

**Consider
Different
Viewpoints**
What's another
angle on that?

**Reason with
Evidence**
Why do you think
so?
WMYST?

**Make
Connections**
How does this fit?

**Uncovering
Complexity**
What lies beneath
the surface of
this?

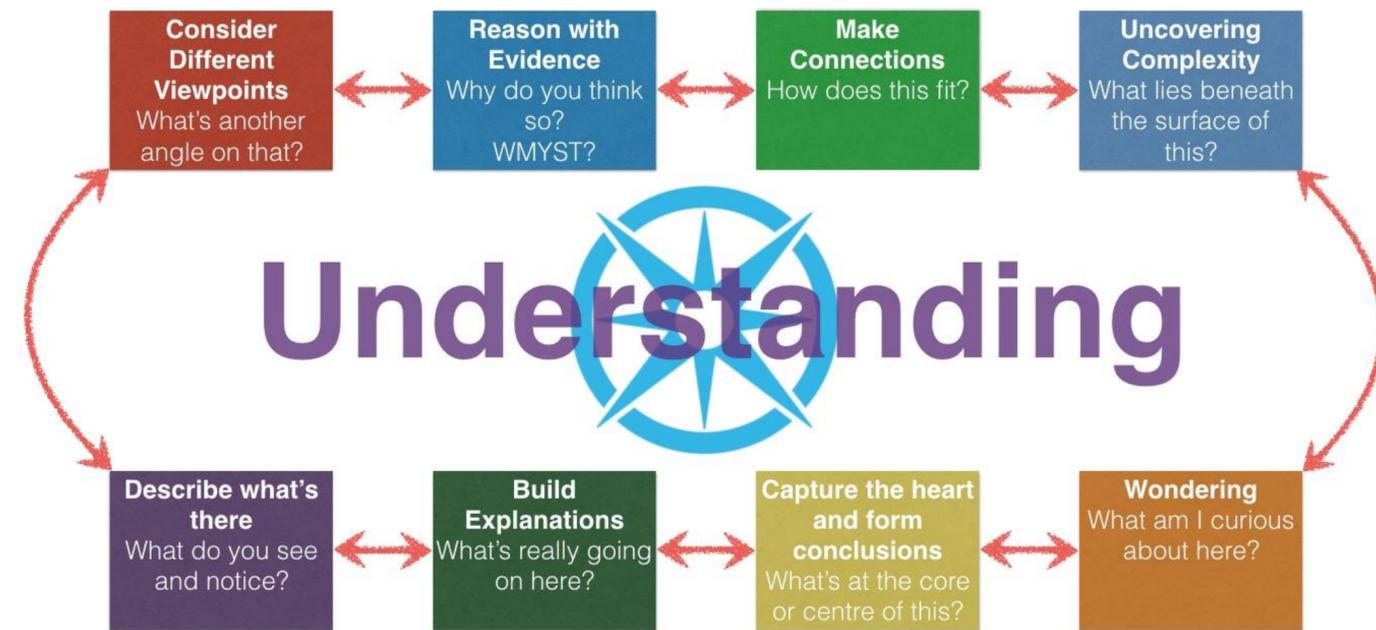
Understanding

**Describe what's
there**
What do you see
and notice?

**Build
Explanations**
What's really
going on here?

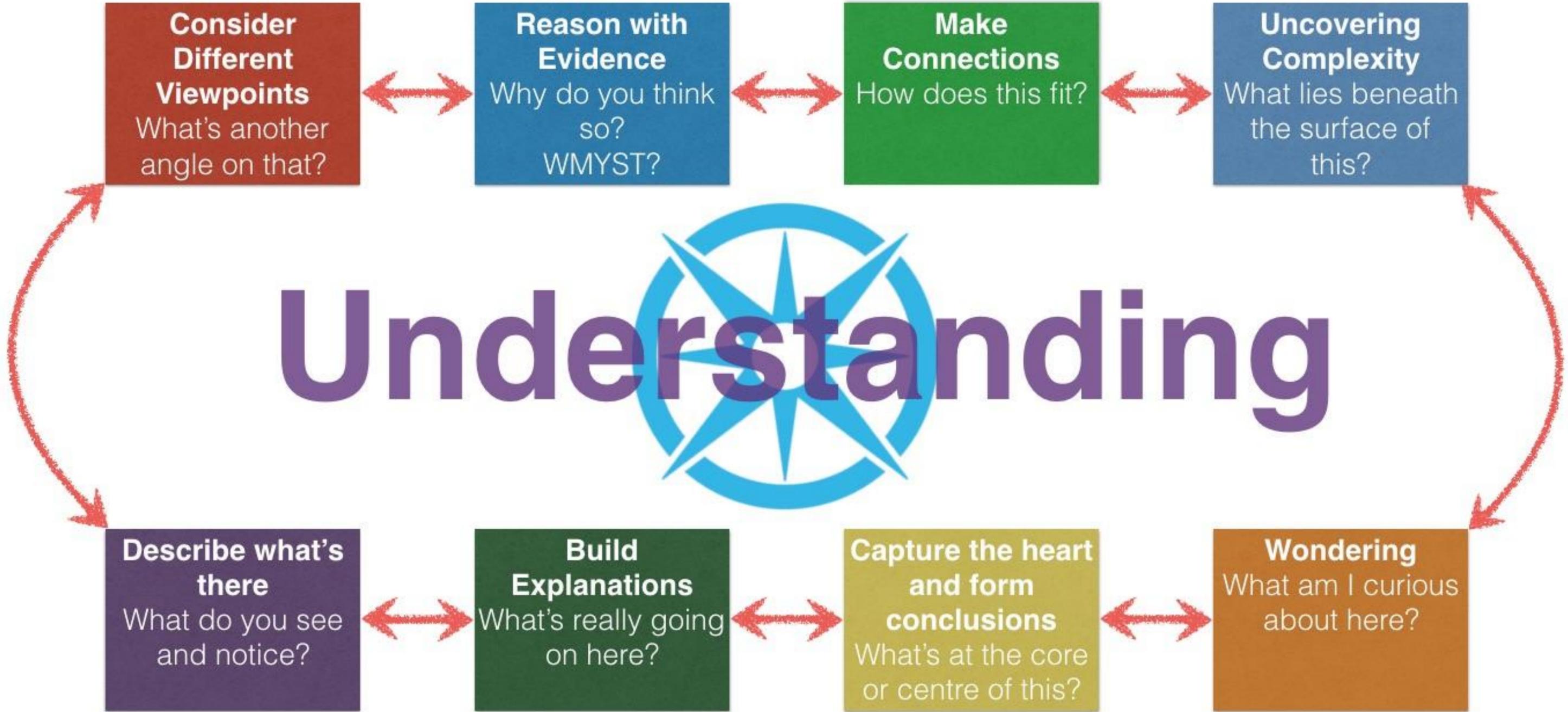
**Capture the heart
and form
conclusions**
What's at the core
or centre of this?

Wondering
What am I curious
about here?



Understanding Map 2007 Cultures of Thinking Project Zero
 Adapted from 'Making Thinking Visible - Ritchhart, Church, Morrison (2011)

The following pages connect each of the high-leverage thinking moves with Making Thinking Visible routines which might promote their application. The listing is not definitive and may not suit all learning situations. Learners should always be encouraged to consider what thinking is required and how they best achieve their thinking goals.



**Consider
Different
Viewpoints**
What's another
angle on that?

Viewpoints

Thinking Routines Considering Viewpoints:

Circle of Viewpoints - a thinking routine that will help you see diverse perspective and look at a situation from another person's point of view. Useful in small groups.

1. 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 view- point
 3. A question I have from this viewpoint is ... ask a question from this viewpoint
2. Wrap up: What new ideas do you have about the topic that you didn't have before? What new questions do you have? Record your thinking with a mind map, locating differing points of view around a circle.

Here Now/There Then - a thinking routine to encourage thinking about how attitudes and beliefs change over time or from place to place.

