



**MIDDLE YEARS  
LITERACY/NUMERACY  
RESPONSIVE FRAMEWORK  
"HOW TO"**

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## Responsive Framework

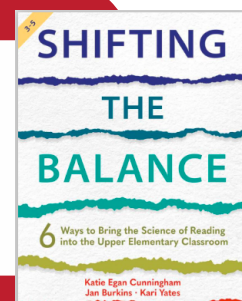
# Literacy “How to”

### Week Two: Gathering Information and Establishing Routines

- During this week: establish the routines and activities during the literacy time for students to become familiar with. Students will need time to practice each literacy activity. Some suggestions for literacy activities are: reading responses, vocabulary practice, word work, independent/partner writing, online portfolio updates/reflections, partner reading. These literacy activities would take approximately 20 minutes each depending on the stamina of your students.
- Practice each literacy activity as a whole class at least twice during the week.
- This week is an opportunity to assess student literacy behaviours and communication skills (notes can be taken on a clipboard with competency skill on top- blank room beside names for notes or simply proficiency). These competency focused observation sheets can be found on: <https://www.sd22learns.ca/middle-assessment>. Note any feedback given to students.
- This week establish the routine of a recurring interactive text experiences.

#### English Language Arts Competencies Example (Grade 6)

- **transform ideas and information**
- **thinking critically, creatively and reflectively**
- **respond to text**
- **exchange ideas and viewpoints to extend thinking**



#### For Interactive Text Experiences

Recurring interactive text experiences- choose one text for the week (example: *The Best Part of Me* by Wendy Ewald). Begin each literacy block with an interactive text experience.

Following these whole class activities students practice their literacy activities.

- **Monday**- access prior/background knowledge about the text. Read the text. Stop and define two-three vocabulary words that students might not know. (approx. 15-20 minutes)
- **Tuesday**- revisit background knowledge -what was new? Teacher reads again, modelling thinking aloud for one comprehension strategy (ex. connecting).
- **Wednesday** – fluency practice, students/teacher read the text together, either choral or echo reading. This activity could be done using a document camera or projector or multiple copies of the text.
- **Thursday** - word development lesson. If possible, choose a content specific word from text.
- **Friday**- reread text. Students talk about text, prompt in pairs, then write their response to the prompt. Competencies: planning, generating ideas, communicating ideas. Ex. *The Best Part of Me*: the prompt would be “what is the best part of you, explain why”.

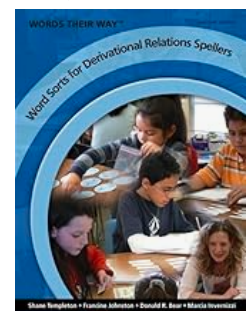


# Responsive Framework

## Literacy “How to”

### Week Three: Conferring and Gathering Assessments

- Choose a competency to focus on for the week- display visually for students to refer to. (ex. connecting)
- Recurring interactive text experiences- choose one text for the week (example: *Jabari Jumps* by Gaia Cornwall ). Begin each literacy block with an interactive text experience. Following these whole class interactive text experiences students practice their literacy activities.
- **Monday**- access prior/background knowledge about the text. Read the text. Stop and define two-three vocabulary words that students might not know. (approx. 15-20 minutes)
- **Tuesday**- revisit background knowledge -what was new? Teacher reads again, modelling thinking aloud for one comprehension strategy (ex. connecting)
- **Wednesday** – fluency practice, students/teacher read the text together, either choral or echo reading. This activity can be done using a document camera or projector or multiple copies of the text.
- **Thursday** - whole word development lesson. If possible, choose a content specific word from text.
- **Friday**- reread text- Students talk about text, prompt in pairs, then write their response to the prompt. Competencies: planning, generating ideas, communicating ideas. Students can respond to the text in a different way this week (such as practicing oral language skills by recording a video/audio on SeeSaw). For example: explain a moment where you had to persevere like Jabari.
- This week administer a spelling inventory (an assessment tool used to evaluate a student’s spelling abilities and understanding of word patterns) for students (for example *Words Their Way*). Assess the spelling inventory results to determine which spelling patterns each student requires additional instruction. Depending on student results, you may have to use the ELP (Early Learning Profile).
- Using the assessment data from the spelling inventory, provide students with the appropriate spelling practice based on their needs to be completed during the literacy activities. It is important to reassess students’ spelling skills throughout the year as needed.



