



SEE- THINK- WONDER

THINKING ROUTINE

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PURPOSE

- Careful observations
- Thoughtful interpretations
- Stimulate curiosity

PREPARATION

- See Think Wonder is an excellent thinking routine to use when you are new to using thinking routines. This thinking routine is an 'all-rounder' meaning it works well in a huge variety of situations and circumstances.
- The stages of the routine flexibly structure the conversation for both the guide and the participant. As a result, everyone knows what to expect.
- Use it to discuss images and artefacts. It never fails to stimulate curiosity and engagement.
- Starting a discussion with observation first helps to avoid hasty interpretations. The first question 'What do you see?' gives participants the chance to fully observe and describe what they are looking at - an object, image or scenario.
- Focusing on close looking followed up by careful describing allows participants to see the "whole picture" and to notice parts they would ordinarily have missed.
- The second question 'What do you think about what you see?' usually follows on naturally once the group has fully observed and described. It asks the group for their interpretations of what they think is happening.
- There are many variations of this routine - Wonder-See-Think and variations using the senses - Touch-See-Think-Wonder, Smell-Think-Wonder etc.
- The final question 'What are you wondering about?' allows participants to ask any additional questions or thoughts. These "wonderings" can also open up new lines of inquiry and allow the guide or educator time to share some specialised knowledge in response to the group's questions.
- Combines well with 'Headlines' to conclude the discussion.

SEE-THINK-WONDER

SPEND SOME TIME LOOKING AT THE IMAGE BEFORE ASKING:

- What do you see in this image?
- What do you think about what you see?
- What does it make you wonder?

LINKS

This thinking routine was developed as part of the Artful Thinking & Visible Thinking projects at Project Zero, Harvard Graduate School of Education.



THINK PAIR SHARE

THINKING ROUTINE

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PURPOSE

- Active engagement
- Critical thinking
- Collaboration

PREPARATION

- Think-pair-share is a collaborative teaching strategy first proposed by Frank Lyman of the University of Maryland in 1981.
- Although often used in classrooms to help students form individual ideas, discuss and share with the others in-group, it can also be used to great effects in other environments where groups group discussions, idea sharing, and critical thinking are valuable. For example, professional meetings, workshops and training sessions, community groups and organisations and online.
- It provides an opportunity for individual reflection, peer-to-peer interaction, and broader participation, fostering a deeper understanding of whatever is being discussed.
- After individuals have considered a question individually (Think), they discuss their ideas with another individual (Pair) and share their joint input in a plenary session (Share).
- Think-Pair-Share technique promotes active engagement among participants, allowing them to think, discuss, and share ideas. It encourages collaboration and teamwork, creating a cooperative learning environment. By working in pairs, individuals are exposed to diverse viewpoints, fostering critical thinking and expanding their understanding of the topic. Additionally, Think-Pair-Share enhances communication skills as participants articulate their thoughts and actively listen to others.

THINK PAIR SHARE

THINK: Each individual in the group takes time to reflect on a question, problem, or topic independently. They generate ideas, analyse the issue, or consider different perspectives on their own..

PAIR: After the thinking stage, individuals pair up with another person in the group. They discuss their thoughts, ideas, or solutions with their partner, engaging in a conversation or debate. The pairs can be formed randomly or based on specific criteria, depending on the context.

SHARE: Once the pairs have had their discussions, they reconvene as a larger group. Each pair shares their joint input, insights, or conclusions with the rest of the group. This can be done through whole-group discussions, presentations, or other forms of sharing.



GENERATE SORT CONNECT ELABORATE

THINKING ROUTINE

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PURPOSE

- Exploration of ideas
- Finding connections
- Expanding knowledge and insights

PREPARATION

- The Generate-Sort-Connect-Elaborate (GSCE) thinking routine helps individuals organise their understanding of a topic by using concept mapping.
- GSCE helps individuals organise their understanding of a topic by generating ideas, sorting them based on importance, connecting related ideas, and expanding their initial thoughts.
- This thinking routine encourages participants to generate new ideas, organise them into categories, make connections between them, and elaborate on the most promising ones. It involves four steps: first, participants generate as many ideas as possible on a specific topic or issue; second, they sort the ideas into categories; third, they connect related ideas together; and fourth, they elaborate on the most promising ideas.
- GSCE can be applied in various contexts. For example, it can be used in professional development to organise understanding of a project, in personal goal setting to create a plan, in group brainstorming sessions to facilitate collaboration, in community initiatives for effective planning, and in personal reflection and learning to deepen understanding. In each case, the routine helps individuals or groups generate ideas, sort them, make connections, and elaborate on them. This structured approach enhances problem-solving, planning, collaboration, and learning outcomes.

GENERATE SORT CONNECT ELABORATE

Select a topic, concept, or 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.

LINKS

This thinking routine was developed as part of the Cultures of Thinking project at Project Zero, Harvard Graduate School of Education.