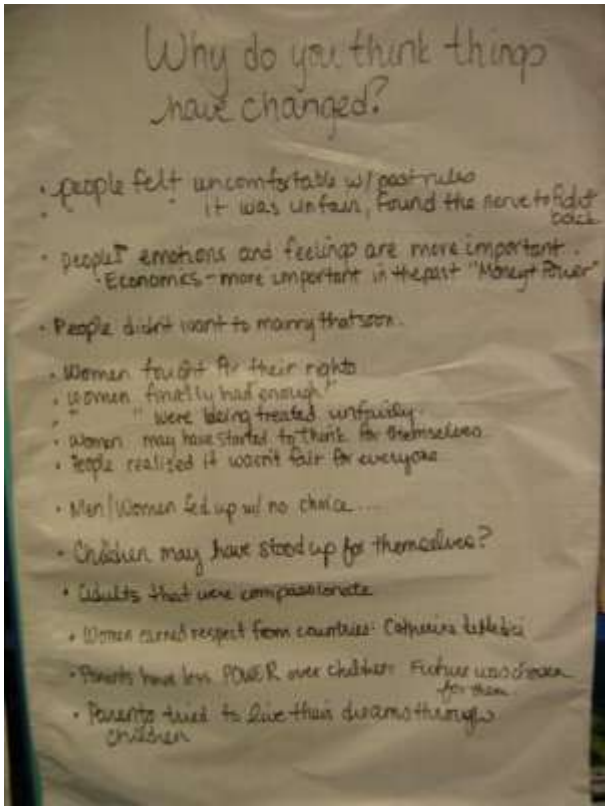
Using the routine to explore perspectives from different points in time

Jenn Aza, International School of Brussels, grade 6

The Here Now/There Then routine was used in Jen Aza's classroom to encourage and challenge students think from the perspective of from different point in time about the institution of marriage.

The documentation presented here illustrates some of the historical perspective taking centered around the issue of marriage and women's rights. The students paired up to discuss what they might have thought then (a century ago) versus what they think now. Students worked in pairs and made their thinking visible on paper. The charts documented the group's thinking about this issue and were used to help the students to reflect on the differences in perspective between then and now.





Together with your bride or groom think about the following perspectives, spend 10-15 minutes discussing and writing down your thoughts:

Present Stance: values, judgments	Past Stance: values, judgments
- you have the right to choose - if they were rich and powerful you would get fame and fortune - get more responsibility. - you can choose more	-it didn't matter if you argued or disagreed. you had to. -it didn't matter what you thought, as long as it helped their country or parents in any way. - you would get more power sometime -women were taken care of. - men had someone to cook, clean, etc - there would be peice

We will come back together as a class to discuss the following, after you have discussed these questions with your partner:

- Why do you think things have changed?
- Why did people in the past think the way that we do today?
- How could we find out more about the way people thought back then?

search the internet and research and t
more deminstrations

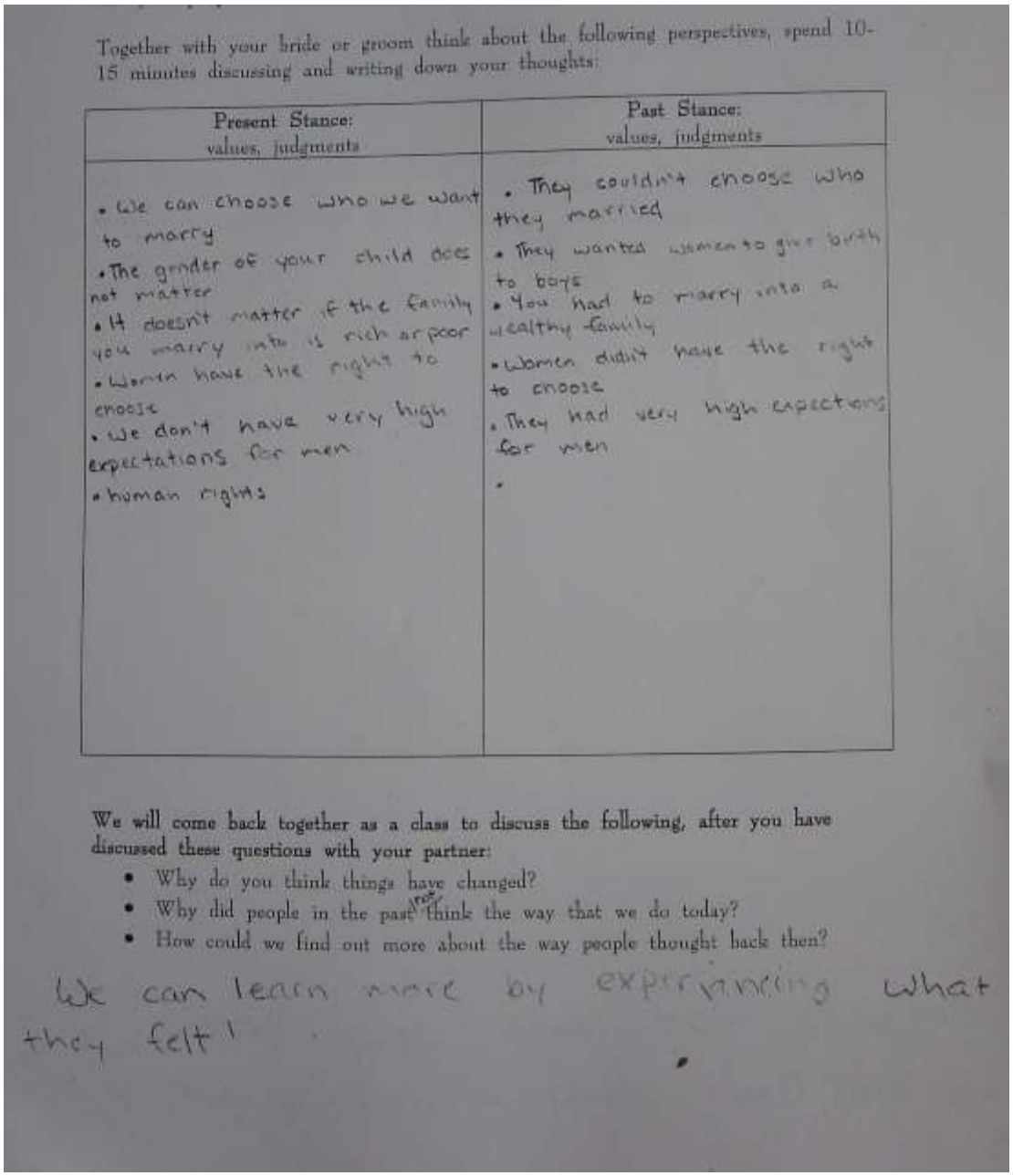
Together with your bride or groom think about the following perspectives, spend 10-15 minutes discussing and writing down your thoughts:

Present Stance: values, judgments	Past Stance: values, judgments
• you get to chose who you marry. • It would not matter about money or power. • Get more responsibility • Age differences in mariage	• You would get money • You would be making peace with another country. • You would not be happy for you would not marry who you wanted. • It was more fair for men because they would not be treated badly. • Children didn't have there own right. •

We will come back together as a class to discuss the following, after you have discussed these questions with your partner:

- Why do you think things have changed?
- Why did people in the past not think the way that we do today?
- How could we find out more about the way people thought back then?

- We could be put in that situation and see how it feels like



Together with your bride or groom think about the following perspectives, spend 10-15 minutes discussing and writing down your thoughts:

Present Stance: values, judgments	Past Stance: values, judgments
• We can choose who we want to marry • The gender of your child does not matter • It doesn't matter if the family you marry into is rich or poor • Women have the right to choose • We don't have very high expectations for men • human rights	• They couldn't choose who they married • They wanted women to give birth to boys • You had to marry into a wealthy family • Women didn't have the right to choose • They had very high expectations for men •

We will come back together as a class to discuss the following, after you have discussed these questions with your partner:

- Why do you think things have changed?
- Why did people in the past (not) think the way that we do today?
- How could we find out more about the way people thought back then?

We can learn more by experiencing what they felt!

Making It Fair: Now, Then, Later: Finding actions

1. **Frame the task.** Present and clarify an issue of fairness. The class will be thinking about things to do to make the situation more fair: now, in the future, or to change the situation so it would have been fair in the past.

2. **Brainstorm.** Ask students to brainstorm ideas for things they might do to "make it fair."

3. **Sort.** Sort the list into actions that relate to making the situation fair in the past, now, or for the future.

4. **Evaluate.** Ask students to pick one idea from the list that they think has the most merit and expand on it, either verbally or in writing.

Purpose: What kind of thinking does this routine encourage?
This routine is about identifying and evaluating specific actions that might make a situation fair. This routine involves students in generating and evaluating options. Initially the focus should be on an open generation of ideas without evaluation. Later, students evaluate their ideas and justify them. This routine helps students see that fairness and unfairness are not merely judgments that one makes but that these situations also invite direct actions by finding ways to repair, prevent, or preclude unfairness.

Application: When and Where can it be used?
This routine can be used to with issues of fairness that naturally arise in the classroom, around issues of fairness that have been studied, or as a way of closing a discussion of fairness that you may have had using one of the other routines.

Launch: What are some tips for starting and using this routine?
Present and clarify the dilemma to the class. Everyone should agree that the situation was not fair, at least from some perspectives. To facilitate openness in the brainstorming portion, you might want to have students think in terms of "I wonder might happen if…" As students talk, record their ideas on the board or chart paper. You may want to label the paper "I wonder might happen if …" to further encourage students to think about possibilities. When you begin to sort students' ideas, if there is a category where are not many ideas, have students generate additional ideas for that category.

Now Then Later: Connections and Extensions

Students' ideas about actions are captured in the group brainstorm initially, and thus made visible to the class for discussion and examination. In the follow-up discussions and/or writing, students' show their reasoning about how an action repairs or prevents unfairness. Their reasoning provides insights into how students are thinking about issues of fairness and the extent to which they are able to take into account the perspectives of others. Students can also use the Here Now/There Then routine to consider how attitudes and perceptions about the topic have shifted over time. Consider using the Circle of Viewpoints routine to extend the conversation and build new ideas for fairness actions.

Reporter's Notebook: Separating fact and feeling

1. Identify a situation, a story or dilemma for discussion.

2. Ask students to identifying the *Facts and Events* of the situation. As students name them, ask if these are clear facts, or if they need more information about them.

3. Ask students to then name the *Thoughts & Feelings* of the characters/participants involved in the story. As students name them, ask if these are clear facts, or if they need more information about them.

4. After a discussion, ask to make their best judgment of the situation, based on the information at hand.

Purpose: What kind of thinking does this routine encourage?
This routine is about distinguishing facts from thoughts and judgments. It helps organize ideas and feelings in order to consider a situation where fairness may be at stake. It promotes the fine discernment of information and perspective taking in order to clarify and make a tentative judgment.

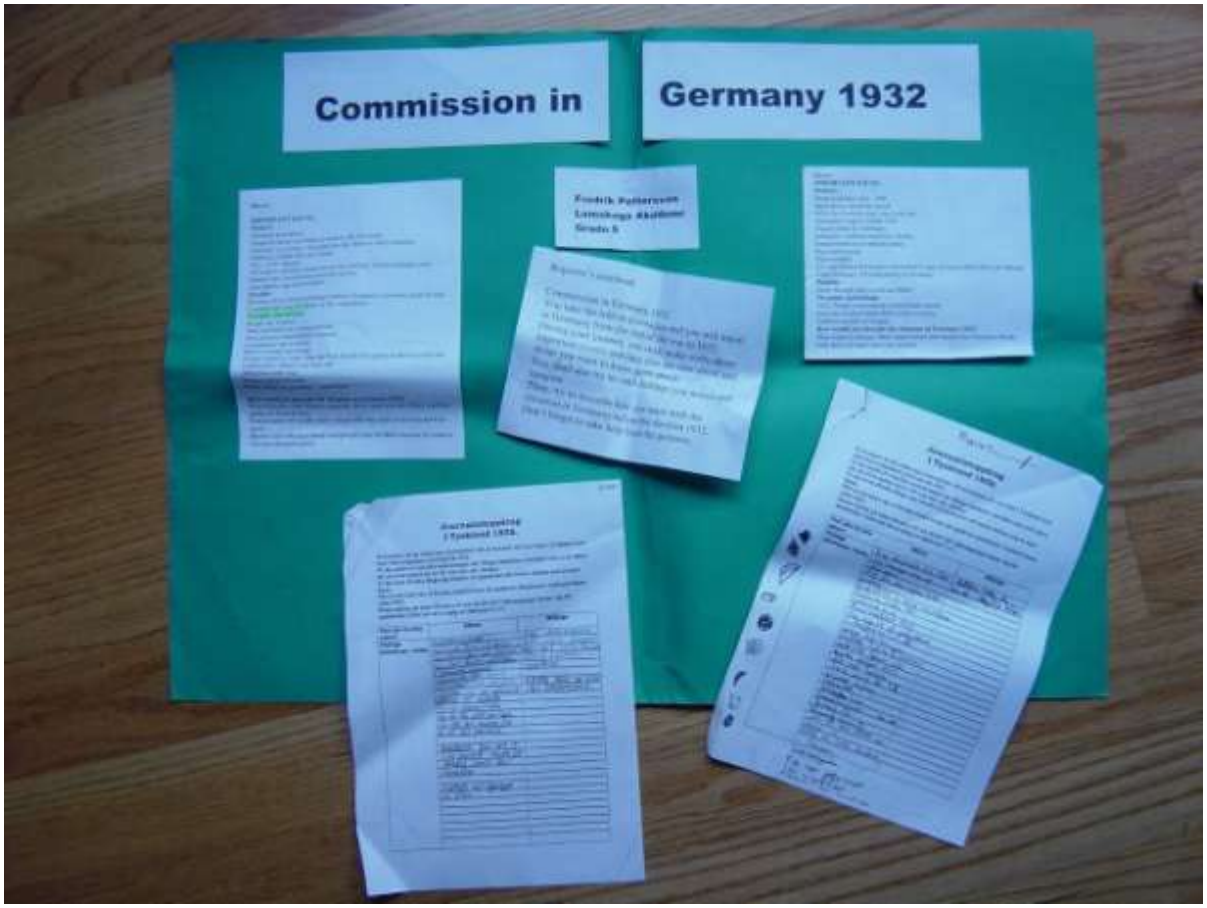
Application: When and Where can it be used?
Students can use the reporter's notebook in any number of situations: when discussing imagined or real moral dilemmas, topics from history, literature, or science; after reading a chapter, watching a video or performance; or when thinking about actual events from their own life, etc. This routine is most useful "mid-investigation", after some information about a given situation has already been put on the table. Maybe things are getting convoluted, there are disagreements, or perhaps when opinions are taken as facts, or when things are getting "messy". Use the routine to go deeper into an issue to clarify thoughts about it OR to even clarify what the issue is.