# Responsive Framework

## Literacy “How to”

### Week Three: Conferring and Gathering Assessments cont.

- This week introduce choice for literacy activities. One idea is to have a weekly list of literacy activities for students to work on through out the week. Students can choose which activity they complete and when as long as all the activities that are starred/or highlighted are completed by the end of the week. Sample below:

<b>Practicing/Demonstrating Learning</b>
Reading Responses x3
Word Work x3
Writing (Plan, Draft, Revise)
Vocabulary Practice x3
Weekly Reflection onto online portfolio
Typing
Partner Reading/Writing

# Responsive Framework

## Literacy “How to”

### Week Three: Conferencing and Gathering Assessments cont.

- While students are working on their literacy activities independently, take time to confer one-on-one with students this week. Prioritize the students you are concerned about to gather more information. During the initial conference, after students read to you, focus on asking students about the type of books they like to read, strengths/stretches in reading and writing. Students choose one of these stretches for their literacy goal. Conferences can be short (approx. 5-10 minutes). With this format the teacher should have time for conferences with the entire class this week. Here is an example of a reading conference notes page:

#### Reading Conference

Goals • •	Student: Strengths • •	
Date Touch Point	Observation and Instruction	Next Steps to Meet Goal
Date		
Date		



### Week Four: Incorporating Intentional Writing Instruction

#### English Language Arts Competencies Example (Grade 6)

- **Access information and ideas for diverse purposes**
- **Use writing processes to plan, develop, create**
- **Assess and refine texts**
- **Construct meaningful personal connections**

- Choose a competency to focus on for the week—display visually for students to refer to (it could be the same focus for two weeks, ex. connecting).
- Recurring interactive text experiences—choose one text for the week (example: *The Most Magnificent Thing* by Ashley Spires)
- Begin each literacy block with an interactive text experience. Following these whole class interactive text experiences students practice their literacy activities.
- **Monday**— access prior/background knowledge about the text. Read the text. Prompt students with the question inspired by the text (generating ideas). For example: Describe a time where you felt disappointment like the girl from the text, *The Most Magnificent Thing*.
- **Tuesday**—revisit background knowledge —what was new? Teacher reads again. Teacher explains the focus for writing: planning. Model for students using a planning graphic organizer (see <https://www.sd22learns.ca/middle-years>). For one literacy activity students complete their own planning page. (see “Must Do/May Do example with writing see next page)
- **Wednesday** – draft day for writing. Teacher models writing your response to the prompt— using the planning page ideas from Tuesday. For one literacy activity students complete their draft in a writing notebook. We recommend encouraging students to skip every other line in their notebook to provide room for revisions.
- **Thursday** – revision day. Teacher models how to revise writing with students. For example Adrienne Gear’s 3, 2, 1, check it (see next page): fix 3 convention corrections (spelling, punctuation, grammar), 2 word wind ups (replace, erase, or add interesting words), 1 sentence shake up (make one sentence better). It is recommend to revise using a coloured pencil crayon so the teacher and students can see the revisions.
- **Friday**— celebration of writing! Students share their writing pieces in partners or groups of three. Encourage students to provide strength-based feedback (another opportunity to practice oral language skills). This could be an opportunity to co-create criteria with the class for the writing and have students use that to self-assess their writing. These assessments could be uploaded onto their online portfolio.