1. Identify an issue that has changed over time or is seen differently from place to place or across cultures
2. Brainstorm what is known about the issue now and then, how has it changed and what has caused the change. Identify cultural perspectives that make one understanding more true for one culture compared to another.
3. Ask 'What do I not understand about the other point of view or why things are/were different?' then ask 'How will I find that information?'
4. Create a comparison chart of Venn diagram to organise your information.
5. Use this information in a 'Circle of Viewpoints' to help you understand the different perspectives.

**Reason with
Evidence**
Why do you think
so?
WMYST?

Reason with Evidence

Connect, Extend, Challenge - How are the ideas presented Connected to what you already know? What new ideas are presented that Extend what you know? What is still Challenging for you about the new topic and/or its connection with prior learning? Use individually recording your responses on paper or in a group with each member responding to the three questions in turn.

Think, Puzzle, Explore - Answer these three questions: What do you Think you know about this topic? What questions or Puzzles do you have? How can you Explore this topic? When exploring begin by looking for ways to expand on what you already know to maximise the benefits of your prior learning.

I used to think . . . , Now I think . . . - When you are reviewing a topic take time to include this simple routine. Start with 'I used to think . . . ' then move on to 'Now I think . . .'. Add power by combining with 'What connections are there between the two?'. This routine should help you identify connections with prior knowledge and allow you to identify which parts are entirely new.

I see (hear, feel, touch, taste), I think, I wonder - Open your senses to the experience and describe it, give voice to your thoughts as you explore with your senses, finish by asking questions that share what you have sensed and discuss how each sense added to your understanding

What makes you say that? - A powerful question for encouraging deeper thinking and one that works best when students learn that this question is not an attack on their thinking but is aimed at revealing more detail. Here is a list of similar Questions that Encourage Deeper Thinking.

**Make
Connections**
How does this fit?

Making Connections

Claim, Support, Question - Use this routine to identify the truth of claims you or others make. Take a claim about the topic and identify support for it; What is it relying on for truth? Ask questions about your claim that explore what isn't explained, what new issues does the claim raise? Useful to use with a friend asking the questions.

5 Whys - This model of asking 'Why?' five times allows you to dig deeper into a problem. Begin by asking a 'Why' question. Listen to the answer from others or from your self, then ask a 'Why' question that digs deeper into the answer provided. Repeat this process so that you have asked 5 'Why' questions each revealing more information and each at a deeper level of understanding.

Creative Questions - A good routine for developing questions and for training your mind to think differently about the type of questions that need to be asked. Use it to generate creative questions to explore by following these steps:

1. Pick an everyday object or topic and brainstorm a list of questions about it. Transform some of these questions in imaginative questions such as:
 - What would it be like if . . .
 - How would it be different if . . .
 - Suppose that . . .
 - What would change if . . .
 - How would it look different if . . .
2. Select a question to imaginatively explore. Write a story, draw a picture, invent a scenario, conduct a thought experiment or dramatise a scenario
3. Reflect on your thinking and the new ideas you have generated. Develop those that seem most useful.

**Uncovering
Complexity**
What lies beneath
the surface of
this?

Uncovering Complexity

True for Who? - Discuss a given situation thinking about the circumstances of the decision, the people involved, what was at stake, what were the interests and goals of the people involved. Collect this information into a chart and group ideas by points of view. Now use that information to Dramatise the thinking that led to the original decision. Each person uses the chart to respond to three questions:

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

Some group members should observe this dramatisation and then reflect on what they have seen and heard.

Think, Pair, Share - Begin by considering options or responses by yourself. Give this process some time and then share your ideas with a partner. Once you have explained your ideas to your partner and listened to their thinking, share your combined ideas with the larger group. This can maximise the options available to the group and increases the power of many minds working together.

Connect, Extend, Challenge - How are the ideas presented Connected to what you already know? What new ideas are presented that Extend what you know? What is still Challenging you and where does your learning journey go next?

I used to think. . . Now I think . . . - Use this routine to make visible how your thinking has changed over the course of a learning experience. Then go beyond by describing What made you change your thinking? How did this change occur? What new learning have you achieved?

**Describe what's
there**
What do you see
and notice?

Describe what's there

I see (hear, feel, touch, taste), I think, I wonder - Open your senses to the experience and describe it, give voice to your thoughts as you explore with your senses, finish by asking questions that share what you have sensed and discuss how each sense added to your understanding

SENSING: Ten Times Two - Begin by absorbing information and listing 10 words or phrases to describe what you sense. Include information from each sense. Repeat the process and then explore the results, share them with a friend or as a group.