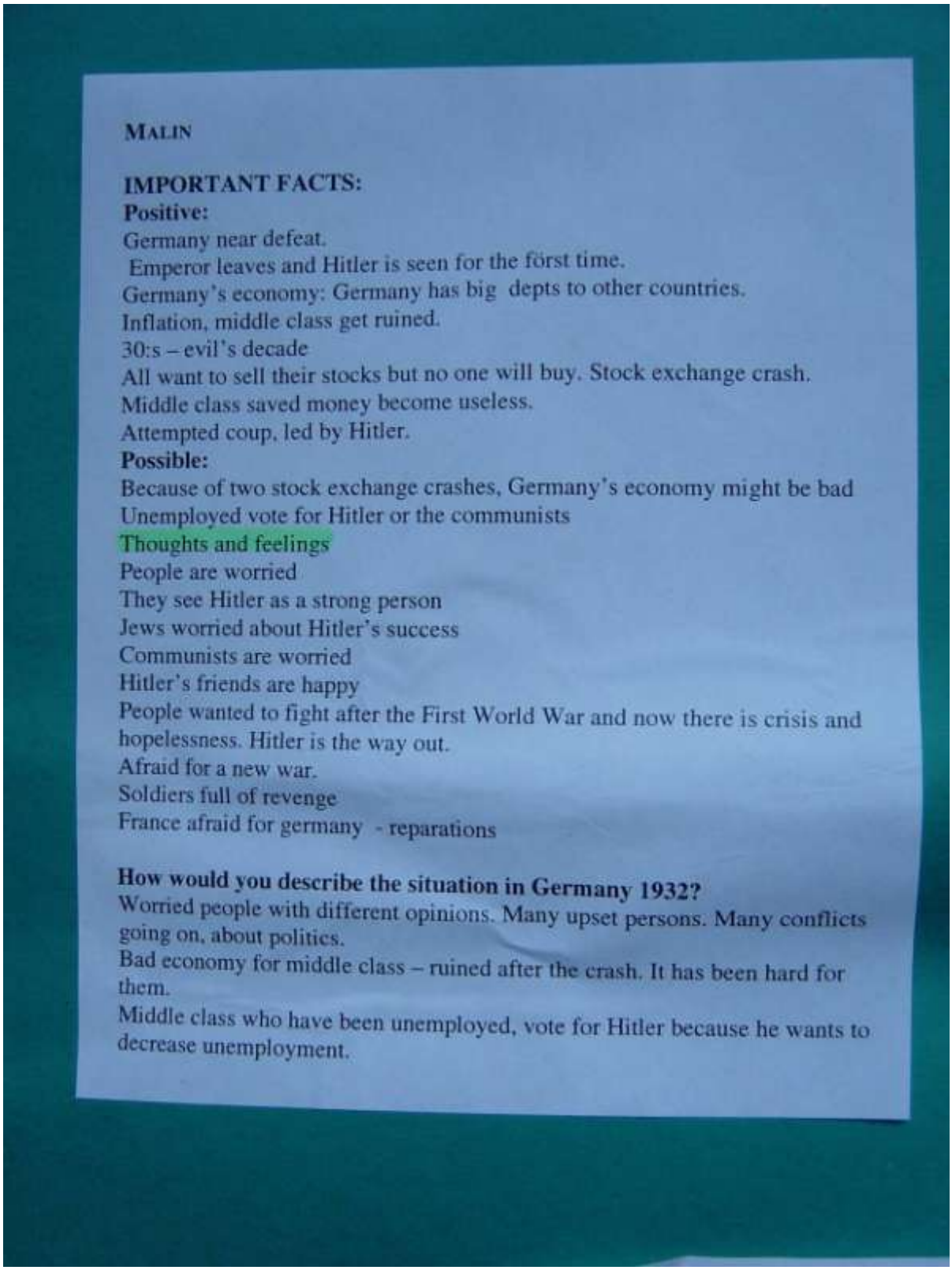
Launch: What are some tips for starting and using this routine?
in small groups using the recording sheet on the following page. Students are asked to imagine they are a newspaper reporter in order to differentiate the facts of a given event or topic from involved characters' thoughts and feelings. The stance of a reporter helps students clarify issues and points of agreement and disagreement by getting distance from their own perspective or initial understanding of a given situation. Draw a 4x4 grid. Along the top write "Clear" and "Need to Check." Down the side write *Facts & Events* and *Thoughts & Feelings*. List responses in the appropriate portion of the grid. Make sure kids talk about the characters, not their own thoughts or feelings. Once the notebook is completed, routine asks the students to make an informed judgment.

Reporter's Notebook: Pictures of Practice

Using the routine to explore events from World War II
Fredrik Pettersson, grade 9, Lemshaga Akademi

As part of their in depth investigation of World War II, Fredrik Pettersson asked his students to take on the role of a journalist traveling in Germany in 1932. Students used the Reporter's Notebook routine to make notes about important events that they imagined they encountered on their journey. They were asked to try to capture both facts and feelings of the times: *Which facts are you sure about? Which ones do you need to know more? Try to capture the feelings you notice and imagine.*





MALIN

IMPORTANT FACTS:

Positive:

Germany near defeat.
Emperor leaves and Hitler is seen for the först time.
Germany's economy: Germany has big depts to other countries.
Inflation, middle class get ruined.
30:s – evil's decade
All want to sell their stocks but no one will buy. Stock exchange crash.
Middle class saved money become useless.
Attempted coup, led by Hitler.

Possible:

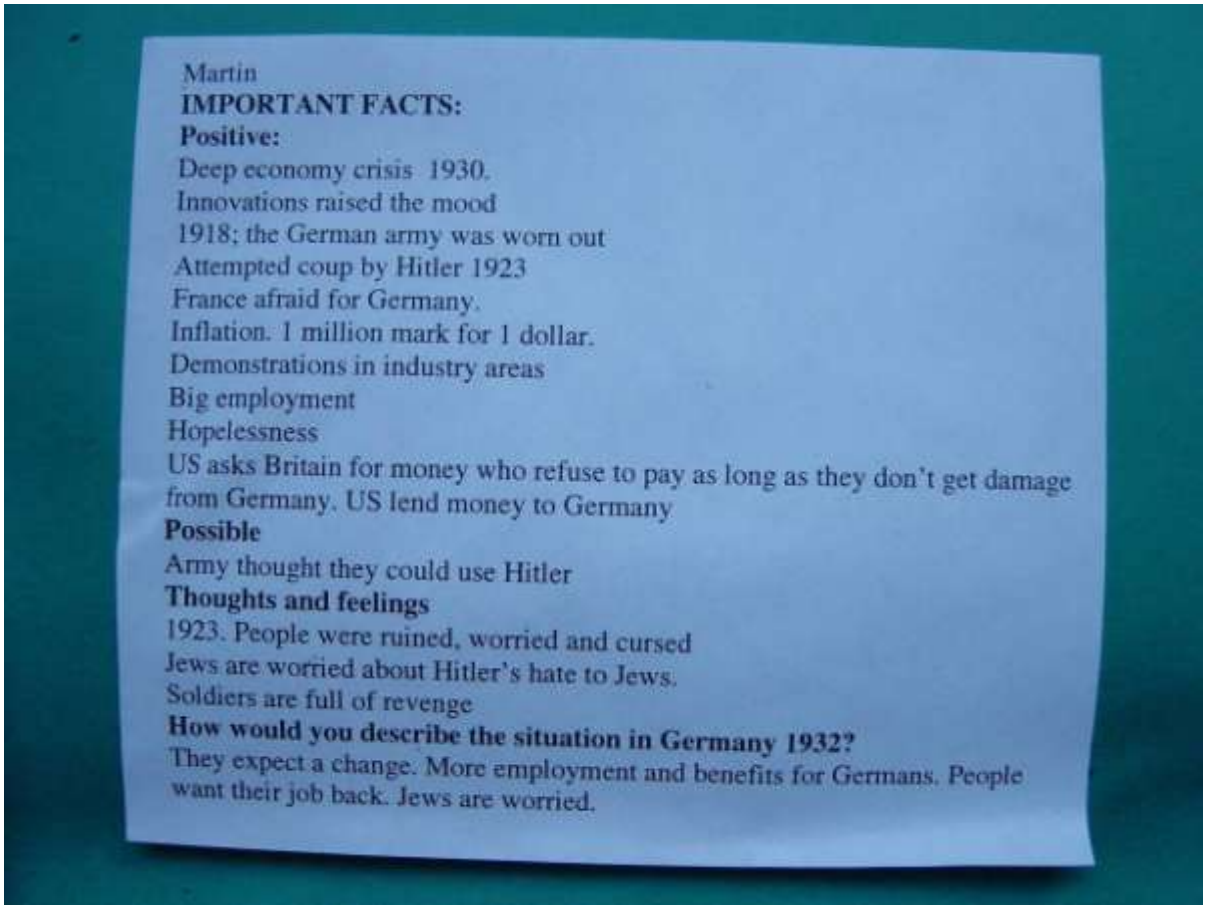
Because of two stock exchange crashes, Germany's economy might be bad
Unemployed vote for Hitler or the communists

Thoughts and feelings

People are worried
They see Hitler as a strong person
Jews worried about Hitler's success
Communists are worried
Hitler's friends are happy
People wanted to fight after the First World War and now there is crisis and hopelessness. Hitler is the way out.
Afraid for a new war.
Soldiers full of revenge
France afraid for germany - reparations

How would you describe the situation in Germany 1932?

Worried people with different opinions. Many upset persons. Many conflicts going on, about politics.
Bad economy for middle class – ruined after the crash. It has been hard for them.
Middle class who have been unemployed, vote for Hitler because he wants to decrease unemployment.



Martin
IMPORTANT FACTS:
Positive:
Deep economy crisis 1930.
Innovations raised the mood
1918; the German army was worn out
Attempted coup by Hitler 1923
France afraid for Germany.
Inflation. 1 million mark for 1 dollar.
Demonstrations in industry areas
Big employment
Hopelessness
US asks Britain for money who refuse to pay as long as they don't get damage from Germany. US lend money to Germany
Possible
Army thought they could use Hitler
Thoughts and feelings
1923. People were ruined, worried and cursed
Jews are worried about Hitler's hate to Jews.
Soldiers are full of revenge
How would you describe the situation in Germany 1932?
They expect a change. More employment and benefits for Germans. People want their job back. Jews are worried.

Reporter's Notebook: Connections and Extensions

When using the Reporter's Notebook, you may want to have students carry out the routine individually on paper first and then use the Think/Pair/Share routine. Use the board to capture ideas and clarify thoughts on the grid of the "notebook" in a whole group discussion. Students can also create individual reporter's notebooks to keep track of their own developing ideas.

Extend the routine by asking students to "become reporters" and quickly summarize Clear Facts after reading a passage in a text, or ask kids to practice using their "best judgments" to hypothesize and make guesses.

As a follow up activity, *Facts and Thoughts* that need to be checked can be collected and organized into a list for future discussions, projects or homework. If topic of discussion is going to be worked on for a while, leave the list up and edit it as necessary. Another possibility is to ask students to write an article based on their notes. Students can choose to write factual newspaper articles or opinionated editorials. Publish them for the class if possible and then compare and contrast how the various types of articles can persuade or inform an argument.

Tug of War: Exploring the complexity of fairness dilemmas

1. Present a fairness dilemma.

2. Identify the factors that "pull" at each side of the dilemma. These are the two sides of the tug of war.

3. Ask students to think of "tugs", or reasons why they support a certain side of the dilemma. Ask them to try to think of reasons on the other side of the dilemma as well.

4. Generate "what if?" questions to explore the topic further.

Purpose: What kind of thinking does this routine encourage?
This is routine builds on children's familiarity with the game of tug of war to help them understand the complex forces that "tug" at either side of a fairness dilemma. It encourages students to reason carefully about the "pull" of various factors that are relevant to a dilemma of fairness. It also helps them appreciate the deeper complexity of fairness situations that can appear black and white on the surface.

Application: When and Where can it be used?
This routine can be used in any situation where the fairness dilemma seems to have two obvious and contrasting ways of being resolved. Dilemmas can come from school subjects or everyday life: testing of medicine on animals, adding people to a game once it has started, censoring a book in a library, and so on.

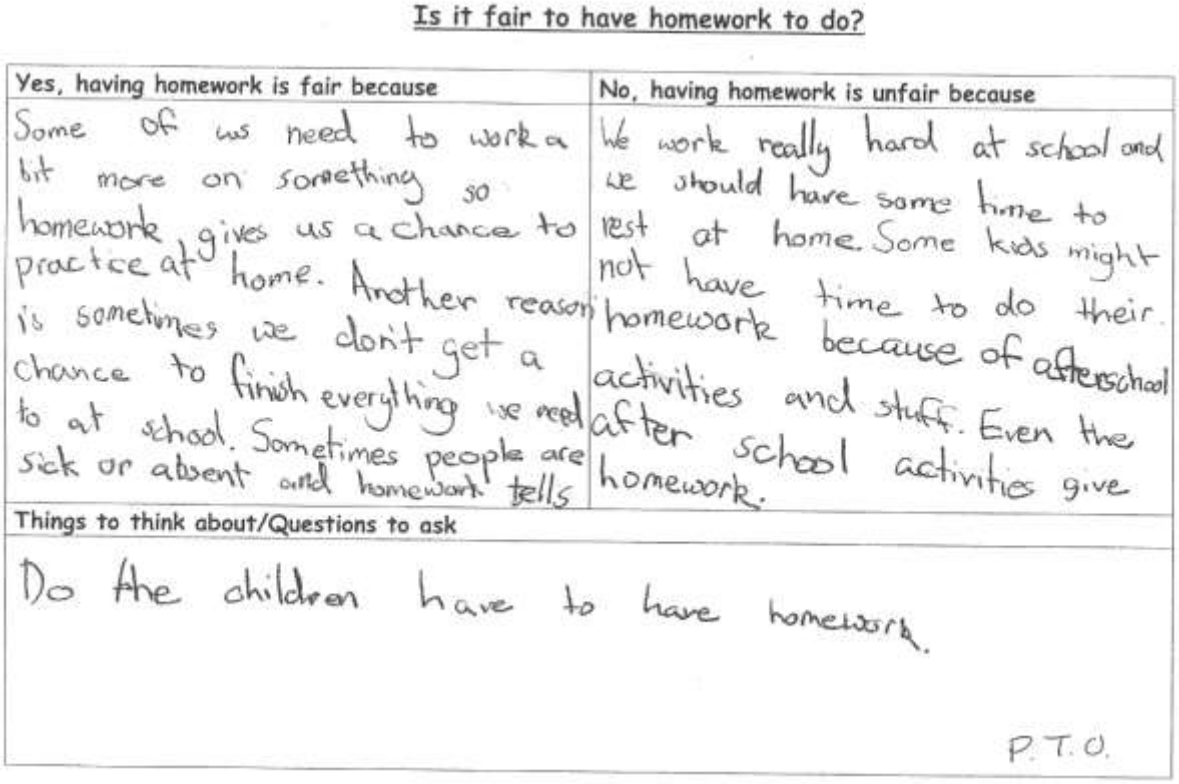
Launch: What are some tips for starting and using this routine?
The routine works well as a whole class activity. Present the dilemma to the class. Draw or place a rope with the two ends representing the opposing sides of the dilemma and ask students to think about what side of the dilemma they would be on and why. Students can write their justifications on Post-it notes. Encourage students to think of other reasons or "tugs" for both sides of the dilemma, and then have students add their Post-it notes to the rope. Stand back and ask students to generate "What if's:" questions, issues, factors or concerns that might need to be explored further to resolve the issue. Write and post these above the rope. Finish the lesson by asking students to reflect on the activity. What new ideas they have about the dilemma? Do they still feel the same way about it? Have they made up minds or changed their minds?

The display of the tugs and What if's? on the rope helps to make students' thinking visible. Most importantly, their ideas are displayed in a way that shows their interconnectedness. The collaborative thinking process of the group as a whole is represented through the "action" of the tug of war. This is a key point about making thinking visible: It shows the dynamic interaction of people's thoughts in a context of a shared inquiry. Documenting thinking and making it visible in the classroom can facilitate this interaction in order to make the inquiry richer.