# Responsive Framework

## Literacy “How to”

### Week Four: Incorporating Intentional Writing Instruction

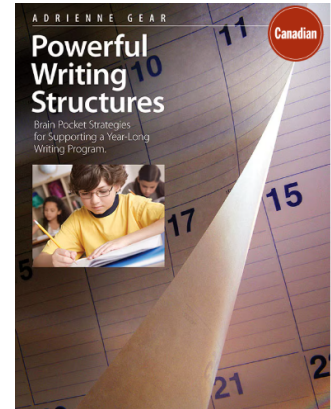
Sample Revision:

### 3, 2, 1 Check It!

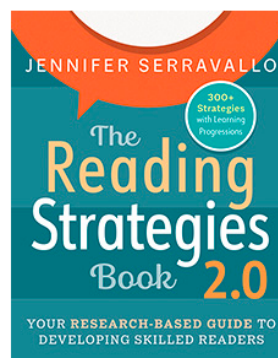
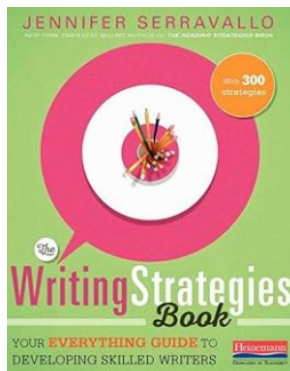
3 Convention Corrections: spelling, punctuation, spacing

2 Word Wind-Ups: add, erase, or replace

1 Sentence Shake-Up: add, erase, replace to make your sentence sound better



- During the literacy activity rotations, the teacher can confer with either individual students or small groups of students. The instructional focus for the small group of students should be skill or goal based, not based on levelled reading. Some skill-based ideas could be selecting a group of students that chose “fluency” as their reading goal to practice that skill. Another example, students that chose justifying with evidence as their writing goal. Jennifer Serravallo’s resource: *The Reading Strategies Book* or *The Writing Strategies Book* provide easy to use activities for these groups. The instructional focus for these groups could also be around word work/spelling. See example on next page.





## Responsive Framework

# Literacy “How to”

### Week Four: Incorporating Intentional Writing Instruction

## Sample Literacy Block Schedule:

Activity	Approximate Time
Whole Class Lesson - Interactive Text Experience	20-30 minutes
Literacy Rotation 1 Teacher confers with students, while remainder of students complete a literacy activity.	15-20 minutes
Literacy Rotation 2 Teacher confers with students, while remaining students complete a literacy activity.	15-20 minutes
Literacy Rotation 3 Teacher confers with students, while remainder of students complete a literacy activity.	15-20 minutes

## Responsive Framework

# Literacy “How to”

### Week Four: Incorporating Intentional Writing Instruction

#### Sample Week Plan with Conferring Groups:

#### Competency Focus: Connecting Text: *The Most Magnificent Thing* by Ashley Spires

Day	Lesson	Conferring Groups
Monday	Access prior/background knowledge about the text. Read the text. Prompt students with questions (ex. describe a time where you felt disappointment like the girl from the text)	<ul style="list-style-type: none"> <li>Comprehension group 1: Lesson 5.2 in “Reading Strategies Book”</li> <li>UFLI Group</li> <li>One on one conference: _____</li> </ul>
Tuesday	Revisit background knowledge - what was new? Teacher reads text again, modelling thinking aloud for one comprehension strategy (making connections). Model for students how to use the planning page.	<ul style="list-style-type: none"> <li>Word Work group 1: lesson on the prefix ‘anti’</li> <li>Writing group 1: lesson on generating ideas</li> <li>UFLI group</li> </ul>
Wednesday	Draft day for writing. Model writing your response to the prompt, using the planning page from yesterday.	<ul style="list-style-type: none"> <li>Comprehension group 2: Lesson 5.2 in “Reading Strategies Book”</li> <li>UFLI Group</li> <li>One on one conference: _____</li> </ul>
Thursday	Revision day. Model how to revise writing with students.	<ul style="list-style-type: none"> <li>Fluency group 1 lesson 4.1</li> <li>UFLI Group</li> <li>Word Work group 3: lesson on vowel patterns</li> </ul>
Friday	Celebration of writing! Students share their writing pieces in small groups. Students complete a peer assessment. Upload writing and reflection onto online portfolio.	<ul style="list-style-type: none"> <li>Fluency group 2 lesson 4.1</li> <li>Writing group 2: lesson on word choice</li> <li>One on one conference: _____</li> </ul>

