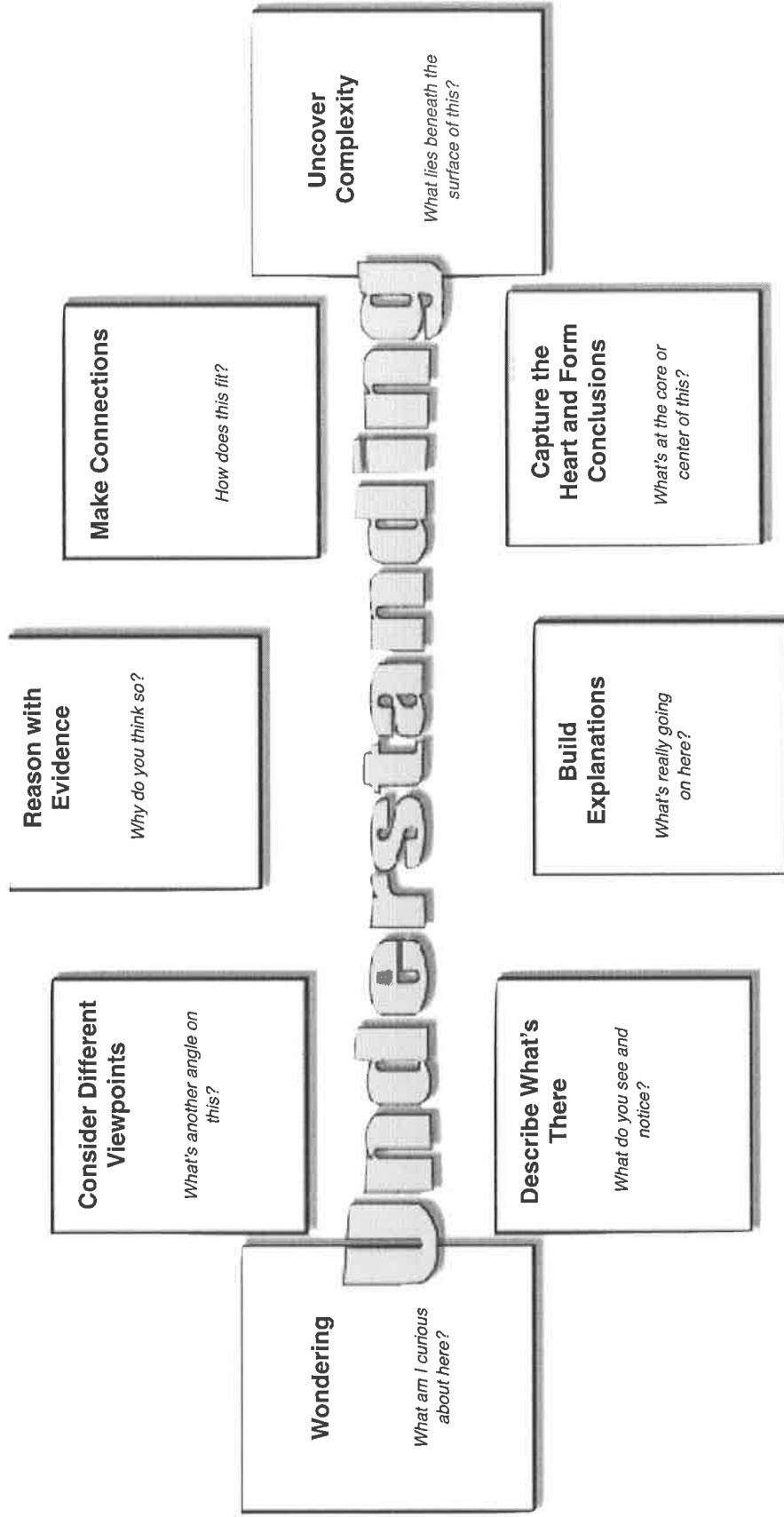


## THE 8 CULTURAL FORCES THAT DEFINE OUR CLASSROOMS

CULTURAL FORCE	DIRECTED TOWARD THINKING BY
<b>Time</b>	Allocating time for thinking by providing time for exploring topics more in depth as well as time to formulate thoughtful responses.
<b>Opportunities</b>	Providing purposeful activities that require students to engage in thinking and the development of understanding as part of their ongoing experience of the classroom.
<b>Routines &amp; Structures</b>	Scaffolding students' thinking in the moment as well as providing tools and patterns of thinking that can be used independently.
<b>Language</b>	Using a language of thinking that provides students with the vocabulary for describing and reflecting on thinking.
<b>Modeling</b>	Modeling of who we are as thinkers and learners so that the process of our thinking is discussed, shared, and made visible.
<b>Interactions &amp; Relationships</b>	Showing a respect for and valuing of one another's contributions of ideas and thinking in a spirit of ongoing collaborative inquiry.
<b>Physical Environment</b>	Making thinking visible by displaying the process of thinking and development of ideas. Arranging the space to facilitate thoughtful interactions.
<b>Expectations</b>	Setting an agenda of understanding and conveying clear expectations. Focusing on the value for thinking and learning as outcomes as opposed to mere completion of "work."



Thinking moves that leverage developing understanding. From *Making Thinking Visible: How to Promote Engagement, Understanding, and Independence for All Learners*. Ritchhart, Church, and Morrison (2011); Jossey-Bass.

## CLAIM / SUPPORT / QUESTION

*A reasoning routine*

1. Make a <b>claim</b> about the topic	→	<b>Claim:</b> An explanation or interpretation of some aspect of the topic.
2. Identify <b>support</b> for your claim	→	<b>Support:</b> Things you see, feel, and know that support your claim.
3. Ask a <b>question</b> related to your claim	→	<b>Question:</b> 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 I use it?**

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?

## ZOOM IN

Look Closely at the Small Bit of Image That Is Revealed

- What do you see or notice?
- What is your hypothesis or interpretation of what this might be based on what you are seeing?

Reveal More of the Image

- What new things do you see?
- How does this change your hypothesis or interpretation? Has the new information answered any of your wonders or changed your previous ideas?
- What new things are you wondering about?

