**Thinking About Thinking**  
**Lesson 1**  
**Grade 9 Applied English**

### Critical Learning

- What metacognition is and why it’s valued
- Who students are, as learners

### Curriculum Expectations

**Reflecting on Skills and Strategies:** Reflect on and identify their strengths as readers, areas for improvement, and the strategies they found most helpful before, during, and after reading.

- 4.1 describe several different strategies they used before, during, and after reading; explain which ones they found most helpful; and identify steps they can take to improve as readers
- 4.2 identify several of their skills in listening, speaking, writing, viewing and representing and explain how the skills help them read more effectively

### Learning Goals (Unpacked Expectations)

Students will be able to:

- understand that effective learners are metacognitive: they think about their thinking; plan and set learning goals; monitor and reflect on their progress; purposefully select learning strategies
- understand what reflection is and how to do it
- understand that speaking, listening, reading, and writing are effective when intertwined in learning

### Planning with the End in Mind

#### Criteria for Level 3 Performance (Achievement Chart Category)

This lesson prepares students to successfully meet the following criteria from the summative evaluation that follows this series of lessons. The lessons and rubric are intended to indicate the instructional trajectory. Thorough preparation requires additional lessons.

- Identifies most of the components of metacognition (Knowledge and Understanding)
- Demonstrates considerable depth in understanding the role of metacognition to a variety of learning situations (Knowledge and Understanding)
- Explains with considerable clarity how metacognitive strategies work together to help learners succeed (Communication)
- Demonstrates considerable ability to explain how metacognitive processes apply both to in-school and to out-of-school experiences and work together with language and learning processes (Application)

#### Evaluation

**Tasks**

- Reading task with student think-aloud
- Teacher-student conference

**Tools**

The rubric should be shared and/or collaboratively developed with students early in the instructional trajectory.

### Instructional Components and Context

#### Readiness

- Learning preferences: auditory, kinaesthetic, visual
- Reading comprehension strategies
- Active listening strategies
- Jot notes
- Summarizing strategies

#### Literacy Strategies

- Synectics
- Concept definition mapping
- Responding to metacognitive question prompts
- Graffiti
- Anchor chart
- Rapid writing

#### Assessment Tools and Strategies

- Observation
- Check for understanding: thumb signals, cue cards, traffic lights

#### Terminology

- metacognition
- prompt
- automaticity

#### Collaborative Skills

- Engage in face-to-face interaction
- Listen and speak respectfully
- Share responsibility for task

#### Next Steps

- Identify and apply metacognitive strategies to reading tasks.
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### Guiding Questions
- Why does metacognition matter?
- What does it mean “to reflect?”

### Minds On...  Approximate time: 20 minutes

#### Pairs → Making Connections

Distribute two mazes and one hand-mirror to each pair. While one student holds the mirror at a suitable angle, the other completes the maze by looking at the pen and maze in the mirror. Pairs reverse roles, using the other maze.

Debrief, first in a turn-and-talk with partners and then with the whole class. Pose guiding questions to anticipate topic.

Make connections between the task and other kinds of learning and problem solving where students do not have automaticity – where they have to concentrate, employ strategies, obtain feedback, practise, and so on.

Point out that they have been reflecting on the maze task (which also involved reflection) that is, they are looking back at and into themselves, describing what they see, connecting aspects and integrating them with what they already know to make meaning of it.

Share the learning goals.

### Action!  Approximate time: 45 minutes

#### Pairs → Making Connections

Model a personal response to the stem, “Learning is like…”, e.g., cooking a meal, playing hockey, camping, climbing a mountain, playing a video game.

In pairs, students select or create their own a stem-activity combination, and together develop an explanation of how “Learning is like…” Cue students to practise active listening strategies.

Model making jot notes as students share their explanations for these comparisons. Then, model how to summarize students’ comments, e.g., cluster ideas to identify similar points, accurately and concisely rephrase, and list points made.

#### Whole Class → Concept Building

Discuss how each of these activities involves before, during, and after phases: (a) preparation, planning, and goal-setting, (b) monitoring and adjusting, (c) assessing, reflecting, and goal setting for the next step.

Introduce the term metacognition, e.g., using a concept definition map, and referring back to the maze and “Learning is like…” tasks. The concept definition map could be used as an anchor chart to reinforce continual application of metacognitive strategies.

Lead a discussion about the role metacognition plays in the successful accomplishment of daily, athletic, work, and school tasks.

#### Groups → Graffiti

Write five metacognitive question prompts that focus on learning, each on a separate chart paper. Model how to make a thoughtful, personal response to each of these questions.

Form groups of about 4-5 and give each group a different colour marker. Cue students to practise collaborative skills. For both individual and collective accountability, indicate that a group member will be called on to report out based on an arbitrary criterion. Each group responds to a question, then rotates to another question, taking their marker with them.