## Responsive Framework

# Literacy “How to”

### Month Two: Multidisciplinary Approach

- Choose from the Big Ideas for your multidisciplinary approach (for example, incorporating science/art/careers into the literacy time). Science Gr 6 Big Idea: multicellular organisms rely on internal systems to survive, reproduce, and interact with their environment.
- During the month in the allocated Science/Art time here are some ideas:
- Create an inquiry/wonder wall of student generated questions- connect the science competencies where students can choose a question to explore and observe, hypothesize, and communicate their learning in a variety of ways. We recommend co-creating the assessment criteria for the inquiry before student begin the process.
- Art Ideas:
  - Encourage students to include an artistic representation of their learning that demonstrates art competencies (For example: Gr 6 take creative risks to express ideas)
  - Draw an animal with a new adaptation (Gr 6: create artistic works using ideas inspired by inquiry.

### Month Two Week One: Reading Focus Continued

#### English Language Arts Competencies Example (Grade 6)

**In addition to the competencies above:**

- **Apply appropriate strategies to comprehend**
- **Exchanging ideas and viewpoints**

- Choose competency focus for the next two weeks: (For example: questioning)
- Plan your groups/lessons for your conferring time.
- Recurring interactive text experiences- choose one nonfiction text for the week that connects to your science Big Idea (for example: we chose an informative YouTube video about multicellular organisms)
- **Monday**- access prior/background knowledge about the text. View the text. Stop and define two-three vocabulary words that students might not know. (approx. 15-20 minutes)
- **Tuesday**- revisit background knowledge -what was new? Teacher views text again, modelling thinking aloud for one comprehension strategy (ex. questioning).
- **Wednesday** – thinking about the topic from the text, teacher asks students what questions do they have? Think/Pair/Share. Teacher or students could record these questions and display them on a wonder wall/inquiry wall.
- **Thursday** - word development lesson. If possible, choose a content specific word from text or unit.
- **Friday**- re-watch text. Students talk about text, prompt in pairs, then write their response to prompt (competencies: planning, generating ideas, communicating ideas). For your prompt: choose one of your observations from the text and write about why you think the organism has that feature.
- The remainder of the literacy time continues with student selected literacy activities from the choice board, allowing time for the teacher to confer with students.

## Responsive Framework

# Literacy “How to”

### Month Two Week Two: Writing Focus

- Same competency focus for this week: questioning
- Plan your groups for your conferring time.
- Recurring interactive text experiences. Choose one text for the week that connects to your science focus. For this week try an art piece/visual (pixabay website, picture of the week from National Geographic, Co-Pilot can also generate images) For example:



- **Monday**- access prior/background knowledge about the text. Display the text. Prompt students with the question inspired by the text. (Generating Ideas) (for example: How do you think the animals are feeling in this image? What wonderings do you have?)
- **Tuesday**- revisit background knowledge -what was new? Teacher shows the image again. Teacher explains the focus for writing: planning. Model for students using a planning graphic organizer (see <https://www.sd22learns.ca/middle-literacy>). For one literacy activity students complete their own planning page. For example, the focus could be: write a short story based on the text, include how the animals are feeling.
- **Wednesday** -draft day for writing. Teacher models writing a response to the prompt using the planning page ideas from Tuesday. For one literacy activity students complete their draft in a writing notebook. We recommend encouraging students to skip every other line in their notebook to provide room for revisions.
- **Thursday** -revision day. Model how to revise writing with students. (for example Adrienne Gear’s 3, 2, 1, check it: fix 3 convention corrections, 2 word wind ups, 1 sentence shake up. It is recommend to revise using a coloured pencil crayon so the teacher and students can see the revisions.
- **Friday**- celebration of writing! Students share their writing pieces in partners or groups of three. Encourage students to provide strength-based feedback (practicing oral language skills). As a class co-create an assessment for this writing. Students can then do a self-assessment with the criteria, the teacher can also use this criteria to assess the students’ writing. Students can also upload their writing and assessment onto an online portfolio.