Repeat the Reveal and Questioning Until the Whole Image Has Been Revealed

- What lingering questions remain for you about this image?

**Purpose**

The routine asks learners to observe a portion of an image closely and develop a hypothesis. New visual information is presented, and the learner is asked to again look closely and then reassess his or her initial interpretation in light of the new information. Because learners must deal with limited information, they know their interpretations must be tentative at best and might change as new information is presented. The process of making such tentative hypotheses enables learners to see that not only is it okay to change your mind about something, but in fact it is important to be open-minded and flexible enough to change your mind when new and sometimes conflicting information is available and the original hypothesis no longer holds true.

By revealing only portions of the image at a time, the routine fosters engagement with the source material in a way that seeing the whole image at once sometimes does not. Learners must act as detectives to build up meaning both individually and collectively.

**Selecting Appropriate Content**

When selecting content for this routine, keep in mind that only sections of the image will be visible until the end. This means that you might be able to use a familiar image depending on which sections you reveal initially. Whatever you are considering, ask yourself, "Are there separate areas of the image that tell a different story? Are the various parts as potentially interesting as the whole?" The content might be a scene with many people doing different things with the initial focus on just one person or activity. You might select a section of a complex painting, a photograph of a geological site, a data display, graph or chart, or even a poem. To ensure that

# 5.

Zoom In isn't just a game, you'll want to choose content that is meaningful to your subject area and that will pull students in to your topic of study.

Once you have chosen an image, consider what information will be conveyed by each part of the image you choose to reveal at each stage. Bear in mind that each new part revealed should add significantly to the meaning of the section of the image originally displayed and challenge students to think in new ways. Consider when you might reveal something that is surprising or that will force new interpretations. You can then create a Zoom In using presentation software to make slides of each section or by enlarging the image and creating masks that you can peel off for your reveals.