Tug of War: Pictures of Practice

Using the routine to explore the topic of homework
Tamara Cunnigham grade 3, International School of Brussels

As part of her investigation of the Fairness Ideal, Tamara used the Tug of War routine to explore the topic of homework. Is it fair for students to have homework? Why or why not? Students described their reasons and identified other questions about the fairness of homework. After student thinking was revealed through this routine, Tamara decided to adjust the homework policy in the classroom to make it more in line with the issues of fairness discussed with her students.



Is it fair to have homework to do?

Yes, having homework is fair because	No, having homework is unfair because
Some of us need to work a bit more on something so homework gives us a chance to practice at home. Another reason is sometimes we don't get a chance to finish everything we need to at school. Sometimes people are sick or absent and homework tells	We work really hard at school and we should have some time to rest at home. Some kids might not have time to do their homework because of afterschool activities and stuff. Even the after school activities give homework.

Things to think about/Questions to ask

Do the children have to have homework.

P.T.O.

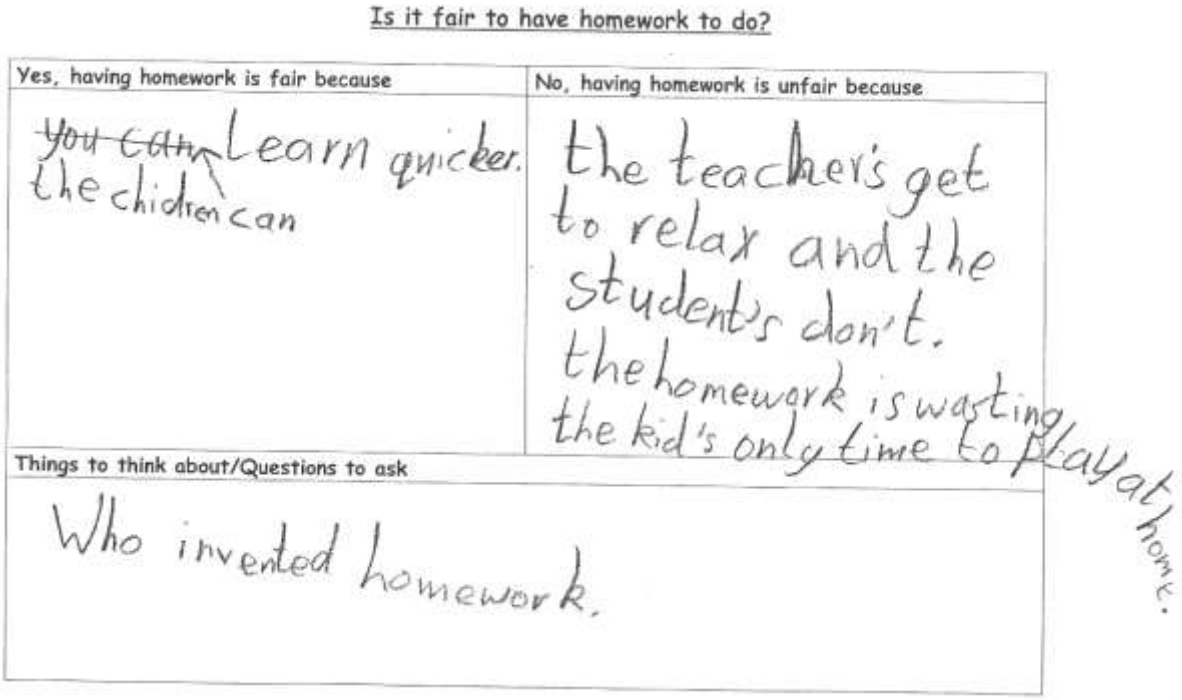
Is it fair to have homework to do?

Yes, having homework is fair because	No, having homework is unfair because
If you have home work it will make smarter then you already are	3rd grade might still be a bit yong for it.
Things to think about/Questions to ask	
What do the other teachers think about homework.	

24/1/04

Is it fair to have homework to do?

Yes, having homework is fair because	No, having homework is unfair because
you lern more than at home and you have something to do at home when your bord	you have to do more work than usual and you don't have as much time to play.
Things to think about/Questions to ask	
hoo enverted the homework sitem? and why? Why don't poeple do there homework at school?	



Tug of War: Connections and Extensions

The Tug of War routine can be done in small groups, in pairs, and even solo. It can also be varied by exploring the fairness dilemma in additional ways. For example, the tug of war can be preceded by asking students to list the facts of the situation (perhaps by using the Reporter's Notebook routine). It can also be preceded by exploring the different points of view that might bear on the situation (perhaps by using the Circle of Viewpoints routine). The activity can be concluded by brainstorming other options for resolving the dilemma beyond those represented by the ends of the rope. And for a fancy variation, you can have a three-way tug of war by adding a length of rope to represent a third option (yes, a three way tug of war is possible!)

A natural follow-up to the activity is to have students investigate facts related to the WHAT IFs students identified during the tug of war. Another follow-up activity is to ask students to a write short essay explaining their position on the fairness dilemma. Yet another follow-up activity is to have students create and perform a skit that dramatizes the dilemma.

Creativity Routines

*Creative Hunt *A routine for looking at parts, purposes and audiences*

*Creative Questions *A routine for generating and transforming questions*

Does it fit? *A routine for thinking creatively about options*

Options Diamond *A routine for exploring the tensions of decision making routine*

*Options Explosion *A routine for creative decision making*

Step Inside: Perceive, Know, Care about *A routine for getting inside perspectives*

* Consider starting with one of these routines

Creative Hunt: Looking at parts, purposes and audiences

Key Prompts:

- What's the main purpose here?
- What are the parts and their purposes?
- Which are especially smart or creative? – star them!
- Who is the audience for this?

Purpose: What kind of thinking does this routine encourage?
An important part of creativity is recognizing how creative things around us are. This is often inspiring. Because we are to used to things, we do not appreciate their creativity. It is also often practical: we see better the limitations of things and how they might be improved. It's also a good way of understanding things better, by looking into what they are for, how they work, and who their audiences are. Thus, this creativity routine has an "understanding bonus."

Application: When and Where can it be used?
This routine makes thinking visible by helping students to find the creative thinking behind ordinary things – doorknobs, pencils, newspapers, toys. It can also be applied to more important things and more abstract things, like forms of government or hospitals or schools. The routine helps students to appreciate creativity and be more alert to creative opportunities.

The creativity hunt is a good way to awaken students to the creativity in ordinary objects around them. You can use it on everyday classroom objects, like a blackboard, a ballpoint pen, a paintbrush, an article of clothing. You don't have to stick to concrete physical objects. You can use it on more abstract things, like the 24-hour day, or recess, or a sport or game. Besides the things around us, you can easily use it to connect to the subject areas. Here are some tips about picking a good object:

- Pick something that comes from human beings and human creativity, like a telescope or a form of government or a means of communication.
- Pick something relevant to the subject matter you are teaching. For instance, a cannon or a musket or a military formation would be a good choice if you are teaching military history. A particular tax or policy might be a good choice if you are teaching about government. A sextant or telescope might be a good choice if you are teaching about science.
- You can pick concrete things like a sextant or telescope but also abstract things like a particular tax or policy.
- Pick something that the students know enough about so that they can think some about what it's for and how it works and who its audience is. For instance, you

would not pick a telescope if students didn't know much about telescopes, but you might if you could bring one in and students could try it out and examine it. You would not pick an import duty if students had just heard the name but did not know how it worked, but if the y had read and discussed it in general you might.

Launch: What are some tips for starting and using this routine?
Here are some basic steps for starting the routine:

1. Identify something for students to think about – something ordinary like a ball-point pen or larger and more abstract like a hospital. It is natural to pick something from a subject matter being taught.

2. Set up the target diagram (see example of telescope on next page) and label the key elements: main purpose, parts & purposes, audience. Say something like this: "Let's look at this from a creative viewpoint. Creative things have jobs to do. They need to hit their target. So here is the target. Let's explore how this thing hits its target."

3. Lead students in filling out the target diagram. Let them suggest main purposes (sometimes there is more than one), particular parts and the purposes they serve, and who the audience is. Also, invite them to star (*) any part they think is particularly smart or creative. You can conduct this as a general conversation, but another good way is to ask students to fill out Post-its individually or in small groups and stick them up on the diagram.

4. Sum up by looking for what's creative. Go over the *'s and invite more. Emphasize how this clever object or idea hits its target.

Telescope

Target Diagram

Parts and purposes

"How does it work?"

Objective lens → get lots of light in

Eyepiece → magnify image from objective lens
* clever to magnify twice.

Tube → keeps inside dark so you can see clearly. And holds lenses.

? Big and heavy

Tripod → holds telescope steady

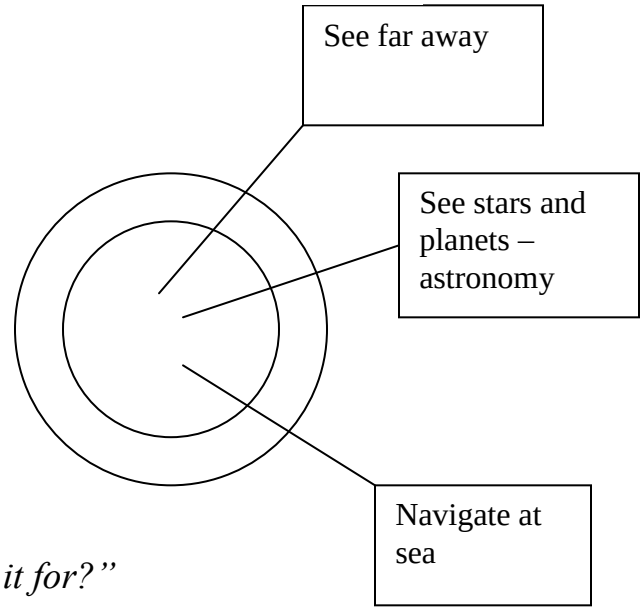
* Tripod → THREE legs just right to keep steady.

? Hard to get level

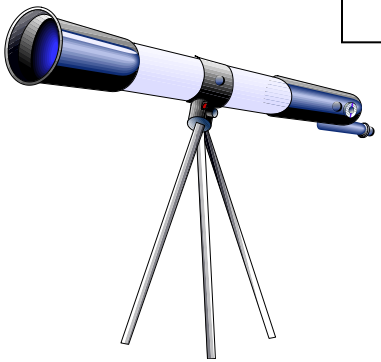
* Tube slides → lets you focus on things far and near.

Main purpose

"What's it for?"



Audience – *"Who's it for?"*



Astronomers

Vacationers

Birders

Ship captains

Spies

Creative Hunt: Pictures of Practice

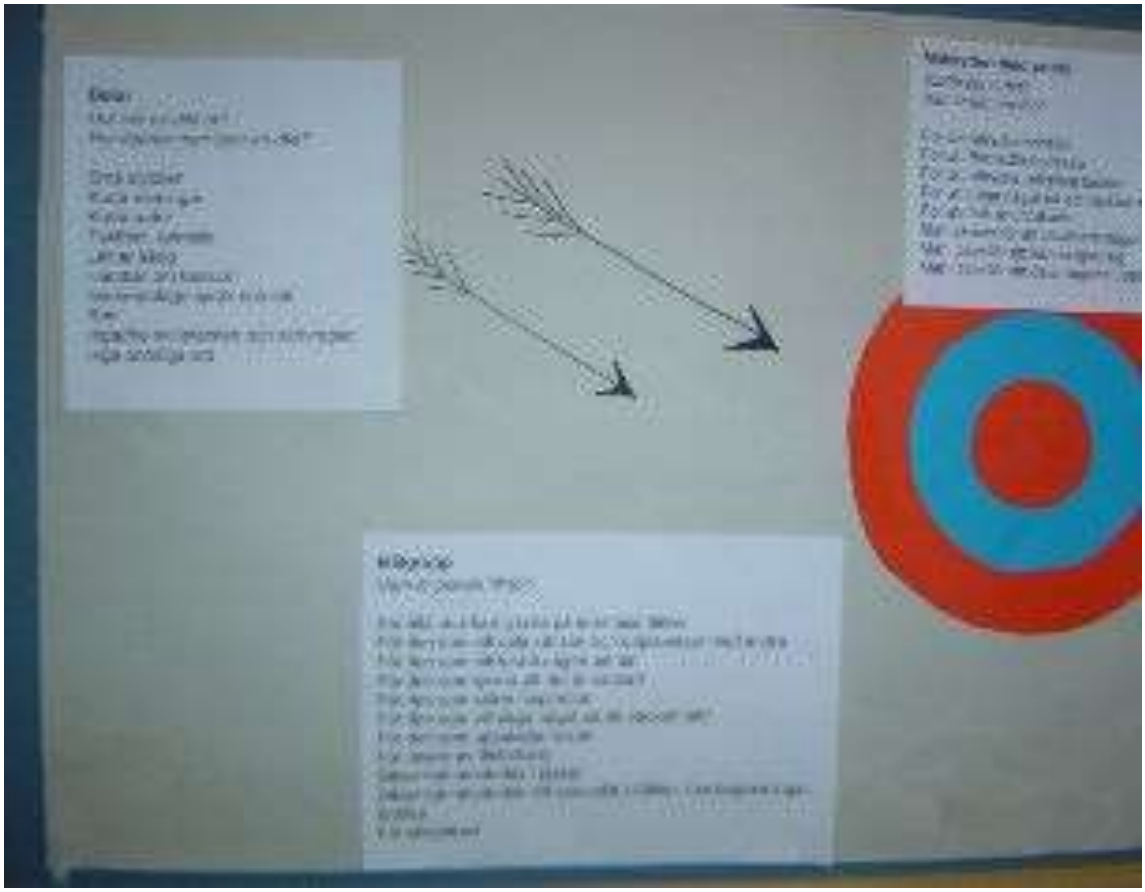
Using the routine to explore poetry

Ulrica Andersson, grade 4, Lemshaga Akademi

To prepare for their upcoming unit on poetry, the students in Ulrica Andersson's class interviewed a parent about poetry. They asked following questions:

- What is poetry?
- How do you recognize a poem?
- What are they usually about?
- Do you usually read poems? Why/why not?
- How should a good poem be, what do you think?

With these questions in mind the class turned to the Creative Hunt routine to explore poetry fro themselves. Ulrica began by asking students to think about the purpose of poetry: *What is the goal with poetry? Why does it exist? Why do we write poems and why do we read them?*



Student ideas were made visible using a target diagram. After students considered the *purposes* of poetry they were asked to think of the *parts* of poetry, and *audiences* for poetry. See student responses below. After ideas about all three questions were documented on the board, students considered what they now thought about poetry. It was agreed that that "poetry is something important that concerns many people in many different ways." In subsequent lessons, students worked on writing their own poetry.

Purpose You write poetry because:

You want to be a writer

You want to tell something with funny and beautiful words

You want to tell about feelings

You want to express your feelings

You like to write

You want to get away to another world, dream away

It is a more pleasant way of writing

You want to give a poem to someone

You read poetry because:

You think it is amusing to read

You like words in poems

You think it is beautiful reading

You think it is relaxing

You can recognize a feeling

You get inspiration for your own writing

You want to get to another world, dream away

What are the parts of poetry?

Short lines, or short and long, mixed

About for ex. love or nature

Divided into verses

Can rhyme

Not whole sentences

No unnecessary words

Can explain things that are hard to tell

Then I helped them to find out that rhythm is an important ingredient.

Who is the audience? For whom is the poetry?

For all who want to read

For someone you like

For the writer him/herself

For someone who understands how you feel

Relatives

Friends

For someone who recognizes him/herself

Creative Hunt: Connections and Extensions

The creativity hunt brings to the surface creative features of something that we would otherwise miss. It raises students awareness of these creative features. The process is self-documenting through the target diagram.