# Responsive Framework Literacy “How to”

## Month Two Week Three: Reading Focus

### English Language Arts Competencies Example (Grade 6)

In addition to the competencies above:

- **Synthesize ideas**
- **Recognize and appreciate different features and forms of text that reflect various messages**

- Choose competency focus for the next two weeks, for example: synthesizing.
- Plan your groups/lessons for your conferring time.
- Recurring interactive text experiences- choose one or two nonfiction texts for the week (for example: we chose two different infographics about how organisms interact with the environment from the following website:  
<https://www.mygreenworld.org/kids-corner/topics/category/infographic>

### BEES. WHY CARE?

WITHOUT POLLINATORS, THE WORLD WOULD BE LESS DIVERSE AND LESS DELICIOUS!

HONEY BEES ARE ESSENTIAL IN THE PRODUCTION OF VEGETABLES, FRUITS, LIVESTOCK FEED AND OILSEED.

- 80%** of flowering crops are pollinated by honey bees and other insects
- \$\$\$** No bees = a major food crisis. Rise in food prices. Big losses in agriculture & food industry
- To produce just a thimbleful of honey, bees visit between 60,000 & 90,000 flowers
- Back at the hive bees convert nectar to honey

#### THE POLLINATION CYCLE

1. Anthers produce & release pollen
2. Bees pick up pollen on their fuzzy bodies
3. Bees rub off the pollen onto another flower's stigma
4. The flower is pollinated
5. The flower becomes a fruit / vegetable
6. The fruit / vegetable produces a seed
7. The seed germinates
8. A new plant is grown and continues the cycle

#### WHAT YOU CAN DO

Plant more plants. For example, bees love lavender, rosemary, echinacea, sunflowers and catnip - Purchase honey and other bee products from local beekeepers.

### BIODIVERSITY. WHY CARE?

BIODIVERSITY IS SHORT FOR BIOLOGICAL DIVERSITY, AND IS THE TERM USED TO DESCRIBE THE VARIETY OF ALL LIFE ON EARTH: FROM GENES TO ECOSYSTEMS, AND THE ECOLOGICAL AND EVOLUTIONARY PROCESSES THAT SUSTAIN IT.

- High levels of biodiversity mean a healthy ecosystem.
- Biodiversity is usually explored at three levels - genetic diversity, species diversity and ecosystem diversity
- Genetic diversity is the genetic information and characteristics of individual organisms.
- Species diversity is the variety of species within an ecological community.
- Ecosystem diversity is the variety of ecosystems in a given place.
- All species are interconnected. They depend on one another.
- Biodiversity is under serious threat as a result of human activities.

Habitat Destruction    Natural Resource Exploitation    Urbanisation

#### WHAT YOU CAN DO

Plant native plants - Patrol wildlife areas - Pick up litter - Buy sustainable products - Avoid animal-based products