## Steps

1. *Set up.* Display a section of the selected image and invite learners to look attentively at it, allowing time for careful observation. You might want to begin with observations before moving to invite learners to develop hypotheses or interpretations based on what they have seen. They can do this individually, in small groups, or as a whole class.
2. *Reveal.* Uncover more of the image and again ask learners to identify anything new they are seeing and consider how this new information affects their previous interpretations and hypotheses. Depending on the stimulus, you may ask more pointed questions: "what do you think the relationship is between these two people? What feelings are you getting from the words revealed so far? Do you have a prediction of what the next section of data will look like?" At this stage, you may want to ask students about their wonderings as well.
3. *Repeat.* Continue the process of revealing and interpreting until the entire image has been revealed and invite learners to state any lingering questions they have. Encourage the learners to discuss their different interpretations and reflect how their thinking has changed with each piece of additional information.
4. *Share the thinking.* Discuss the process with learners. Ask them to reflect on how their interpretations shifted and changed over time. How did seeing more of the image influence their thinking? What parts were particularly rich in information and had a dramatic effect? Which were more ambiguous? What would the effect have been if the reveals had happened in a different order?

**SEE / THINK / WONDER**

*A routine for 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.

## WHAT MAKES YOU SAY THAT?

*Interpretation with Justification Routine*

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 it be used?**

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 precede 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.

## Beauty and Truth

### *Beauty and Truth*

1. Can you find **beauty** in this story/image/photograph?
2. Can you find **truth** in it?
3. How might beauty **reveal** truth?
4. How might beauty **conceal** truth?

**Purpose:** to support students' critical engagement with representations of global themes in the media and through aesthetic means.

This routine explores the complex interaction between beauty and truth. It stems from our exploration of global competence development through the domain of journalism and speaks to the ways in which we can help young people navigate overwhelming quantities of accessible information in an increasingly visually informed world. The routine has been tried out in schools and museums with content in journalism (especially photojournalism) as well as with works of art. In examining a work in photojournalism the routine invites viewers to explore in concrete and abstract ways the compositional and expressive dimensions of the photograph, deepening aesthetic reasoning and drawing on the arts or photograph to inquire beyond it. The routine sets the stage for a reflection on the nature of beauty and truth, as well as a reflection about how journalists and artists comment on and invite us to reflect about our world. It also invites a critical analysis of the ways in which beauty can mislead. The routine can apply to works beyond the arts such as in story telling, photojournalism, and anthropology, and literature. In steps 3 and 4 the terms beauty and truth can be inverted.

#### **Tips for use:**

Think of this routine as one that invites you and your students to a broad and deep conversation about a photograph or a work of art. Allow for time for individuals students of a group to share ideas of beauty and truth—constructs unlikely to have been explored explicitly in the past. The routine invites interpretation of the image or prompt and a discussion of evidence. Occasionally students reveal the misconception that photographs by their very nature reveal truth. Teachers using the routine have also inverted questions 3 and 4 proposing:  
\* How might truth reveal beauty \* How might truth conceal beauty?



## GIVE ONE, GET ONE

**PURPOSE:** Is a technique used to initiate physical movement to promote students to think divergently and to generate many ideas quickly.

**PROCEDURE:** The teacher poses a question and asks the students to record two responses. The teacher then asks the students to stand up and move around the room to make connections with other students' responses. Each time a student "connects" with a new student, he needs to give the student a different idea and get another idea in return (new ideas should be added to student's original list). If both participants have the same ideas, they need to work together to generate a new idea. They then can continue their journey connecting with other students. The teacher provides the students with a goal for the number of different ideas to collect and a time limit within which they have to collect them. It is important that students are reminded to work with only one student at a time (before they move to another student). Students should *not* form small groups to collect ideas. The point of the strategy is for students to meet other students and to move from one person to another sharing and revising ideas.

### STEPS:

#### GIVE ONE, GET ONE

1. Teacher poses a question.
2. Students generate two ideas.
3. Teacher establishes a goal (number of ideas and a time limit - time to collect ideas).
4. Students stand up and "connect" with another student only to give an idea and get a new idea.
5. If they both have similar ideas, they need to brainstorm together to generate a new idea.
6. Students return to their seats (they can share ideas in small groups and try to generate two or three additional new ideas).
7. Teacher collects and records ideas to be examined and explored.

## ESP+I: Experience, Struggles, Puzzles plus Insights

*A routine for reflecting on actions*

After completing an extended task, project, experiment, inquiry or course of action, use this framework to reflect on the experience

- Experience: What were some of the key actions or activities in this endeavor that moved your thinking and learning ahead?
- Struggles: What were some of the things you struggled with or found challenging that you had to overcome?
- Puzzles: What new questions arose for you along the way about your topic or area of focus?
- + Insights: At this point, what new insights do you have on the topic or process?