On a cue card, groups summarize the responses from their chart paper, orally and then in writing. One student from each group shares orally with the class.

Facilitate a discussion of how and why strategies used in the lesson have combined listening, speaking, reading, and writing.

### Consolidation  Approximate time: 10 minutes

#### Individual – Self-Assessment and Reflection

Using a visual signal routine, students indicate how easy or difficult it is to think about thinking and informally self-assess their confidence as “metacognitive learners.”

Students do a rapid writing journal entry in which they articulate their understanding of metacognition and reflect on how useful the lesson's strategies might be to them as learners.

### Home or Next Lesson Connection

For the next class, identify an out-of-school activity in which you plan and set goals, monitor and adjust what you’re doing, and assess or reflect on what you’ve done.
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Connections Menu
Rubric
Connecting Practice and Research: Metacognition Guide
Connecting Practice and Research: Strategy Implementation Continuum
Metacognitive Assessment

Minds On...
Guiding Questions

Action!
Learning is Like...
Summarize
Concept Definition Map
Anchor Chart
Graffiti
Metacognitive Question Prompts

Consolidation
Rapid Writing
Lesson Strategies
### METACOGNITION RUBRIC

<table>
<thead>
<tr>
<th>Knowledge and Understanding</th>
<th>Level 4 Advanced</th>
<th>Level 3 Proficient</th>
<th>Level 2 Developing</th>
<th>Level 1 Beginning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of the components of metacognition (e.g., think about their thinking, plan and set learning goals, monitor and reflect on their progress, purposefully select learning strategies)</td>
<td>identifies all or almost all the components of metacognition</td>
<td>identifies most of the components of metacognition</td>
<td>identifies some of the components of metacognition</td>
<td>identifies a few of the components of metacognition</td>
</tr>
<tr>
<td>Understanding the importance of metacognition to learning</td>
<td>demonstrates significant depth in understanding the role of metacognition to a variety of learning situations</td>
<td>demonstrates considerable depth in understanding the role of metacognition to a variety of learning situations</td>
<td>demonstrates adequate depth in understanding the role of metacognition to learning situations</td>
<td>demonstrates limited depth in understanding the role of metacognition to learning situations</td>
</tr>
</tbody>
</table>

**Thinking**

<table>
<thead>
<tr>
<th>Use of metacognitive strategies:</th>
<th>Level 4 Advanced</th>
<th>Level 3 Proficient</th>
<th>Level 2 Developing</th>
<th>Level 1 Beginning</th>
</tr>
</thead>
<tbody>
<tr>
<td>• to plan and prepare for learning</td>
<td>demonstrates highly effective use of metacognitive strategies</td>
<td>demonstrates considerably effective use of metacognitive strategies</td>
<td>demonstrates somewhat effective use of metacognitive strategies</td>
<td>demonstrates limited effectiveness in using metacognitive strategies</td>
</tr>
<tr>
<td>• to select, monitor and adapt strategies for task-specific purposes</td>
<td></td>
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<tr>
<td>• to assess and reflect on progress, identify goals, and make a plan of action</td>
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**Communication**

<table>
<thead>
<tr>
<th>Explains how metacognitive strategies work together to help learners succeed</th>
<th>Level 4 Advanced</th>
<th>Level 3 Proficient</th>
<th>Level 2 Developing</th>
<th>Level 1 Beginning</th>
</tr>
</thead>
<tbody>
<tr>
<td>explains with a high degree of clarity how metacognitive strategies work together to help learners to succeed</td>
<td>explains with considerable clarity how metacognitive strategies work together to help learners to succeed</td>
<td>explains with some clarity how metacognitive strategies work together to help learners to succeed</td>
<td>explains with limited clarity how metacognitive strategies work together to help learners to succeed</td>
<td></td>
</tr>
</tbody>
</table>

**Application**

<table>
<thead>
<tr>
<th>Makes connections within and between various contexts:</th>
<th>Level 4 Advanced</th>
<th>Level 3 Proficient</th>
<th>Level 2 Developing</th>
<th>Level 1 Beginning</th>
</tr>
</thead>
<tbody>
<tr>
<td>• in-school and out-of-school experiences</td>
<td>demonstrates ability to make insightful explanations of how metacognitive processes apply both to in-school and to out-of-school and work together with language and learning processes</td>
<td>demonstrates considerable ability to explain how metacognitive processes apply both to in-school and to out-of-school experiences and work together with language and learning processes</td>
<td>demonstrates adequate ability to explain how metacognitive processes apply both to in-school and to out-of-school experiences and work together with language and learning processes</td>
<td>demonstrates limited ability to explain how metacognitive processes apply both to in-school and to out-of-school experiences and work together with language and learning processes</td>
</tr>
<tr>
<td>• metacognitive processing and language and learning processes</td>
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Metacognitive Assessment

Types of research-based metacognitive assessments include interviews, surveys, inventories and think-alouds. These are well-established approaches to assessment. Think-alouds, for examples, are “respected measures of assessing cognitive ability based on the work of Ericsson and Simon (1984/1993) and are commonly known as verbal reports of cognitive thought.”