You can ask students to do the routine by themselves in small groups. When the class is large and students have many ideas, small groups may work better. To save time you can have each student write an idea on a Post-it and stick it up on the chart, and then discuss some of them. Along with the especially creative features marked with “*”, you can ask students to identify limitations or shortfalls of the thing with a “?”

Before even starting the routine, you can ask the students to help pick something to focus on – for instance, "What are creative objects around the room? Let's pick one to think about – what could we pick?" Or, to connect to a subject area, "We have been studying what early civilization was like. What were some important tools we read about that helped people to survive? Let's look at a couple for their creativity."

You can continue on after a Creativity Hunt by picking another similar object and doing a comparison and contrast. For instance, you could ask students to compare different kinds of telescopes, or a telescope and a microscope.

If you have asked students to identify limitations as well as creative features, you can go on to have the students generate inventive ideas about how to solve the problems that they have identified, using another creativity routine.

Even if you have not ask for limitations in the first place, you can still ask, "OK, this is good, but how could it be even better?" And pursue this using another creativity routine.

Once students are familiar with it, you can use the creativity hunt as an assignment, asking students to pick something, think it through, and make a target diagram to hand in. Part of the assignment could be to suggest creative improvements.

Creative Questions: Generating and transforming questions

1. Pick an everyday object or topic and brainstorm a list of questions about it.

2. Look over the list and transform some of the questions into questions that challenge the imagination. Do this by transforming questions along the lines of:

   - What would it be like if…
   - How would it be different if…
   - Suppose that ...
   - What would change if ...
   - How would it look differently if …

3. Choose a question to imaginatively explore. Explore it by imaginatively playing out its possibilities. Do this by: Writing a story or essay, drawing a picture, creating a play or dialogue, inventing a scenario, conducting an imaginary interview, conducting a thought experiment

4. Reflect: What new ideas do you have about the topic, concept or object that
   you didn't have before?

Purpose: What kind of thinking does this routine encourage?
Formulating and exploring an interesting question is often as important than finding a solution. This routine encourages students to students create interesting questions and then imaginatively mess around with them for a while in order to explore their creative possibilities. It provides students with the opportunity to practice developing good questions that provoke thinking and inquiry into a topic.

Application: When and Where can it be used?
Use Creative Questions to expand and deepen students' thinking, to encourage students' curiosity and increase their motivation to inquire. This routine can be used when you are introducing a new topic to help students get a sense of the breadth of a topic. It can be used when you're in the middle of studying a topic as a way of enlivening students' curiosity. And it can be used when you are near the end of studying a topic, as a way of showing students how the knowledge they have gained about the topic helps them to ask ever more interesting questions. This routine can also be used continuously throughout a topic, to help the class keep a visible, evolving list of questions about the topic that can be added to at anytime.

Launch: What are some tips for starting and using this routine?
Before using Creative Questions you might want to ask students what they think makes a good question. Then, when you show the Creative Questions, explain that this routine is a tool for asking good questions. Start the routine by providing a topic, concept or object– Sudan, medieval punishment, a stethoscope, genetic engineering. Ask them to use the Creative Questions to generate a list of questions about the topic or object. Initially, it's best to work together as an entire group. Once students get the hang of the routine, you can have them work in small groups, or even solo.

After students finish generating questions, ask them to pick one of the questions to investigate further. Encourage students to explore it by imaginatively playing out its possibilities. Writing a story or essay, drawing a picture, creating a play or dialogue, inventing a scenario, conducting an imaginary interview, or conducting a thought experiment are just some of the possible ways for students to find out about their questions. At the end of the exploration process be sure to take time to reflect on new insights and ideas about the topic, object or concept.

Creative Questions: Pictures of Practice

Using the routine to explore books
Lotta Norell, grade 6, Lemshaga Ackademi

Lotta Norell's language arts class has been discussing books in a broad sense. They talked about the parts of and in a book. Together they brainstormed questions about books using the Creative Questions routine.

Examples of student questions:

What if….

There were no books

Only children were allowed to read books
What would happen if…

You only could read books by your computer?

All books had the same size?
What would change if…

There only were pictures in a book?

What would happen if the book was made of metal (or plastic/rubber/fabirc/steam?stones/sticks/fur/hair/clay/cardboard/ holograms/concrete/human parts/porcelain?

Lotta noticed that students became very interested in exploring the idea of alternative materials for constructing books and decided to capitalize on the enthusiasm. Students spent some more time brainstorming ideas about book materials. What would happen if books were made this way? What would it be like to read such a book?

Students cam up with innovative ideas. For example, when thinking about the question *What if a book was made of glass?* one groups of students suggested that *:*

It would have a heavy weight, it would be transparent and maybe difficult to read. It would have very thick pages otherwise it would break into pieces. It would not be good for children, too fragile. it would be very expensive. Have loose pages. You would have to wash your hands before reading or there would be a lot of fingerprints on the pages.

In order to explore their ideas further, students worked in groups and created short skits about their unusual book.

Does It Fit? Thinking creatively about options

1. Fit your options to the **Ideal**
   Identify what the Ideal solution would look like and then evaluate each option against it.
   Ask yourself: *How well does each option fit with the ideal solution?*

2. Fit your options to the **Criteria**
   Identify the criteria or attributes that feel are important for you to consider in this situation and then evaluate each option against those.
   Ask yourself: *How well does each option fit the criteria?*

3. Fit your options to the **Situation**
   Identify the realities and constraints of your situation, such as resources and time, and then evaluate each option against them.
   Ask yourself: *How well does each option fit the realities of the situation?*

4. Fit your options to you **Personally**
   Try out each option by running a "mental movie" in which you imagine yourself carrying out the option and try to get a sense of what it would feel like.
   Ask yourself: *Which option just feels like the best fit for me?*

Purpose: What kind of thinking does this routine encourage?
To help students more effectively flesh out and evaluate options, alternatives, and choices in a decision-making situation.

Application: When and Where can it be used?
This routine is part of an overall decision-making process that begins with the generation of options, choices, or alternatives for solving the problem or satisfying the needs of a situation. Once options are identified, they need to be evaluated in order to make a choice. Use this routine whenever students need to make a thoughtful and reasoned decision: the choice of a final project; direction for an investigation; making a group or whole-class decision on how to allocate time, money, or resources; electing a group leader or spokesman; choosing among possible classes, and so on.

Launch: What are some tips for starting and using this routine?
The four different "fits" represent four distinct approaches to evaluating options rather than a multi-layered routine. The first part of the routine involves making a choice as to which of the "fits" is best for the situation at hand. Then, that particular "fit" is carried out. To make this initial choice, students need some practice and discussion of each of the "fits" to see in what kinds of situations each works best. You might introduce this routine by briefly discussing each one and then have the whole class try out one of fits to make a decision. Initially, you might choose which of the four "fits" is best for a given situation and then gradually involve students in this process once all the fits have been practiced on several occasions.

Does It Fit? Pictures of Practice

Using the Routine to Explore a events from World War II

Ulrica Andersson, grade 9, Lemshaga Akademi

As part of their in-depth study of World War II, Ulrica presented the following dilemma to her grade 9 students:

Imagine you are living in Germany in 1937. You are confronted by the Hitler Jugend and need to make a decision to join or not. To join involves many benefits – friends, fun activities, nice uniforms and probably higher grades in school. Most of the students you know have already joined the Hitler Jugend. The pressure is hard. At the same time, they have seen and reacted against the bad treatment of a Jewish classmate and a boy with communist parents. You are confronted with following alternatives:

1.To join Hitlerjugend

2. To continue having no part in it, keeping a low profile, not to provoke anyone.

3. Actively taking the part of the rejected.

4. Find own alternative

Ulrica used the Does it fit? routine to help her class imagine the dilemma from the point of view of a German student and try to understand the complications and difficult decision making process one might face in such a challenging situation. To begin, the group considered the situation and tried to identify what the ideal solution would look like. The students agreed that the ideal would be to find a solution that: *was harmless, gave largest possible benefits such as friends, activities, clothes and other advantages, allowed a clear conscience.*

Students used the following questions from the Does it Fit? routine

Constraints, limits – what is possible?

Effects – what happens?

Feelings – How would it feel?

The following options were discussed in the pairs. Students presented their arguments to the group and explained their reasons for choosing their option and elaborating on how it would feel from the chosen point of view.

Option 1: Join Hitlerjugend

- Corresponds to the ideal's demands except conscience
- You have no choice
- Reduces danger for me and my family
- You can get a good position in the army and a smart weapon

- Hard to feel that you have failed for group pressure and not declared your own standpoint
- You can reduce your bad conscience by helping the kept out secretly.
- As a member you certainly get brainwashed until your conscience disappears

Option 2: To continue having no part in it, keeping a low profile, not to provoke anyone.

- Far from the ideal solution
- Dangerous to stand outside
- Hard to feel that you are kept out
- You feel that you are a coward as you are silent

Option 3: Actively taking part for the rejected.

- Far from the ideal solution
- Very dangerous and risky
- Gives a good conscience because you have shown your own standpoints/ not good conscience as you put your family in a dangerous situation.

Option 4: Find an own alternative – escape (to a neutral country, Sweden or Switzerland)

- Close to the ideal as you get away from the external demands.
- Don't know how dangerous it is
- Don't know how life will be over there
- Don't know how it works for the family
- Uncertain how it feels, maybe as you desert.

Options Diamond: Exploring the tensions of decision making

1. **Identify a couple of obvious options.** Usually there are tradeoffs or tensions between them that make the decision hard: Choose one and you get X but lose Y;
   choose the other and you lose X but get Y.

2. **Make a diamond diagram,** putting at the left and right corners the one or two main tradeoffs (the X's and Y's) pulling in opposite directions (see example).

3. **Now have students brainstorm one to three solutions for each corner of the diamond.** Left side: go with that tradeoff. Right side: go with that tradeoff. Bottom: compromise between them. Top: clever solutions that combine the seeming opposites and get the best of both.

4. **Ask: What have we learned about the situation from finding these options?** This is a way of understanding the situation better.

Purpose: What kind of thinking does this routine encourage?
This routine fosters creative thinking. It helps to explore decision making situations where a tradeoff makes it hard to find a really good option. It focuses on resolving opposites. Sometimes, but not always, there are options that partly bring the opposites somewhat together. All this is also relevant to understanding. It helps in understanding situations even when you are not the real decision maker.

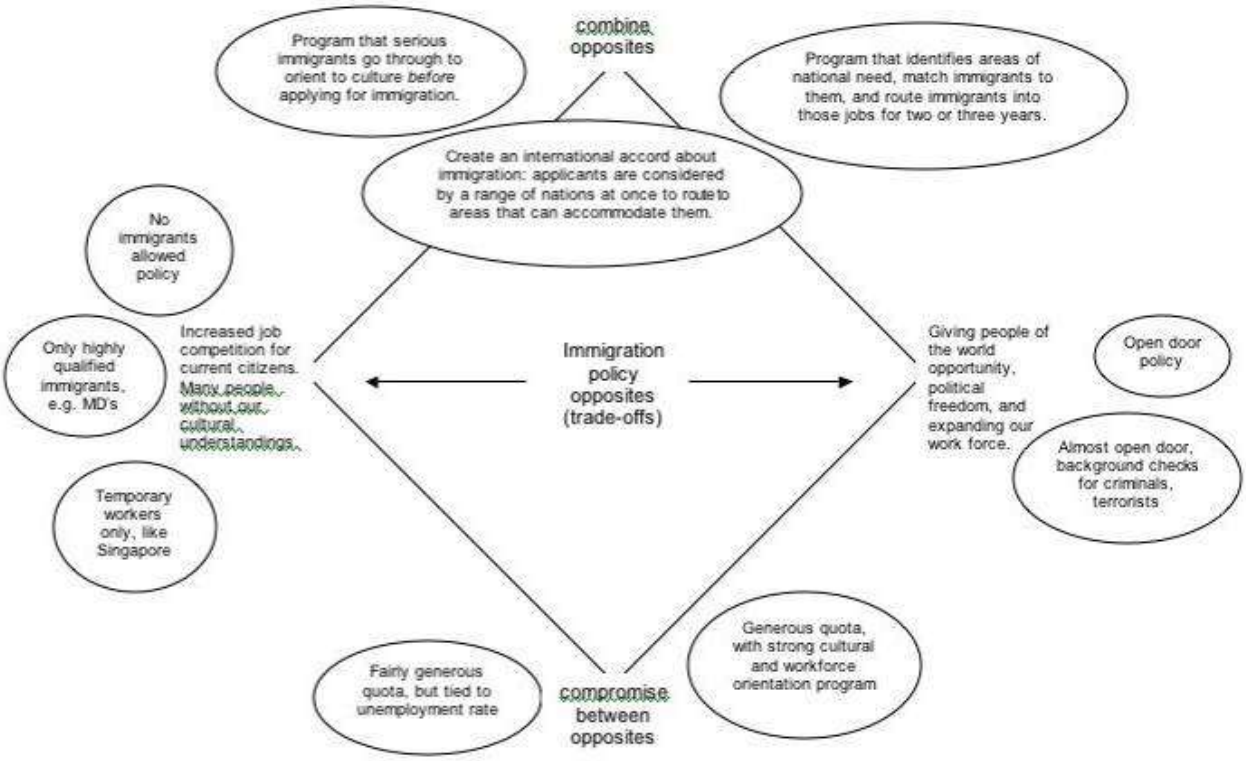
Application: When and Where can it be used?
The options diamond helps with personal or classroom decision making when different factors pull strongly in opposite directions. It's also a useful way of exploring and understanding such situations in the news, history, or literature or science or medical policy, etc. For example, US President Harry Truman in deciding to drop the atomic bomb on Nagasaki and Hiroshima struggled with this tradeoff: Kill many thousands of Japanese but shorten the war versus let the war and its casualties continue. He chose to use the bomb. But what compromise options were there? And were there any options that might combine the opposites and end the war quickly without killing thousands of Japanese?

Launch: What are some tips for starting and using this routine?
Remember, the left and right points of the diamond are not options themselves. They are the gains and losses that pull in opposite directions. You then write options near the left and right corners that go with one pull or the other; then the lower corner gets compromise options and the top corner gets any options that partly combine the opposites. In many classroom situations the point is to use creative thinking to understand the situation better. Step 3 is the payoff and a final choice among the options may not matter. You can decide whether to go on to another routine for choosing among the options. Or you can just take a quick vote on some of the likely options. If you want, you can do this before step 3, to give students a little more to discuss in step 3.

Options Diamond: Pictures of Practice

Using the routine to explore the topic of Immigration.

The diamond diagram at left shows the various tensions and tugs that might be present in decision making around immigration policy. The left and right sides represent the trades offs of the two extremes: allowing select immigrants to enter a country versus an open door policy. The top and bottom of the diamond represent options that combine these opposites or create a compromise between the opposites.



Options Explosion: Creative decision making

1. **List the obvious options.** There would not be a decision unless there were at least two or three obvious options.

2. **Now brainstorm all sorts of different options to find the "hidden" options.** Often there are hidden options that are the real best choices. Be imaginative! Piggyback on ideas already up, combine ideas to get new ones, look for ideas of a very different kind, imagine you are in different roles and suggest ideas from the perspective of those roles, etc.

3. **Ask: What have we learned about the situation from finding these options?** This is a way of understanding the situation better. You may want to go on to a routine for comparing and choosing among options.

Purpose: What kind of thinking does this routine encourage?
This routine fosters creative thinking. It helps explore "hidden" options in a decision making situation. Often people don't make good decisions because they miss the hidden options. It is also relevant to understanding. It helps in building an understanding of decision-making situations even when you are not the real decision maker.