### **Purpose: What kind of thinking does this routine encourage?**

This routine asks students to reflect on their learning process by identify key areas that moved their learning and understanding forward as well as the questions and struggles that remain.

### **Application: When and where can it be used?**

This routine can be used to structure and enhance reflection after an extended process of inquiry or investigation. It is specifically designed for reflection over an extended course of action that would include multiple steps, revisions, and adjustments over time rather than a short-term investigation

### **Launch? What are some tips for starting and using this routine?**

After the class has engaged in a common long-term project, you might introduce the routine as a way of collaboratively reflecting on that experience. In this way, the group completes the routine together while learning its structure. You might divide the white board into 4 sections or use chart paper to record each of the 4 different phases. The first phase, experience, is designed to identify those major actions that moved the work ahead. Note: this differs from just listing “what we did.” You might tell the class, “We know what we did in this project. What I would you like for you to think about though is what were the things we did that you felt were really helpful in changing your thinking or deepening your understanding?” For younger students you might want to list everything that was done first, and then ask this question to help them prioritize. The second phase, struggles, asks students to identify the challenges. Here you might want to stress how those struggles were overcome. The third phase, puzzles, asks students to identify those questions that emerged after the initial inquiry began. This helps students to see that inquiry isn’t always a linear process but may shift and change as new information is attained. Finally, insights, asks students to think about what was learned, either about the process of inquiry or about the topic of inquiry

## MY FAVORITE “NO”

*A routine for analyzing mistakes\**

<b>Set up:</b>	Give students a short (5 min) exercise designed to practice a skill the class is currently in the process of consolidating. This might be a multistep mathematical problem, an editing task, a translation exercise, balancing a chemistry equation or similar. Students complete the exercise on an index card on which they write their name.
<b>Collect &amp; Sort</b>	Once the given time is up, collect and sort the cards into two piles: Yes: correct, and No: some errors. Then identify your favorite “No” response. A response that has a lot of things right but might exemplify a common mistake or misunderstanding.
<b>Share</b>	Tell the class how many “yes’s” and “no’s” you had. Rewrite (so that student or class doesn’t recognize the handwriting) your favorite “no” on the board, projector, screen or other device so that the whole class can see it. Announce that this is your favorite “no.”
<b>Analyze</b>	Tell the class that this response is wrong but that the person did several things that you were happy to see. Ask the class: What did this person do that I liked? What else? Then ask the class: What does this person not yet understand fully? Where is the mistake?

### **Purpose: What kind of thinking does this routine encourage?**

This routine provides an opportunity to analyze processes and procedures and encourages a metacognition and self-reflection.

### **Application: When and where can it be used?**

This can be used around skills based work in any subject area. You want to pick a skill in which students are able to exhibit various levels of understanding and proficiency. That is, they are not simply either wrong or right but there will be parts that might be correct while some errors are still evident. You also want to pick a problem where you would not expect more than one half to two thirds of the class to be wholly correct. This will avoid some students the problem is too easy and others feeling like they are slow because they are among the few that didn’t get it. Lots of partial errors also give you more to choose from in terms of your favorite and more potential learning.

### **Launch: What are some tips for starting and using this routine?**

This routine is often a part of a warm-up routine at the beginning of class. Though it can be used at other times as well. The first time this routine is introduced, it is useful to talk about the importance of learning from our mistakes as a natural part of continuous learning. For example, there was constant error analysis being undertaken the NASA space capsule design shown in the movie *Hidden Figures*. In fact, if you aren’t making any mistakes then some might say no *new* learning is occurring, you are merely practicing what you already know. You might also want to talk about the importance of quizzing and testing oneself as an important aspect of remembering. This is often called “retrieval practice” or “the testing effect.” Share with the class that this routine gives them a chance to practice a skill the class has been working on, for you to understand where they are at in their skill development prior to a formal test or quiz, for them to learn to look closely and analyze their work, and for the whole class to learn from one another.