# Responsive Framework

## Literacy “How to”

### Month Two Week Three: Reading Focus Continued

- **Interactive Text Experience:**
- **Monday** -choose one of the two texts to look at today. Access prior/background knowledge about one text. View and map how the text is laid out. Stop and define two-three vocabulary words that students might not know. (approx. 15-20 minutes)
- **Tuesday** - revisit background knowledge -what was new? Teacher views the same text again, modelling thinking aloud for one comprehension strategy (ex. synthesizing). For example: summarize the text or what’s the main idea.
- **Wednesday** -using the second infographic, access prior/background knowledge about the text. Teacher reads second infographic (stopping at possible unknown vocabulary). Have students work with a partner and map the text together, what do they notice about how it is structured and summarize the text.
- **Thursday** -review both infographics. Think/Pair/Share compare/contrast how the infographics are laid out (mapping the text). Think/Pair/Share compare/contrast the information/summaries for each. Students can fill out a compare/contrast graphic organizer for either/both prompts to plan for tomorrow’s write.
- **Friday** - review texts. Synthesize the information from both texts. Using the graphic organizers from yesterday, students can write a short paragraph comparing/contrasting the texts.

## Responsive Framework

# Literacy “How to”

### Month Two Week Four: Writing Focus

- Same competency focus for this week: synthesizing
- Plan your groups/lessons for your conferring time.
- For this week we recommend choosing two texts, one fiction and one nonfiction focusing on the science topic chosen. We generated two reading passages using Co-Pilot about animal adaptations to align to our science content (see next page).
  
- **Monday**- access prior/background knowledge about one of the texts. Read the text. Prompt students with the question inspired by the text (for example: what was important/what did you notice about the story?)
- **Tuesday**-access prior/background knowledge about the second text. Read the second text. Prompt students with the question inspired by the text (for example: What was important/what did you notice about the text?)
- **Wednesday** -revisit each text. Teacher explains the focus for writing: planning. Model for students using a planning compare/contrast graphic organizer. These graphic organizers can be found on sd22 learns, <https://www.sd22learns.ca/middle-years>. For one literacy activity students complete their own planning page. For example, the focus could be describe the animals’ special abilities and how these help them in their daily lives.
- **Thursday** -draft day for writing. Model writing your response to the prompt- using the planning page ideas from Wednesday. For one literacy activity students complete their draft in a writing notebook. We recommend encouraging students to skip every other line in their notebook to provide room for revisions.
- **Friday** -celebration of writing and/or revision. Students share their writing pieces in partners or groups of three. Encourage students to provide strength-based feedback (practicing oral language skills). We suggest encouraging students to upload their writing onto an online portfolio.

### Month Two Week Four: Writing Focus Continued

#### Co-Pilot Generated Text #1 (Fiction):

In the lush, green forest of Evergreen Valley, there lived a clever chameleon named Charlie. Charlie had a special ability: he could change his color to blend in with his surroundings. This made him the best hide-and-seek player in the entire forest! One sunny day, Charlie's friend, Bella the butterfly, fluttered by. "Charlie, have you ever wondered why we have these special abilities?" she asked.

Charlie thought for a moment. "I guess it's to help us survive," he said. "Like how I can hide from predators by changing my color."

Bella nodded. "Exactly! My bright colors warn predators that I'm not tasty to eat. And our friend, Sammy the squirrel, has a bushy tail that helps him balance when he jumps from tree to tree."

Just then, Sammy scampered over, his tail flicking behind him. "Hey, did you know that my tail also keeps me warm in the winter?" he said proudly.

"Wow, that's amazing!" Bella exclaimed. "And what about Ollie the owl? His silent wings help him sneak up on his prey at night."

As they chatted, they noticed their friend, Tina the turtle, slowly making her way towards them. "Hi, everyone," Tina said. "My shell protects me from danger. It's like carrying a shield everywhere I go!"

The friends realized that each of their unique adaptations helped them survive in their environment. They decided to explore the forest together, appreciating how their special traits made them perfectly suited for life in Evergreen Valley. And so, Charlie, Bella, Sammy, Ollie, and Tina continued their adventures, always learning more about the amazing ways animals adapt to their surroundings. They knew that their abilities were not just cool tricks, but essential parts of their lives in the wonderful world of nature.