Application: When and Where can it be used?
Students can use it for personal decision making or you and students can use it for classroom decision making. Also, you can use it with students as a way of exploring and understanding important decisions in the news or history or literature or science policy or medical policy, etc. You can ask students to make the decision personal by role playing, imagining that they were in the situation.

Launch: What are some tips for starting and using this routine?
Emphasize that maybe there are good hidden options, maybe not – we have to find out by looking. Put the ideas on the blackboard or have students write them on Post-its and stick them up. Use an explosion-like diagram with radiating lines instead of a list if you want to emphasize the spirit, but a list is okay too.

Remember, crazy ideas are okay – they are just part of the mix and they may lead to something else by piggybacking.

In many classroom situations the point is to use creative thinking to understand the situation better, as in step 3. You don't need a final decision. You can decide whether it's a good idea to go on to another routine for choosing among the options. Or you can just take a quick vote on some of the likely options. If you want, you can do this before step 3, to give students a little more to discuss in step 3.

Step Inside – Perceive, Know about, Care about: Getting inside viewpoints

Three core questions guide students in this routine:

1. What can the person or thing **perceive?**
2. What might the person or thing **know about or believe?**
3. What might the person or thing **care about?**

Purpose: What kind of thinking does this routine encourage?
This routine helps students to explore different perspectives and viewpoints as they try to imagine things, events, problems, or issues differently. In some cases this can lead to a more creative understanding of what is being studied. For instance, imagining oneself as the numerator in a fraction. In other settings, exploring different viewpoints can open up possibilities for further creative exploration. For example, following this activity a student might write a poem from the perspective of a soldier's sword left on the battlefield.

Application: When and Where can it be used?
This routine asks students to step inside the role of a character or object – from a picture they are looking at, a story they have read, an element in a work of art, an historical event being discussed, and so on – and to imagine themselves inside that point of view. Students are asked to then speak or write from that chosen point of view. This routine works well when you want students to open up their thinking and look at things differently. It can be used as an initial kind of problem solving brainstorm that open ups a topic, issue, or item. It can also be used to help make abstract concepts, pictures, or events come more to life for students.

Launch: What are some tips for starting and using this routine?
In getting started with the routine the teacher might invite students to look at an image and ask them to generate a list of the various perspectives or points of view embodied in that picture. Students then choose a particular point of view to embody or talk from, saying what they perceive, know about, and care about. Sometimes students might state their perspective before talking. Other times, they may not and then the class could guess which perspective they are speaking from.

In their speaking and writing, students may well go beyond these starter questions. Encourage them to take on the character of the thing they have chosen and talk about what they are experiencing. Students can improvise a brief spoken or written monologue, taking on this point of view, or students can work in pairs with each student asking questions that help their partner stay in character and draw out his or her point of view.

This routine is adapted from Debra Wise, *Art Works for Schools: A Curriculum for Teaching Thinking In and Through the Arts* (2002) DeCordova Museum and Sculpture Park, the President and Fellows of Harvard College and the Underground Railway Theater.

Step Inside: Connections and Extensions

Students' responses can be written down so that various perspectives can be examined and contrasted. This might take the form of a grid in which the perspectives are listed at the top and the three questions down the left-hand side. Using the grid, a teacher might ask, whose position seems the most similar to each? Different? Most like your own?

As a follow up students can perform their responses of the perspective they are imagining. Have students improvise and role-play various situations in which their characters might be involved. Or stage a debate between the characters, with students or groups of students asking and answering questions from their chosen perspectives.

Thinking “Ideals”

You're already acquainted with the four big categories of thinking we're using here – Understanding, Truth, Fairness, and Creativity. Sometimes we call these thinking "ideals," because they are ideal aspirations – we want to understand, we want the truth, we want to be fair, we want to be creative.

In one version of the Visible Thinking approach, teachers organized their classroom activities ideal by ideal, focusing for a while on Understanding, on Truth, and so on, as they moved through their content.

These four thinking ideals cover much of the breadth of what constitutes good thinking, though of course it would be possible to come up with additional ideals. Due to their breadth, the investigation of each ideal provides a frame for the examination, investigation, and integration of different types of thinking. The ideals are not meant to be curricular topics on their own but to provide lenses through which the topics of the curriculum can be investigated and examined, often in new ways. The thinking ideals are generative in nature in that they are easily accessible to students, provide many opportunities for making connections, and often propel conversations and thinking in new and interesting directions.

Maps for the Thinking Ideals

Often teachers have found it fruitful to discuss one or another ideal as a whole with their students. Teachers often place on their walls posters representing one or another ideal in diagrammatic form, both as something to talk over with students and as a reminder day after day. The understanding ideal has been particularly popular, since understanding is a continuing agenda for teachers and learners.

The pages that follow include schematic diagrams for Understanding, Truth, Fairness, and Creativity to give the general idea. Usually teachers and students construct their own wall-sized posters adapting the layouts below or inventing their own designs.

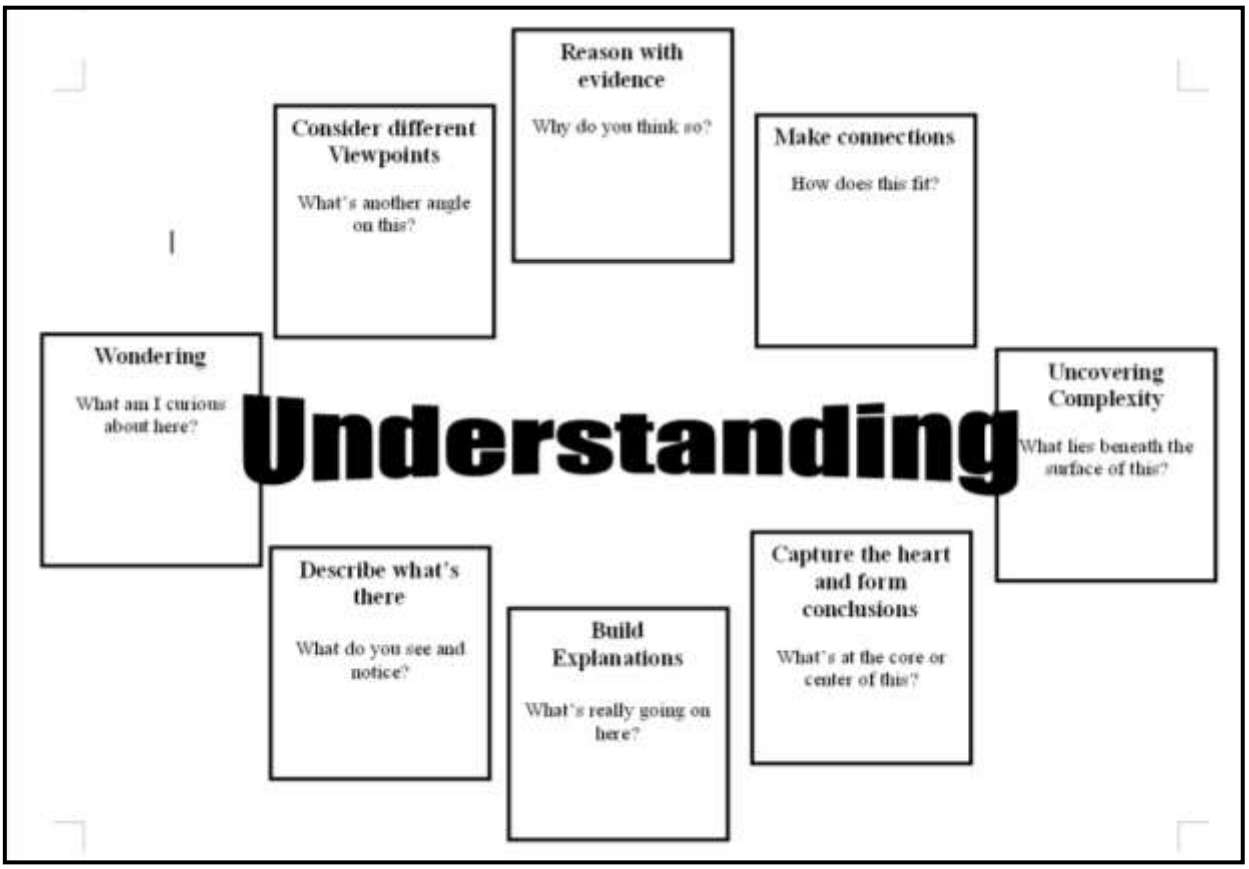
The maps can be used solo to investigate topics, kind of like large-scale thinking routines. However, they were also designed with the usual thinking routines in mind. The language on the maps is chosen to loosely suggest thinking routines well suited to the several aspects of Understanding, Truth, Fairness, or Creativity.

Map of the Understanding Ideal

The Understanding map is both a visual and conceptual anchor for you and your students. The map is generally introduced to students early in the unit and is referenced throughout.

The map consists of six areas or key moves for building understanding: consider different viewpoints, reason with evidence, make connections, describe what's there, build explanations, and capture the heart and form conclusions.

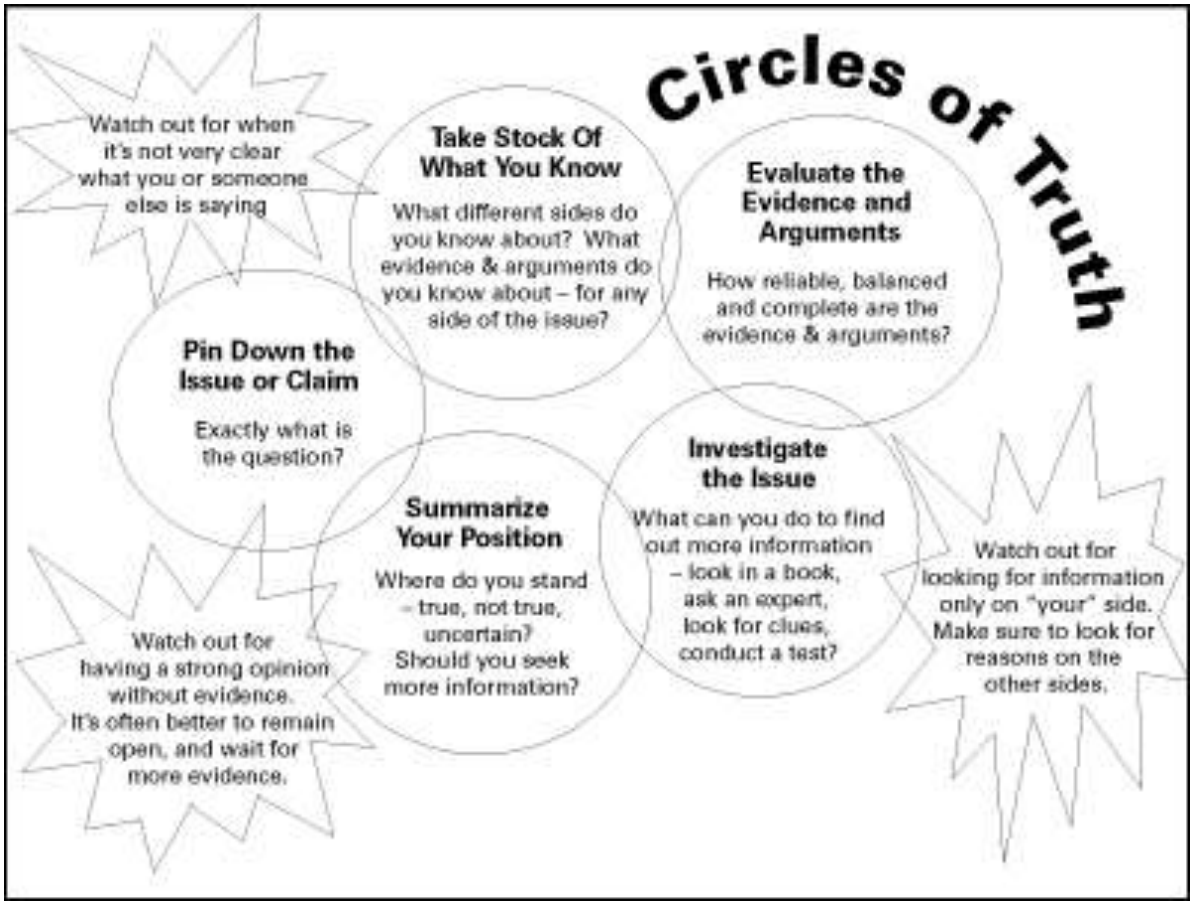
A question that helps to make each of these areas more actionable is also included on the map. As a class, you may want to add to these initial questions as a way to develop additional prompts for students' thinking.



Map of the Truth Ideal

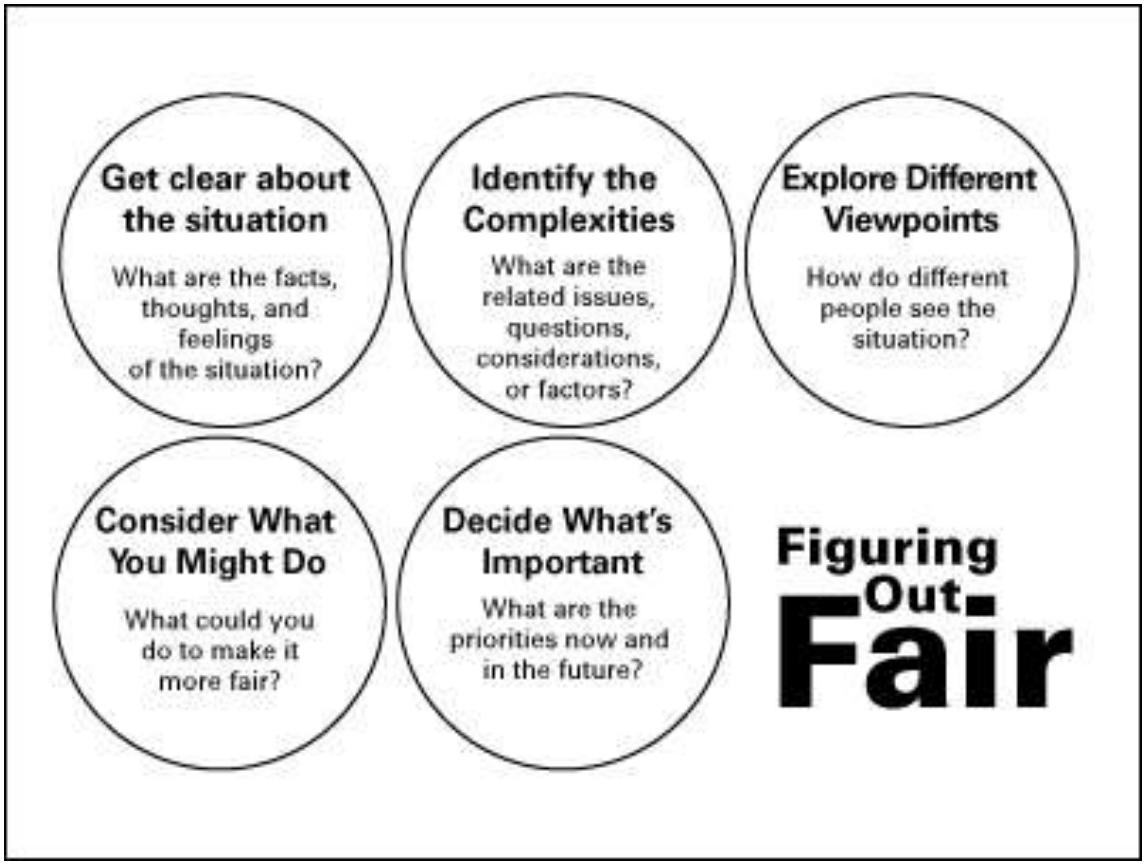
The Truth Map is both a visual and a conceptual anchor for you and your students. It helps keep truth on students' minds and reminds them of some of central elements in the quest for truth as they think through issues.