\* Adapted from Leah Alcalá. Source: <http://soa.li/Od5s58h>



## Unveiling Stories

### *Unveiling Stories*

1. *What's the story?*
2. *What is the human story?*
3. *What is the world story?*
4. *What is the new story?*
5. *What is the untold story?*

This routine invites viewers to reveal multiple layers of meaning in a work of art, an image, a text, or a journalistic report. Building on our study of journalism as a window into our contemporary world, each layer addresses a key dimension of quality global journalism: the central most visible story; the way the story helps us understand the lives of our fellow human beings around the world, the ways in which they story speaks to systemic global issues; what is new and instructive about the issue explored; and the important absences, unreported aspects of a story, or work and partial frame provided.

**Purpose** This routine is designed to invite students to investigate the world and develop powerful habits of global journalism consumption-habits that are transferable to information consumption more broadly.

#### **Applications and tips for use**

A habit of slow reading and deep interpretation of a text, photograph, video documentation material. The routine has also been used in the context of literature, environmental science classes and history. Teachers have opted for selecting some –not all questions depending on their goals. They have also modified the order in which the questions are introduced. The reference to “the story” has been interpreted in at least two distinct ways: (a) Students have interpreted it as the story that students propose to explain or contextualize the event depicted—“the human story that led to the contamination of the Mexican Gulf begins with our dependence on fossil fuels” (b) Students have also interpreted “the story” as “the story told by the article, image or material they read.

## THE 3 YS

NURTURING A DISPOSITION TO DISCERN THE SIGNIFICANCE OF A SITUATION, TOPIC OR ISSUE  
KEEPING GLOBAL, LOCAL AND PERSONAL CONNECTIONS IN MIND.

### *The 3 Ys*

1. **Why** might this [topic, question] matter to me?
2. **Why** might it matter to people around me [family, friends, city, nation]?
3. **Why** might it matter to the world?

## THE 3 YS : Q & A

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*Why consider the 3Ys?* Intrinsic motivation is a key engine of deep learning. As humans we are motivated to learn when we come to believe that a topic or body of knowledge matters. However, gauging significance – i.e. determining whether something matters and why -- is a capacity seldom taught. Significance is not a fixed quality of objects, places or events. Rather it is attributed, constructed by learners. Assessing global and local significance requires the mind to operate at several levels at once. The 3Y's routine invites learners to move step by step across personal, local and global spheres.

*What kind of thinking does this routine encourage?* This routine encourages students to develop intrinsic motivation to investigate a topic by uncovering the significance of the topic in multiple contexts. The routine also helps students make local-global connections and situate themselves in local and global spheres

*When and where can I use this routine?* You may find this routine useful early in a unit after the initial introduction of a theme, when you want students to consider carefully why a topic might be worth investigating further. Teachers have also used the routine to expand on a given topic (e.g. local elections, goods consumption) to help students become aware of how such a topic, issue or question has far-ranging impact and consequences at the local and the global levels. In other cases, (e.g. studying poverty in Brazil) the routine is used to create a personal connection to a theme that seems initially remote.

*What kinds of topics and provocations might lend themselves to this routine?* The routine can be applied to a broad range of topics (from social inequality, to a mathematician's biography, balance in ecosystems, writing a story, to attending school). You may use a rich image, text, quote, video or other inviting materials as provocations to ground students' thinking. One important consideration in using this routine is to ensure that the students have clarity about the focal point of the analysis. For example

you might ask “Why might understanding social inequality matter to me, my people, the world?” as opposed to “Why might this image matter?”

*How might I prepare students to engage in this routine?* Students will need initial clarity about the phenomenon to be explored, e.g. the meaning of social inequality, in order to unveil its significance. When using an image or text, you may choose to prepare students for this routine by asking them what they think the image is about and why and then focusing their attention on the theme to be explored through the 3Ys.

*What are some tips about how to carry out the routine?* Use the questions in the order proposed or in reverse order beginning with the more accessible entry point. For instance, students might unfold the purpose and significance of a story they are writing by first reflecting about why the story matters to them, and then moving out to the world from there. In other cases, a teacher may seek to construct a more personal connection to a distant event (e.g. the holocaust), thus beginning with the world working inward. It is recommended that students work on one step at a time as interesting nuances and distinctions between the personal local and global may be lost if they work with the three questions in mind at once. If time allows, you may compare and group students’ thoughts to find shared motivations and rationales for learning the topic under study.