Perceive, Know, Care About - Use for exploring the perception of a character or a person in an image or video. Begin with 'What can the person perceive?' Think about all their senses. Then ask 'What might the person know about or believe?'. Finish with 'What might the person care about?'. Share your ideas and explain what it is about the person and their situation that makes you say that.

Think, Puzzle, Explore - What do you think you know about this topic? What questions or puzzles do you have? How can you explore this topic?

Claim, Support, Question - make a claim about the topic. Identify support for your claim. Ask questions about your claim that explore what isn't explained, what new issues does your claim raise? Useful to use with a friend asking the questions.

Build Explanations
What's really going on here?

Build Explanations

Connect, Extend, Challenge - How are the ideas presented Connected to what you already know? What new ideas are presented that Extend what you know? What is still Challenging for you about the new topic and/or its connection with prior learning? Use individually recording your responses on paper or in a group with each member responding to the three questions in turn.

Think, Puzzle, Explore - Answer these three questions: What do you Think you know about this topic? What questions or Puzzles do you have? How can you Explore this topic? When exploring begin by looking for ways to expand on what you already know to maximise the benefits of your prior learning.

Generate, Sort, Connect, Elaborate - Generate by brainstorming a list of initial ideas based on what you already know about the topic. Sort these by relevance to the new topic, maybe colour code. Connect ideas with lines to show connections. Add new information to this and continue to build links as you Elaborate on your understanding and explore the new learning.

Circle of Viewpoints for Group Reflection - Use this routine to identify each group member's point of view. You can extend the perspective discussed by allowing some members to contribute an alternative view-point; playing devil's advocate.

- Take turns to respond to each point:
- I am thinking of the topic from the point of view of . . .
- I think . . . - describe the topic from your point of view
- A question I have from this point of view is . . .

Finish by reflecting on the discussion and the explanations generated. Develop a group explanation.

Capture the heart
and form
conclusions
What's at the core
or centre of this?

From the heart

Circle of Viewpoints - a thinking routine that will help you see diverse perspective and look at a situation from another person's point of view. Useful in small groups or individually.

1. Brainstorm a list of different perspectives and then use this script skeleton to explore each one:
 - I am thinking of ... the topic... From the point of view of ... the viewpoint you've chosen
 - I think ... describe the topic from your viewpoint. Be an actor – take on the character of your view- point
 - A question I have from this viewpoint is ... ask a question from this viewpoint
2. Wrap up: What new ideas do you have about the topic that you didn't have before? What new questions do you have? Record your thinking with a mind map, locating differing points of view around a circle.

I used to think. . . Now I think . . . - Use this routine to make visible how your thinking has changed over the course of a learning experience. Then go beyond by describing 'What made you change your thinking?'. How did this change occur?

Generate, Sort, Connect, Elaborate (A Mind-mapping strategy)- Generate a list of ideas and initial thoughts, Sort your ideas by importance or usefulness, Connect your ideas by using lines making a map of your ideas with their links, Elaborate on any ideas or explore the most important ideas or clusters in greater depth. Use to create an outline for your communications. Combine with 'Think, Puzzle, Explore' to make Elaboration easier.

Wondering
What am I curious
about here?

Wondering

Question Starts - Use this strategy to generate good questions and begin to identify and explore those most important to a topic
Brainstorm a list of 12 questions or more about your topic. Use these question starters to help you:

- 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...?

Review the questions and mark those you find most interesting, share with a friend and discuss 'what makes it an interesting question?'

Creative Questions - A good routine for developing questions and for training your mind to think differently about the type of questions that need to be asked.
Use it to generate creative questions to explore with these questions:

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

Options Explosion - Begin by listing the obvious solutions or options. Now brainstorm all the other options, generate as many options as you can, combine ideas to create more, allow your creativity to run wild and tap into your sense of wonderment and awe. Review the list of options and identify the ones that are most intriguing. Use the ideas generated to consider new possibilities and new solutions.

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(2011)