The map includes five areas and key moves for solving puzzles of truth, briefly: clarify the issue, review the facts and uncertainties, evaluate evidence, consider different perspectives, and draw best conclusions. As a class, feel free to add specific tips and questions to any of the five areas.



Map of the Fairness Ideal

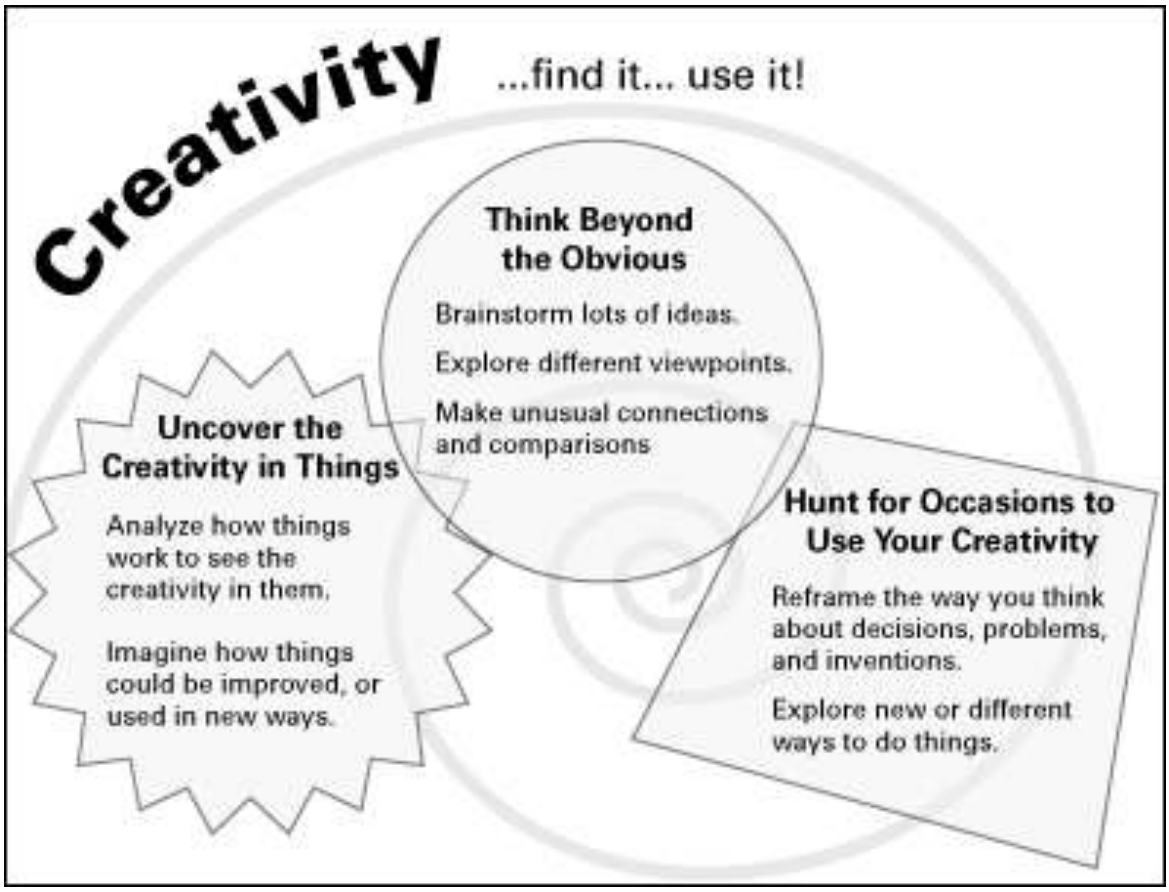
The Fairness map is both a visual and conceptual anchor for you and your students. The map consists of five areas or key moves for figuring out fair: get clear about things, identify complications, explore different viewpoints, decide what's important, and consider what you might do. A question that helps to make each of these areas more actionable is also included on the map. As a class, you may want to add to these initial questions to develop additional prompts for your thinking.



Map of the Creativity Ideal

The Creativity Map is a visual and conceptual anchor for you and your students. It helps keep creativity on students' minds and reminds them of some of central elements in using their creativity and in finding the creativity in things and ideas.

The map includes three areas and key moves for finding and using creativity. They are: uncover the creativity in things, think beyond the obvious, and hunt for occasions to use your creativity. Once the classroom version of the map is posted for everyone to see, feel free to add your own and students' additional tips and questions to any of the three areas.



School-Wide Culture of Thinking

Developing thinking dispositions – whether it is a disposition to strive for understanding, to figure out the complexities of fairness, to seek truth, or hunt for creative solutions – occurs within a cultural context. It is within cultural contexts that we develop our patterns of behavior and thinking that become our habits. Therefore, Visible Thinking uses an enculturative approach to develop students' thinking, immersing students in a rich culture of thinking in schools and classrooms.

Within a culture of thinking, students experience school as a place where thinking is valued and given time, rich opportunities for thinking abound in their day-to-day classroom experience, models of thinking are present in the form of seeing teachers and peers as fellow thinkers, and the environment is full with the documentation of thinking. Such environments not only provide for the practice of students' thinking skills but also help them to foster an inclination toward thinking and to develop a greater awareness of thinking occasions.

Introduction and Overview

Visible Thinking is dedicated to helping students develop into better thinkers. To think well in day-to-day life, students must develop patterns of thinking in which their ability is combined with their inclination to think well and their awareness of thinking opportunities. Students must have not only the ability to think, but also the disposition to think.

In seeking to develop thinking dispositions, Visible Thinking takes an enculturative approach, meaning that we believe students' dispositional development occurs best within a cultural context in which:

- Thinking is **valued**
- There is **time** for thinking
- Rich **opportunities** for thinking abound
- Thinking is regularly **modeled**
- The process as well as the products of thinking are present in the **environment**

Such an environment sends the message that thinking is valued. In addition, it not only provides a time and place for the practice of students' skills but also provides the leverage needed to foster an inclination toward thinking and to develop a greater awareness of thinking occasions. Immersed in a classroom culture of thinking, students have the opportunity to develop patterns of behavior and thinking that become our habits.

The tools and resources in this section are designed to help teachers collectively focus on the implicit messages about thinking being sent in classrooms and across the school. Specifically, you will find:

Study Group Materials that support school-wide learning. These protocols for looking at student work and tools for reflection focus attention on thinking and help to support teachers in their ongoing efforts with Visible Thinking. These protocols help teachers to look closely at students' thinking and to think about creating rich opportunities for thinking. In addition, you will find tips and suggestions for forming and facilitating study groups.

Institutional Structures and Support for making Visible Thinking a school-wide practice and developing a culture of thinking at the school. These supports are suggestions of ways to help advance the work of Visible Thinking and ensure that it will take hold in such a way that a school-wide culture of thinking is developed.

Study Group Materials

Visible Thinking is both a classroom and a school-wide endeavor. As you and your colleagues seek to make thinking more visible in your classrooms through the use of thinking routines and documenting students' thinking, you will find that there is much benefit in coming together to share and learn from one another.

In such gatherings, it is often helpful to use a set of protocols – that is, structures for conversation – to keep the group clearly focused. Two useful protocols are MYST, and LAST. They are, in effect, thinking routines for teacher-colleagues to use together.

MYST stands for Me, You, Space, and Time. In working to make thinking visible and create a culture of thinking, it is useful to think along these four different fronts. Me, how am I, as a teacher, modeling my thinking and making it visible to students? You, how am I bringing forth and capturing students' thinking to make it visible to everyone? Space, how am I using the space of the classroom to make thinking more visible? Time, how am I providing time for thinking in my lessons?

This protocol can be used for both individual reflection as well as group discussion. In a study group, individuals might come to the group having spent a few minutes reflecting on and gathering evidence for each of the four areas. Within the study group, individuals can pair up and use the four areas as a structure for sharing what is happening in their classroom. From time to time, the group might brainstorm strategies for addressing each of the four areas and for getting a broader sense of what is happening at the whole-school level. The protocol can also be used as a structure for peer observation.

LAST stands for Looking At Student Thinking. This is a protocol for looking at student work with a focus on the thinking present in the work. Like most protocols for looking at student work, it is highly structured. For teachers not used to using protocols to guide conversation, this may appear to be a bit rigid and confining, not allowing for the natural flow of conversation they are used to having with colleagues. However, the structure ensures that the conversation stays focused on a particular goal – in this case thinking about the thinking present in students' work. Over time, teachers get used to the structure and it feels more natural and facilitating of conversation rather than inhibiting.

Looking for thinking in student work is new to many teachers. Teachers are often more accustomed to evaluating work, assessing it against established criteria, or focusing on the instruction of the lesson than looking for evidence of thinking. As a result, some teachers may initially feel like they don't have enough information about the goals of instruction, how instruction unfolded, or the criteria by which to evaluating the success of the work. While this information can be useful in providing context, it is important not to let it become the focus of discussion but to focus on the thinking that seems to be present in the work itself.

Trying to identify thinking can be challenging. It may be useful to have a copy of the map of ideal – Understanding, Fairness, Truth, or Creativity – to use as a samples of what kinds of things to look for in the work. For example, when sharing work from one of the understanding routines, teachers might look for evidence that students are making connections, building explanations, considering different perspectives, and so on. When teachers use the LAST protocol at every study group, they find that not only does the protocol become more comfortable but also become better at identifying thinking. This carries over into the classroom as teachers become better at spotting opportunities for thinking.

While any piece of student work can be looked at for evidence of understanding, it is often useful to use work associated with a thinking routine. This ensures that the goal and purpose of the work is to facilitate thinking and also provides an example of using the routines from which others can build. The work might be that of an individual student, a group of students, or the documentation from an entire class discussion. As a part of the protocol, the group will talk about where the instruction might go next. This will further reinforce the use of routines.

Me You Space Time – The MYST Routine: A routine to help teachers prepare and reflect on making thinking visible

(See the Picture of Practice after MYST and the LAST routine that follows)

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?

One way to structure reflection on your efforts to make thinking visible in your classroom is to step into the MYST: Me, You, Space, Time. Ask yourself the following questions:

- How am I (Me) making my own thinking visible for students? How and when do I display the habits of mind and thinking dispositions I want students to develop?
- How is the thinking of students (You) made visible to me and the rest of the class? When and where do students share their thinking? Do I have a sense that I know what students' thinking is on our current topic of study? Am I able to see their thinking develop? How can I get more access to this thinking? As a class, do we examine and discuss the thinking of others?
- How is thinking displayed in the physical setting of my classroom (Space)? Could a visitor to my classroom see students' thinking? What artifacts of thinking do I put up on the wall? What records of thinking to I keep? Who has access to these records? Are the ideas and issues we are exploring and our efforts at developing understanding on display in the classroom? How can I use the space to make my thinking and that of students visible for examination, discussion, and reflection?
- What are the opportunities for thinking in my classroom (Time)? How much time do students really spend in meaningful thought around the issues and topics we are exploring? Are homework assignments and class work infused with opportunities for thinking? How can I increase their thoughtfulness?

Looking At Students' Thinking (LAST) Protocol: Collaboratively looking at students' thinking

(See the Picture of Practice after this for both MYST and LAST)

I. Getting started (5 minutes)

- The group chooses a facilitator who will make sure the group stays focused on the particular issue addressed in each step. The group also chooses a documenter who will capture the groups' thinking and process. This can be done on chart paper, by taking notes, or through video.
- The presenting teacher or teachers briefly explain the task and review the types of thinking the activity was meant to reveal. For example, in the Think-Puzzle-Explore routine students are bringing forth prior knowledge and possible misconceptions, displaying curiosity and the ability to make connections through questions, and exhibiting what they know about conducting and carrying out inquiry.
- The presenting teachers pass out the collection of selected work or show a short video clip from a classroom episode. The participants observe or read the work in silence, perhaps making brief notes about aspects of it that they particularly notice.

II. Describing the work (5 minutes)

- The facilitator asks the group, "What do you see?"
- Group members respond without making interpretations or evaluations about the quality of the work, or statements of personal preference.
- If evaluations or interpretations emerge, the facilitator asks the person to describe the evidence on which those comments are based

III. Speculating about students' thinking (10 minutes)

- Facilitator asks the group, "Where in the work do you see insights into students' thinking? What does this reveal about how students are collectively and individually making sense of ideas, putting information together, organizing thoughts, reasoning, and so on?

IV. Asking questions about the work (10 minutes)

- The facilitator asks the group, "What questions does this work raise for you?"
- Group members state any questions they have about the work, the child, the assignment, the circumstances under which the work was carried out, and so on
- Individuals may want to make notes about these questions; however it is not necessary to respond to the questions at this time. The focus should remain on generating questions and identifying issues.

V. Discussing implications for teaching and learning (10 minutes)

- The facilitator invites all participants, including the presenting teacher, to share any thoughts they have about their own teaching, students' learning and thinking or ways to support these particular students in future instruction. A possible question to ask is, "Where might this work go next to build on and extend students' thinking?"

VII. Reflecting on the LAST Protocol (5 minutes)

- The group reflects together on their experiences of or reactions to the protocol as a whole or to particular parts of it. To the extent it is appropriate, the group may look over the documentation that was done throughout the protocol or the documenter may present highlights to the group.

- The group may make decisions about and recommendations for their next meeting. The group should determine who will present at the next session.

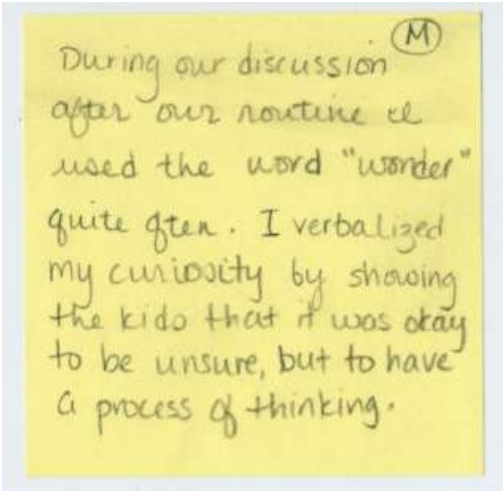
- The documentation of the group process should remain available to members of the group for review and reflection.

VIII. Thanking the presenting teacher

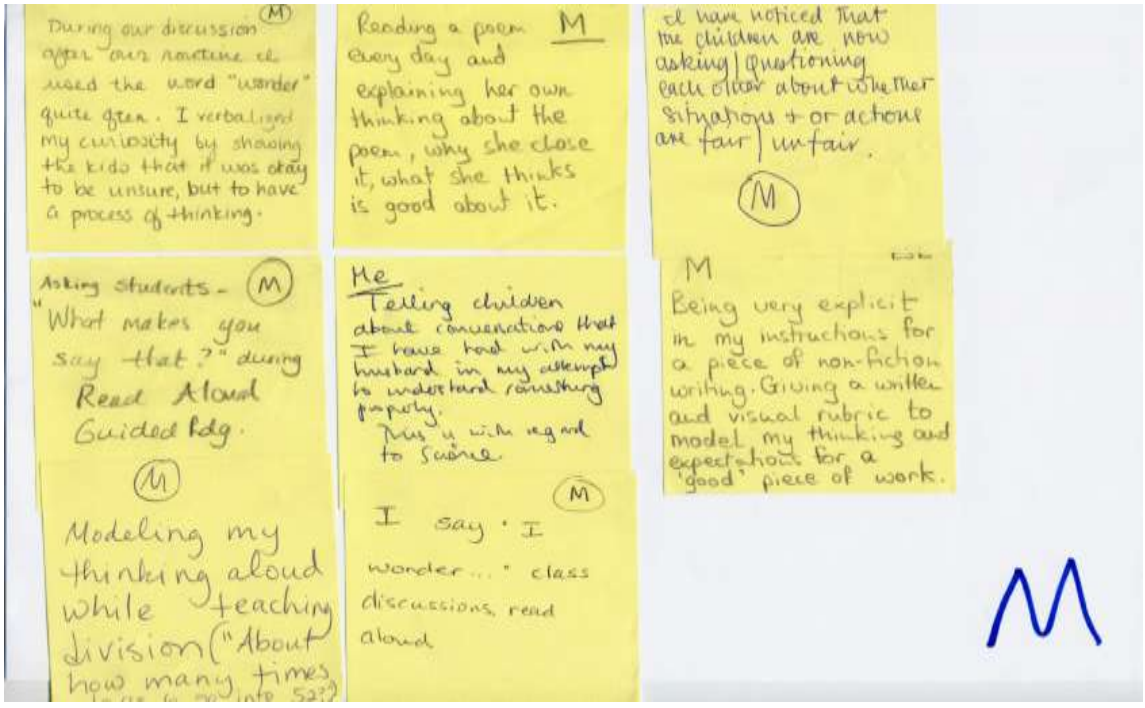
- The session concludes with acknowledgment of and thanks to the presenting teacher.