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Minds On...

Guiding Questions
How did this task differ from the way you normally would do it?
What made it more difficult?
What strategies did you use to complete the task?
How did you monitor your progress?
Did you have to make adjustments?
How could you become better at the task?
Learning is like...
This task is an example of synectics, a brainstorming approach that is based on analogy or metaphor. The comparisons can be explored further with a series of prompts. For example, after students have identified a direct similarity ask the following:
• What would it feel like to be learning?
• What is opposite to learning?
• With the opposition in mind, what else is learning like?
• Considering all of the analogies above, what is learning?
This task can generate discussion about students’ epistemology, or theories about knowing:
• What do they think they can know?
• How can they acquire knowledge?
• How do they know that they know it?

Studies indicate that students’ beliefs about knowledge and knowledge acquisition influence students’ approaches to learning. See Bransford et al. (1999). Hofer and Pintrich (1997, in Patrick & Middleton, 2002) show that learners have little motivation to integrate new ideas if they believe that knowledge is simple. Similarly, learners are less likely to question ideas if they believe that knowledge is certain or stable.

Summarize
As researchers recognized that comprehension was “multicomponential,” researchers like Palinscar & Brown (1984) began using models of multiple, rather than of single strategies. Summarizing and questioning are two of four components of reciprocal teaching, along with predicting and clarifying. According to Pressley (2003), the effects of strategies such as summarizing and self-questioning were “consistent” and “striking.” Wittrock (1990) asserts that for summary to be effective, students must not only use their own words, but also make connections among concepts and with their own background knowledge.

To develop conceptual understanding of summarizing:
• create a concept definition map
• model summarizing, using a think-aloud
• model a rules-based approach with a think-aloud
• develop criteria to identify “main idea” or “important ideas” and model with a think-aloud
• model a deep structure approach, using frames or a graphic organizer
• create gist statements or translate text into telegrams, classified ads, or text messages
• use a limited number of sticky notes to compel students to select ideas parsimoniously and judiciously.

Concept Definition Map
Concept definition mapping is a process of developing conceptual understanding and elaborated definitions. Learners collaboratively identify the following for a word or concept:
• What is it? (to determine what category or class it belongs to)
• What is it like? (to determine what its attributes or properties are)
• What are some examples? (to illustrate or provide examples).
Sometimes educators add “What it’s not” and/or non-examples. Graphic organizers are frequently used to display the information. Promising practices in vocabulary/concept instruction suggest that concept definition focus only on words important to understanding the text, lesson, or unit. Students’ concept definition maps may not be identical, as they reflect students’ prior knowledge and background experience. Concepts maps will become increasingly accurate, precise, and detailed as concepts deepen.

Anchor Chart
An anchor chart is collaboratively created by the teacher and students to record key information, e.g., definitions, strategies, classroom norms. The concept of an anchor is used figuratively to suggest the anchor chart’s purpose: to hold key information and ideas firmly. It is posted in the classroom so that the teacher and students can refer to it easily, bridging prior learning and instruction, and anticipating future learning.

Graffiti
As with other collaborative strategies, teachers need to attend explicitly and consistently to social dynamics to establish specific interaction norms and support collaborative skill development. Think Literacy Cross-Curricular Approaches, Grades 7-12, pp. 66-69.
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### Action

**Metacognitive Question Prompts**

- What are some of the things you do to help you learn? (apply prior knowledge, make personal connections)
- What do you do to get ready to learn? (set goals, plan)
- Once you’ve begun a learning activity, what are some things that might get in the way of your learning and/or doing your best work? (monitoring, adjusting, self-regulating)
- How do you know when you really understand what you are learning? (by reflecting, self-assessing, using feedback)
- How do you use feedback about your learning or your work from teachers or peers? (set goals)
Rapid Writing
Sometimes referred to as “automatic writing” or “freewriting,” rapid writing means writing as quickly as possible in response to a stimulus without pausing or editing. Students are advised not to lift the pen from the paper/fingers from keyboard and to repeat the same word if they’re stuck until thoughts flow again. See Think Literacy Cross-Curricular Approaches, pp. 98-101.

Lesson Strategies
These include comparing (synectics), concept definition mapping, turn and talk, responding to question prompts, grafitti, anchor charts, jot notes, summarizing and rapid writing.