## Responsive Framework

# Literacy “How to”

### Month Two Week Four: Writing Focus Continued

#### **Co-Pilot Generated Text #2 (Non-Fiction):**

In the vast and diverse world of nature, animals have developed amazing adaptations to survive and thrive in their environments. Let's explore some fascinating examples!

The Arctic is freezing cold, which is why the polar bear has thick fur, and a layer of fat called blubber. These adaptations keep it warm in the icy waters and on the snowy land. Polar bears also have large paws that help them walk on the snow without sinking and swim long distances to hunt for seals.

In the hot, dry desert, the camel is a true survivor. Camels have long eyelashes and bushy eyebrows to protect their eyes from sand. They can go for days without water because they store fat in their humps, which can be converted into water and energy when needed. Their wide, padded feet help them walk on the hot sand without sinking.

You may know, the sloth moves very slowly in the rainforest. This might seem strange, but it's actually a clever adaptation. By moving slowly, sloths use less energy and are less likely to be noticed by predators. Their long claws help them hang from tree branches, and their greenish fur blends in with the leaves, providing excellent camouflage.

In the ocean, the octopus is a master of disguise. It can change its color and texture to blend in with its surroundings, making it nearly invisible to predators and prey. The octopus also has eight flexible arms that help it catch food and explore its underwater world.

These are just a few examples of how animals adapt to their environments. Each adaptation helps them survive in their unique habitats, showing us the incredible ways nature works to ensure life continues in every corner of the Earth.



## Responsive Framework

# Literacy “How to”

### Continuing: New Multidisciplinary Focus

- Each month consider incorporating different Social Studies or Science content into the literacy block.
- Continue to follow the same outline as Month Two, with new Social Studies/Science texts.

## Responsive Framework

# Numeracy “How to”

### Setting the Stage

- Review EdPlan data. Who are my students as learners? What are their strengths and stretches? Who are my Indigenous students? Who are my students on IEPs? What other vulnerable/priority students are in my classroom?
- In EdPlan review your numeracy screener data; what should be my focus for my numeracy instruction? Which content areas require extra attention/focus? Are there foundational skills required before that?
- How will you establish your numeracy routines?
- Review the numeracy learning pathways- what will be the focus for your students?
- Gather numeracy classroom supplies: non-permanent vertical surfaces, mini whiteboards, manipulatives (online manipulatives: Polypad), deck of cards, dice.
- How will you use your EA support? Once you get your EA schedule, you may want/need to adjust your schedule. – set up a routine where the EA works with a small group on an activity/games, the EA does not always need to support the emerging students (sometimes it’s best if the classroom teacher supports the most vulnerable students with targeted instruction, while the EA works with other students)

### Week One: Establishing Your Classroom Environment, Relationships and Connecting

- Establish group norms for whole class/small group/individual (Personal Awareness/Responsibility) Co-create a class charter.
- An important aspect of creating your classroom environment is helping students to understand the importance of a growth mindset. There are several helpful growth mindset resources on SD22 learns: <https://www.sd22learns.ca/middle-years>. Youcubed from Stanford Education has wonderful mindset boosting videos to use in your numeracy classroom: <https://www.youcubed.org/resource/mindset-boosting-videos/>

## Responsive Framework

# Numeracy “How to”

### Week One: Establishing Your Classroom Environment, Relationships and Connecting

- Discuss what it means to be an engaged learner in the numeracy classroom. Co-create a rubric with the students. Display these rubrics on the vertical surfaces students will be working on. Students can complete a reflection at the end of the week about how their engagement in the numeracy classroom. Here is an example:

#### Engaged Learner in Numeracy



Talking about other things	Talking about math
Not looking at the math	Focused on the math
Thinking about other things	Thinking about math
Doodling on the board	Writing/drawing math
Giving up right away	Persevering (keep trying new ways)
Not listening to others	Listening to others
Fixed Mindset	Growth Mindset