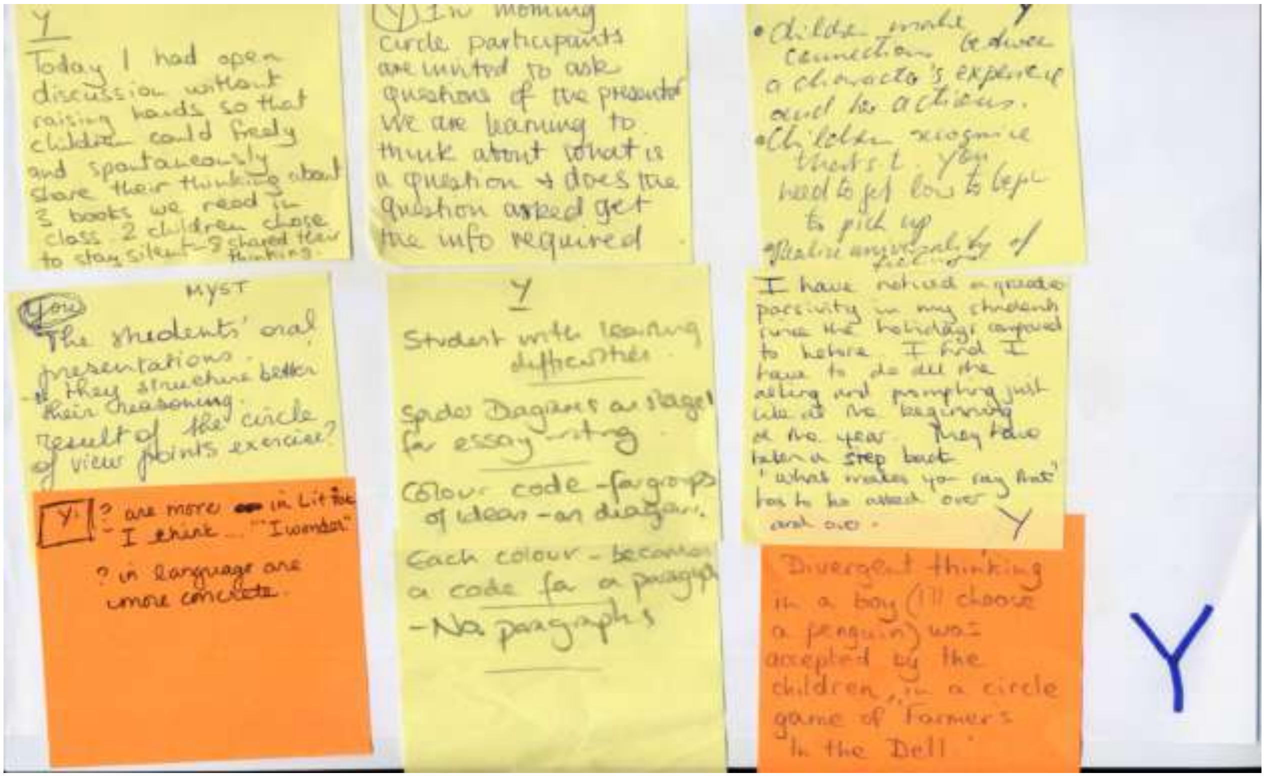
Study Group Pictures of Practice

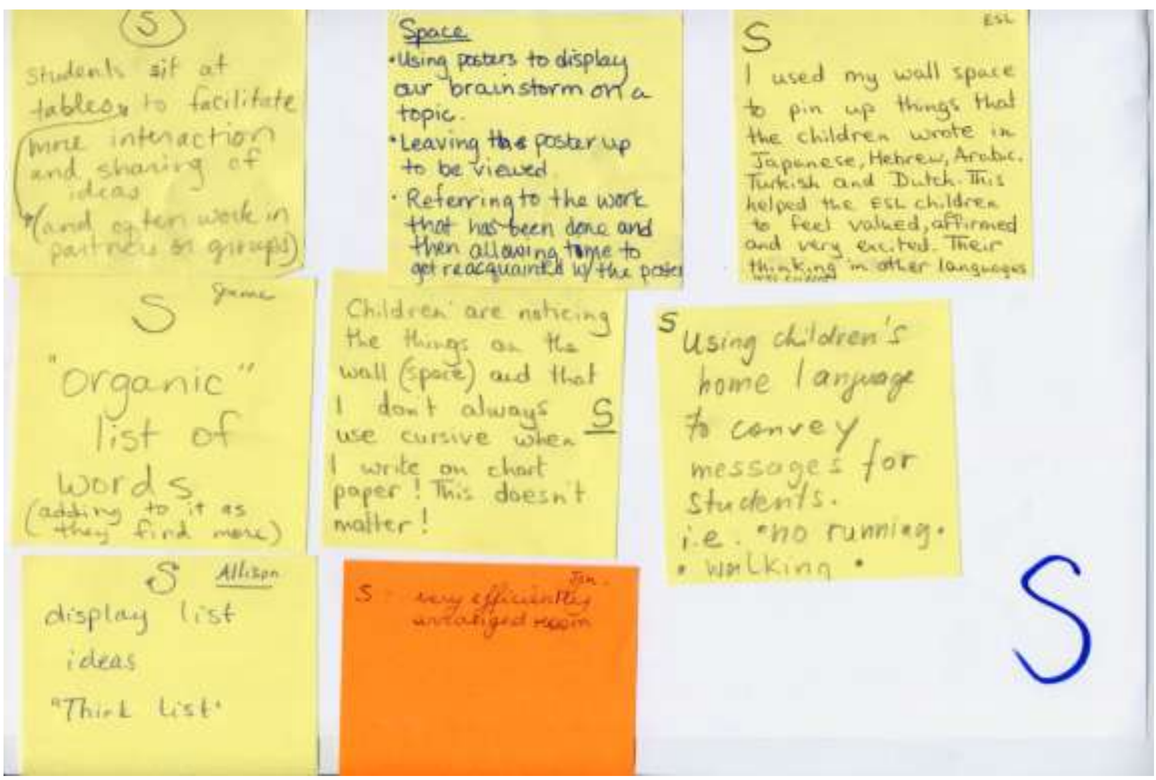
In a recent study group at International School of Brussels, teachers began their bi-weekly meeting with the MYST protocol to broadly reflect on the process of making thinking visible. Then they moved on to an hour long discussion of one teacher's student work using the structured conversation of the LAST protocol.

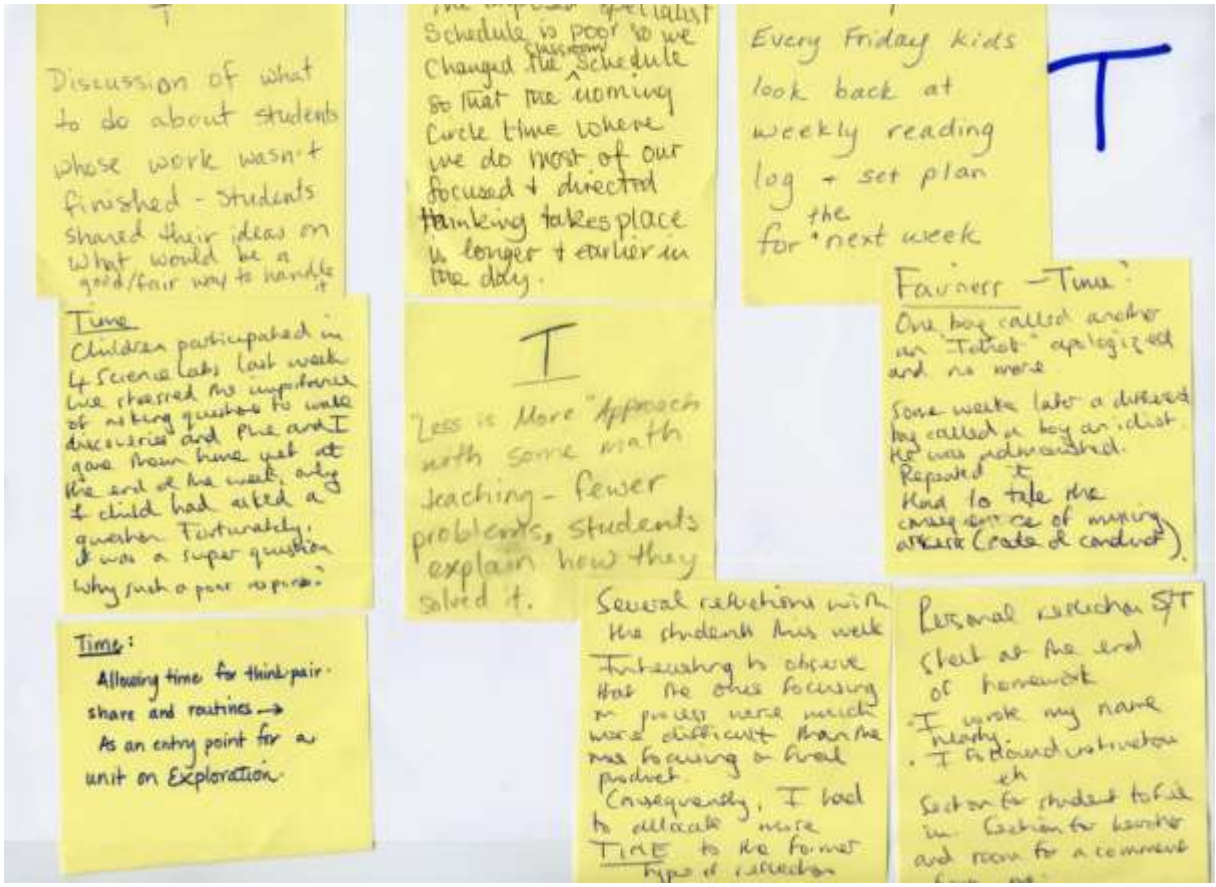


The first fifteen minutes of the meeting were dedicated to the MYST. Individually, teachers wrote ideas about how they have been making thinking visible and generally reflected on instances of visible thinking present in their classrooms over the past couple of weeks. Teachers placed their Post-it notes on a group chart under the categories of **M**e, **Y**ou, **S**pace and **T**ime.




Y
Today I had open discussion without raising hands so that children could freely and spontaneously share their thinking about 3 books we read in class. 2 children chose to stay silent – 9 shared their thinking.
Circle participants are invited to ask questions of the presenter. We are learning to think about what is a question & does the question asked get the info required
MYST
The students' oral presentations – they structure better their reasoning. Result of the circle of view points exercise?
? are more in Lit Ed – I think... "I wonder"
? in language are more concrete.
Y
Student write learning difficulties.
Spider Diagrams as stage for essay writing
Colour code – for groups of ideas – on diagram.
Each colour – becomes a code for a paragraph
– No paragraphs
I have noticed a greater passivity in my students since the holidays compared to before. I find I have to do all the asking and prompting just like at the beginning of the year. They have taken a step back. 'what makes you say that' has to be asked over and over.
Divergent thinking in a boy (I'll choose a penguin) was accepted by the children, in a circle game of 'Farmer's in the Dell'.
Y


S
Students sit at tables to facilitate more interaction and sharing of ideas (and often work in partners or groups)
Space
• Using posters to display our brainstorm on a topic.
• Leaving the poster up to be viewed
• Referring to the work that has been done and then allowing time to get reacquainted w/ the poster
ESL
S
I used my wall space to pin up things that the children wrote in Japanese, Hebrew, Arabic, Turkish and Dutch. This helped the ESL children to feel valued, affirmed and very excited. Their thinking in other languages
S
"Organic" list of words (adding to it as they find more)
Children are noticing the things on the wall (space) and that I don't always use cursive when I write on chart paper! This doesn't matter!
S
S
Using children's home language to convey messages for students. i.e. • no running • walking •
S Allison
display list ideas
"Think List"
S : very efficiently arranged room
S



Next, teachers spent about an hour looking at and discussing student work generated from a Circle of Viewpoints routine. Three teachers had specific roles during this meeting: the *presenting teacher* shared her work, a *facilitator* posed questions during each section of the protocol and kept the conversation on track and a *documenter* listed observations, ideas, comments and questions on the board. All teachers participated in the conversation.

In this particular study group the work that was shared came from a third grade classroom. Students were studying Inuit culture and had read the tale *The Polar Bear Sun.* The Circle of Viewpoints routine asked students to take on the perspective of one of the characters in the story.

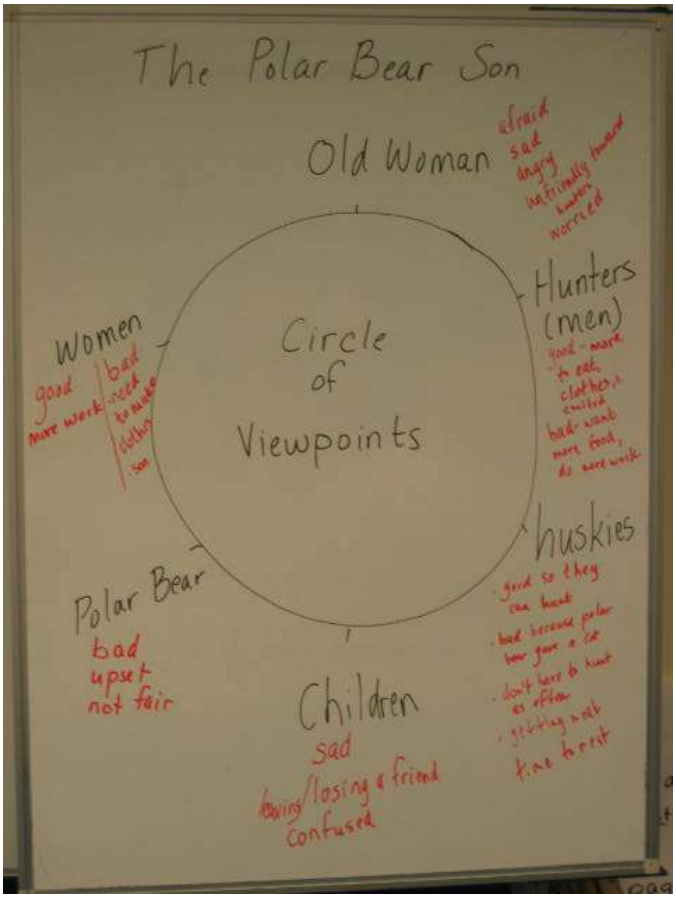
As teachers looked at the work, they made straight forward observations. *Some students made drawings, many of the students chose the same viewpoint (the hunter), one child did not choose a single perspective but rather chose to describe two points of view.* The facilitator was careful to remind the group that comments were to be observational and non-judgmental in nature during this part of the protocol. All observations were captured on the board by the documenter. (See images below.)