*What may we look for in students’ thinking?* There are multiple criteria against which one can assess the significance of an idea, a phenomenon or an event. In some cases, an event is significant because of its *universality* or reach, because a large number of people are affected by it (i.e a global economic crisis). Other times we consider something significant because it is visibly *original* or new (e.g. the internet in 1992). Sometimes significance is *personal* (the topic compels us emotionally, cognitively). Other markers include *generativity* (the capacity to generate new questions, lines of inquiry, or work), explanatory power (the capacity to explain why something happens) or ethical insight (how an idea or a situation helps us discern the right course of action) that adds importance to a theme. When listening to students, you may want to highlight such variability as well as the distinctions and connections between personal, local and global. Perhaps most importantly, you may want to consider students’ statements about relevance as the beginning (not the end) of meaningful conversations.

**IF***A routine for generating potential actions from one's principles & convictions*

*Choose an issue, ideal, or guiding principle to consider on each of the 4 fronts below:*

*If I take this ideal/principle seriously...what are the day-to-day implications for how I live my life? What might my personal actions and behavior look like? What might I choose to do differently? When and where might I find myself speaking out?*

*If my community takes this ideal/principle seriously...what are the implications for our collective action and behavior? What new actions would we take on? What current actions or behaviors might we need to change?*

*If our nation takes this ideal/principle seriously...what are the implications for our country? What current and future policies and proposals are needed? What wrongs need to be righted?*

*If I/we don't do anything ...what will happen?*

**Purpose: What kind of thinking does this routine encourage?**

This routine can be used to encourage the generation of ideas related to taking action in the world based on one's guiding principles and convictions. The routine also encourages perspective taking by considering actions beyond oneself as well as uncovering issues of causality by considering motivation and even the results of a lack of action.

**Application: When and where can it be used?**

Students often study and learn about the world but find it hard to action, or they may think their actions or too little or too small to make a difference. After the study of such an issue, students can collectively or individually use the IF routine to begin their thinking about and generating possible courses of action based on their conviction.

**Launch: What are some tips for starting and using this routine?**

Begin by identifying a principle/ideal stemming from the class's study, reading, or inquiry. For example, after studying issues of water scarcity and the importance of clean water to wellbeing, the class may identify the principle that "everyone deserves access to clean water." When studying the constitution of any country guiding ideals are often laid out as guiding principles in that democracy. In studies of health, students often learn about the life time benefits of remaining active or in sport's classes the ideal of sportsmanship may be explored. Having identified and clearly articulated the principle or ideal for the class (often by writing it on the board), tell students that the class is going to explore what it might look like to take that ideal seriously. Pose the first IF question to students and have them either work with a partner or small group to identify possible actions. After groups/pairs have generated some ideas, share them out so that others can hear the variety of actions generated. Don't judge or evaluate the actions yet. Repeat this process for each of the other three IF's. Options for moving forward might include: 1) Students select an action (at any level) that most intrigues them. Put students in groups based on their choices to explore and shape these actions further, 2) Students choose an action at each level that they think has the most potential to effect change and discuss, reflect, and/or write about why. 3) Students sort their actions into direct (engaging in action) and indirect (advocating and promoting) actions.

Ron Ritchhart, 2013



## QUESTION STARTS

*A routine for 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...?*

*What are the reasons...?*

*What if...?*

*What is the purpose of...?*

*How would it be different if... ?*

*Suppose that...?*

*What if we knew...?*

*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 the 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.



# 17.

After students finish generating questions, you can use the questions they created in a variety of ways: pick one of the questions to investigate further, have a discussion about some of the questions, give students information to read about the topic, ask them to investigate it in other ways, or do nothing further as simply creating the list of questions is worthwhile since it gives students a sense of the breadth of a topic and sparks curiosity about it.

Students' questions can be written down and recorded so that they are listed for all to see. If students are working solo, they can keep their list of questions in a journal, or you can create a "collage" out of students' individual lists and display it on the classroom wall.