Next, they speculated about the thinking that they saw in the work. *The children were able to express their opinions, Were children disturbed by the story? Do they understand important values in Inuit culture? Perhaps children want to have or are used to stories*

with happy endings? At this point specific questions about the work or general questions about the assignment were identified and, when possible, answered by the presenting teacher. For example teachers thought it might be important to revisit this story with the class and deepen understanding, perhaps by asking them to retell it in their own words or act out the various viewpoints presented in the story.

After about 30 minutes into the protocol, teachers were invited to look back over the documentation on the board and think about implications for future teaching. They were encouraged to think about ways forward for this particular class as well as insights for their own teaching. One teacher pointed out how important it seems to engage students' emotions in order to gain real understanding, an insight that the teachers from different grade levels and subject areas all agreed upon.

The group wrapped up by thanking the presenting teacher and reviewing the schedule and roles for the next study group. As part of their final process the meeting documentation on the white board was photographed by the documenter and sent via email to all members of the group. The group also made the documentation available to other teachers and administrators at the school who may be interested in Visible Thinking.



Name _____ *The Polar Bear Son*

Circle of Viewpoints

In this Inuit Tale an old woman finds a baby polar bear and raises him. The bear hunts and fishes for her. Although the old woman shares the food with the villagers, they want to kill the bear because he is a better hunter. The old woman tells the bear that he must leave at once, and he does.

I am the hunter	I think that	A question I have from this viewpoint is
the hunter	I should stop the other hunters. So the polar bear can stay alive. If I kill him I couldn't stay with my family as much	why do I feel jealous. Why should I kill the polar bear

Name _____ *The Polar Bear Son*

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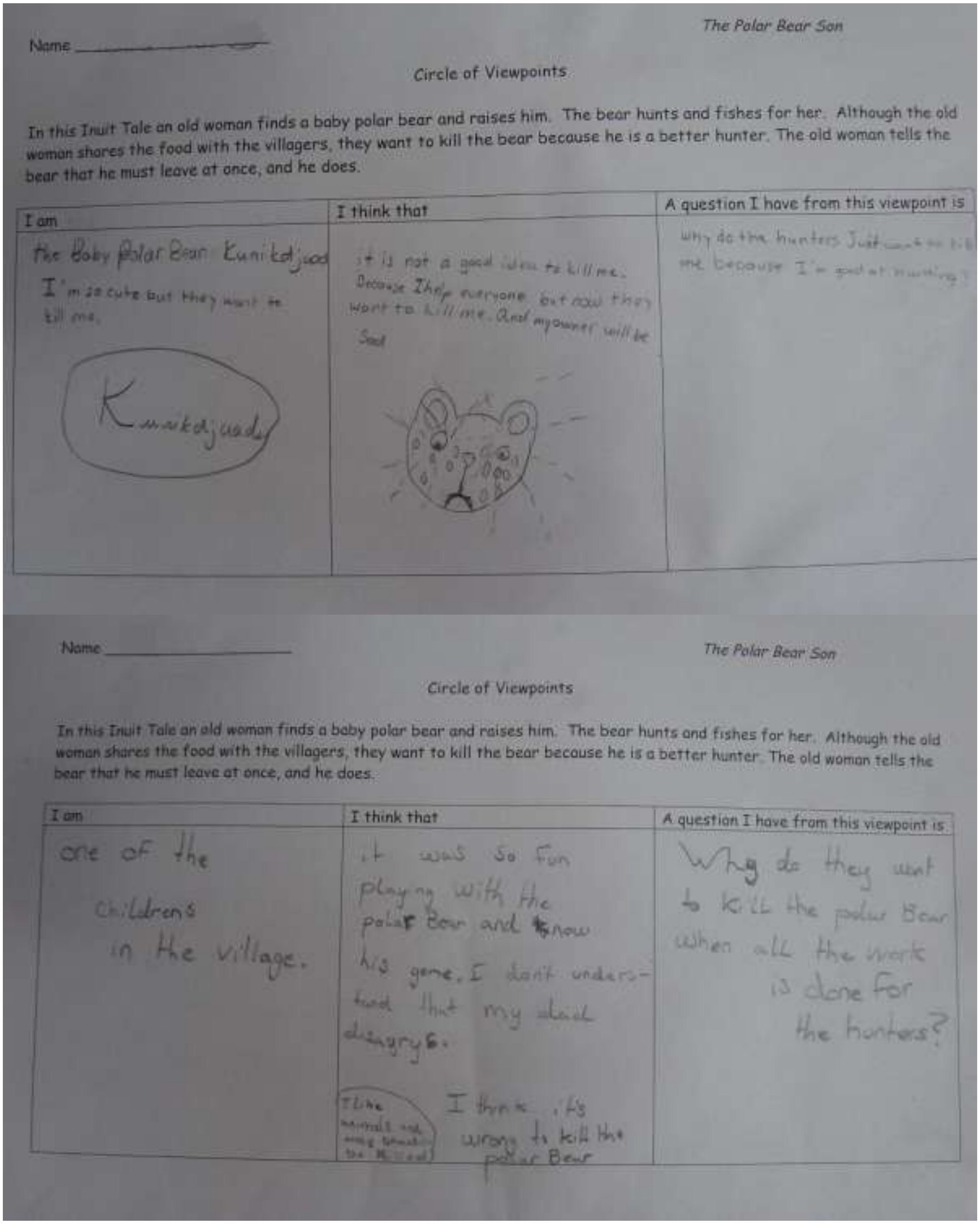
I am	I think that	A question I have from this viewpoint is
[redacted] A Child	I think its unfair that their going to (try) to kill Kunikdjuaq because who cares if he's a better hunter and it feels like I'm losing a friend	Why do the hunters want to kill him after all the help he's given?



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I am	I think that	A question I have from this viewpoint is
the Baby Polar Bear Kunikdjuad I'm so cute but they want to kill me. Kunikdjuad	it is not a good idea to kill me. Because I help everyone but now they want to kill me. And my owner will be sad	why do the hunters Just want to kill me because I'm good at hunting?

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The Polar Bear Son

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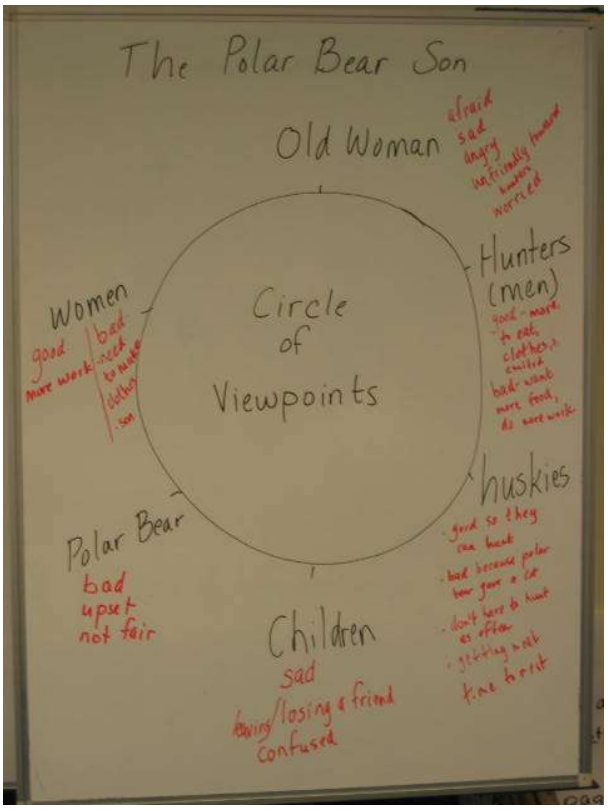
I am	I think that	A question I have from this viewpoint is
one of the Childrens in the village.	it was so fun playing with the polar Bear and now his gone. I don't understand that my [illegible] [illegible]. I like [illegible] I think it's wrong to kill the polar Bear	Why do they want to kill the polar Bear when all the work is done for the hunters?



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Name _____ *The Polar Bear Son*

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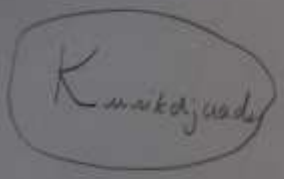
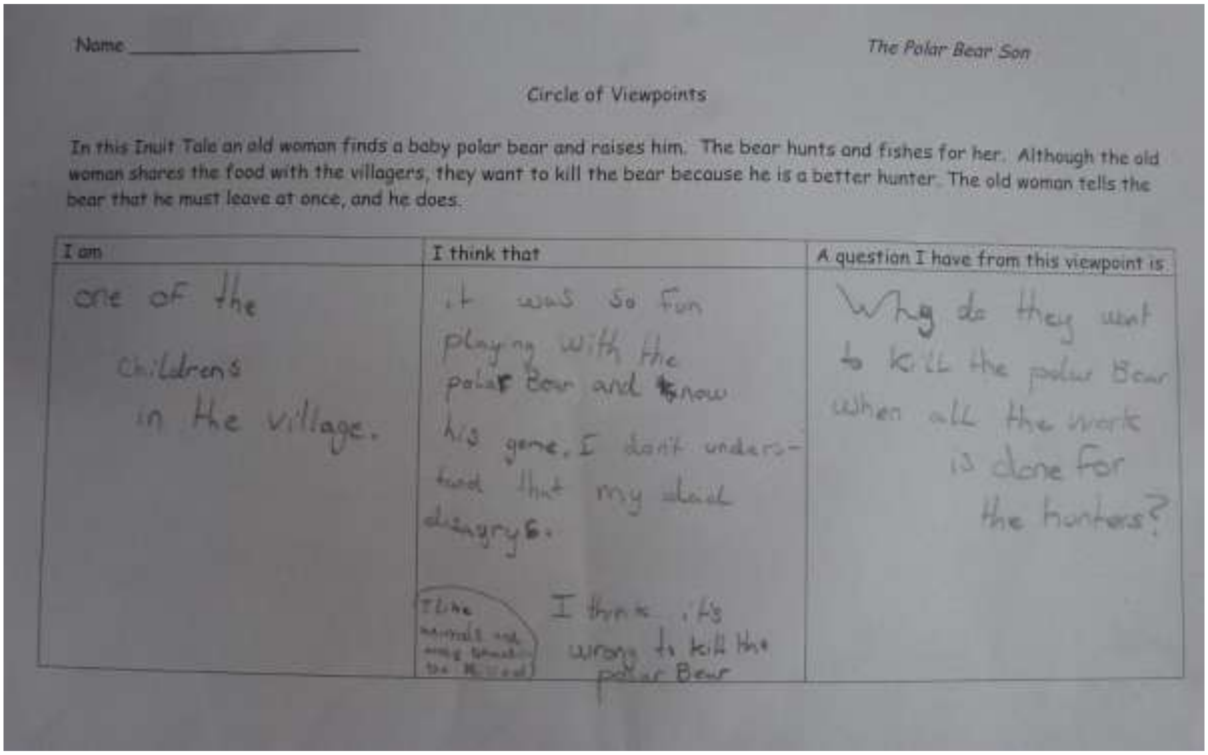
the Baby Polar Bear Kunikdjuag I'm so cute but they want to kill me. 	it is not a good idea to kill me. Because I help everyone but now they want to kill me. And my owner will be Sad 	why do the hunters just want to kill me because I'm good at hunting?



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one of the children's in the village.	it was so fun playing with the polar Bear and now his gone. I don't understand that my [illegible] disagrys. I think it's wrong to kill the polar Bear	Why do they want to kill the polar Bear when all the work is done for the hunters?

Tips and Suggestions

The two hour, study-group time can be structured in a number of ways. A highly successful structure we have used involves:

- 15 minutes for sharing using the MYST routine. Teachers can come to groups having completed a MYST reflection and then share with a partner one aspect of MYST – either Me, You, Space, or Time – that was particularly salient for them in the past week. Participants can find a partner as soon as they arrive to start the sharing. This ensures that the group does not have to wait for everyone arrives until getting started.

- 1 hour for the LAST protocol. In advance of each meeting, the VT facilitator/coordinator should identify individuals for each role in the protocol: a facilitator, a presenting teacher, and a documenter. These roles should change each week so that everyone has a chance to assume each role.

- 45 minutes to share and discuss current use of routines. This can be done either within the whole group or pairs. Participants should be encouraged to share struggles, questions, and puzzles about routines as well as their successes.

An alternative plan for new study groups starting on their own might involve practicing and discussing a new routine each week. This could be done using the video examples, the facilitator leading the group through a routine, or having a group member prepare a routine they are thinking about using in their class. The group should focus on ways of adapting and using the routine with different content and ages of students.

In some schools, only a small group of teachers will be meeting in a study group. In these situations, it is important to keep the rest of the school informed about what is happening in those groups and to invite them into the process. This can be done by:

- Making documentation from the LAST protocol available to everyone. If the documentation is done a white or blackboard, it can be photographed, and the photographs shared digitally. The documentation can also be typed up and shared, either electronically or by posting the documentation in a location where others have access to it, such as a staff room.

- Making the schedule of study groups public and inviting others to join when they have the opportunity.

- Posting student work and thinking routine documentation in public locations where everyone can see it.

- Inviting teachers to visit classrooms to observe and give feedback.

Institutional Structure & Supports

What is needed to sustain and grow Visible Thinking at a school? What kinds of structures and supports help to create a culture of thinking?

At one level, all that is needed is dedication and commitment. An enthusiastic individual or pair of teachers can be very successful in creating change in their classrooms using these ideas on their own. For schools thinking about adopting Visible Thinking as an instructional approach as well as promoting a school-wide movement toward a culture of thinking, it will be important to consider putting in place the supports and structures that ensure success. Below are some key needs for such an approach:

Facilitation of the teacher groups and general process.

Facilitation is essential for leadership, coordination, introducing new teachers to the program, and supporting the work. The facilitator need not be an expert in Visible Thinking, only a dedicated individual interested in the work and in promoting the development of a culture of thinking at the school among colleagues. The facilitator's role is to introduce and discuss the routines as well as set up regular core group meetings.

While we suggest a Visible Thinking Coordinator have a commitment of 50% time to support and grow the program, in some situations this might not be possible. In those situations, it will still be important to have a volunteer facilitator, or pair of facilitators, to coordinate the group and schedule group meetings.

Teacher time to meet in the study groups and exchange ideas.

New instructional ideas benefit from regular action, discussion, and reflection to help them take hold and become established. For this reason, it is important to create a schedule that allows for study groups to meet together consistently.

Two hours every week for new groups is ideal. This allows for momentum to be built and interest to be sustained. Groups might meet every week for 8-12 weeks and then begin to meet once every two weeks. Two hours ensures that there is time to discuss a piece of student work brought from a member of the group as well as to share what is happening in classrooms and to discuss routines.

Teacher planning time for teachers new to the process.

While the Visible Thinking routines and processes of documentation are designed for easy integration with the curriculum, teachers new to this work will find it does take some planning to think about how to use the routines most effectively. Ideally, this planning would occur jointly with other teachers. As a rule of thumb, administrators might think of terms of one hour per week of additional planning time for teachers new to the process.

Ongoing professional development

Devoting a day or two every term for exploration, planning, and discussion of Visible Thinking helps to maintain focus and to grow the ideas and practices of teachers. An outside expert, the facilitator, or a group of teachers at the school could facilitate these days. The time can be balanced between sharing classroom practices with learning new routines and planning for future instruction.