## Question Sorts Routine

*A routine for identifying powerful questions to guide inquiry and deepen understanding*

1. Individually or as a group brainstorm a large set of questions on the topic and write each question on post it notes or note cards.
2. Create a horizontal continuum using masking tape on the table or draw one on the white board. This horizontal axis will represent generativity, that is, how likely the question is to generate engagement, insight, creative action, deeper understanding, and new possibilities. As a group, discuss and place each question on the horizontal line
3. Create a vertical continuum (axis) bisecting the horizontal axis. This line represents how genuine, that is, how much we care about investigating it, the question is. As a group, discuss and place each question by moving the post note up or down on the vertical axis.

### **Purpose: What kind of thinking does this routine encourage?**

To identify powerful questions that can guide inquiry and deepen our understanding, we need questions that are both generative (that take us somewhere) and genuine (that we care about). This routine helps students look at the questions they have generated, maybe through another routine such as Think-Puzzle-Explore or See-Think-Wonder, and identify which are most worth investigating.

### **Application: When and where can it be used?**

When students questions will be the drivers of future inquiry, you may want to use this routine to make sure that their inquiry gets off to a good start. Inquiry, whether independent or teacher-led, depends on good questions. This routine helps students think about what makes a good question.

### **Launch? What are some tips for starting and using this routine?**

You may want to talk about what makes a good question and elicit students' ideas. Then you can introduce the idea of generative and genuine questions as two criteria that can be helpful in making decisions about what questions are worth investing our time. However, these are by no means the only criteria for evaluating questions, just one tool. There won't necessarily be a set answer. It is students' discussion of the questions and their reasons behind their placements that is important. This routine sorts questions into 4 quadrants. The upper right section (quadrant 1) contains the questions best for inquiry: those that are both genuine and generative. Conversely, the bottom left (quadrant 3) contains those questions that should probably be discarded. The top left (quadrant 2) contains questions that can probably be assigned for students to quickly look up independently and report back on. The bottom right (quadrant 4) contains some good questions but ones students don't seem interested in at the moment.

**+1 ROUTINE***A routine for the identifying important ideas worth remembering*

*After reading a text, watching a movie, listening to a lecture, or being presented with new information or ideas in some manner, a group of learners does the following:*

<b>RECALL</b>	In 2-3 minutes and working individually, each learner generates a list of key ideas that he or she recalls from the presentation they he/she feels is important to hang onto. Learners do this from memory rather than reviewing notes or material.
<b>ADD (+) 1</b>	Learners pass their papers to the right. Taking 1-2 minutes, each student reads through the list in front of him/her and <i>adds one new thing</i> to the list. The addition might be an elaboration (adding a detail), a new point (adding something that was missing), or a connection (adding a relationship between ideas). REPEAT this process at least two times.
<b>REVIEW</b>	Return the papers back to the original owner. Learners read through and review all the additions that have been made on their sheets. At the same time they may add any ideas they have picked up from reading other's sheets that they thought were worthwhile.

**Purpose: What kind of thinking does this routine encourage?**

The routine provides learners with a structure for identifying key ideas and committing them to memory. Research has shown that engaging students in memory work immediately after the presentation of information helps learners to retain that information more effectively.

**Application: When and where can it be used?**

As learners we often encounter new ideas, information, and content. At upper levels, students often take notes on this material but too often may do so in a superficial, unthinking manner by merely writing down everything for possible review later. This routine could be used as an alternative to traditional note taking. The benefit of post-lecture note taking is that students are required to identify key ideas, an important processing move, which is often easier to do after material is presented than during its presentation. At the same time this routine harnesses the power of the group to enhance everyone's notes while providing individuals with a written record to hang onto for future reference.

**Launch: What are some tips for starting and using this routine?**

When presenting students with new information, in whatever form, tell them that you will be trying out a new note taking routine that will help them identify key ideas from the lesson/material. Instead of taking notes, ask learners to listen, engage, and participate fully in the lesson/lecture. You may want to assure them that they will have access to your slides or lecture notes. You may wish to tell students that research has shown it is important to engage memory right away when something is learned rather than waiting to try and memorize things for a test later. At the end of the lesson allow 10-15 minutes for the routine. Timing may be influenced by the complexity, richness and depth of the material that was presented as well as the age of students. Debrief this note taking method and discuss how to make it better next time.