## Responsive Framework

# Numeracy “How to”

### Week Two: Gathering Information and Establishing Routines

#### Numeracy Competencies Example (Grade 6)

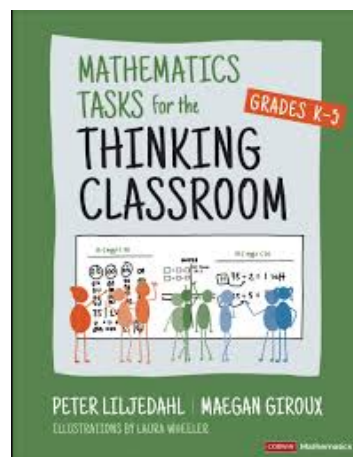
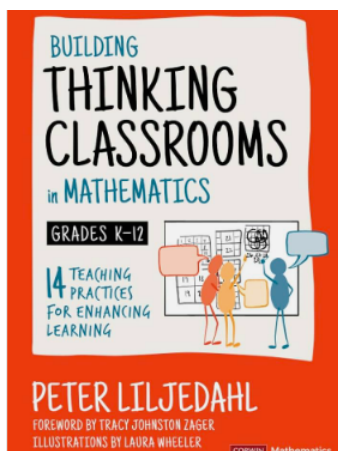
- Communicating mathematical thinking in many ways
- Explaining and justifying mathematical ideas and decisions
- Use mathematical language and vocab to contribute to mathematical discussions

- Select a competency as a focus for the week (ex. communication). What does it look like to communicate proficiently in the numeracy classroom (whole class/small groups). Display competency goal where it's visible for students. At the end of the week students reflect on how they did with their competency. Reflection could be done on an online portfolio.
- During this week: establish the routines during the numeracy time for students to become familiar with. First routine to establish is instructional numeracy routines. Here is a link to a variety of instructional numeracy routines: <https://www.sd22learns.ca/middle-numeracy>. We would suggest choosing 'Estimation 180', <https://estimation180.com/>, as the first instructional routine for the week. Start the numeracy block with this routine every day. These instructional routines can take between 10-15 minutes.
- After examining your numeracy screener data, you have chosen a concept area to focus on. Most foundational numeracy skills require a deep understanding of place value and number sense. So for this example, we chose to focus the beginning of the school year on number sense. This week administer the number sense question called 'Empty Boxes' from the grade 6 numeracy screener. Numeracy screeners can be found at: <https://www.sd22learns.ca/middle-numeracy>. Look at the results of the 'Empty Boxes' question: where are your students at, what needs to be the focus for your instruction? Do some students need to be given a different screener question (from a different grade?)

# Numeracy “How to”

## Week Two: Gathering Information and Establishing Routines

- Introduce vertical surface math. We highly recommend using Peter Liljedahl’s resource to gain a deeper understanding of the value of vertical surface math. The diagram below provides some information about the key concepts of vertical surface math.
- When starting vertical surface routines, begin with non-curricular thinking tasks. Liljedahl describes these tasks as problem solving activities and mental puzzles that, early on in the school year, should be “highly engaging, non-curricular tasks” to motivate students and get them in the mindset of challenging themselves.
- For more information about Building Thinking Classrooms please visit the “Thinking Classrooms” section on sd22learns.
- Liljedahl has a collection of these tasks on his website: <https://www.peterliljedahl.com/teachers> and also on: <https://www.buildingthinkingclassrooms.com/btc-tasks>. For more tasks visit Youcubed: <https://www.youcubed.org/tasks/>. The University of Waterloo also has grade level problem of the week questions: <https://cemc.uwaterloo.ca/resources/potw-archive>
- In a "Building Thinking Classroom" approach, consolidation at the end of the task is crucial because it allows teachers to synthesize student learning from various activities and discussions, effectively solidifying their understanding of a concept by bringing together parts into a cohesive whole, rather than simply telling them what they should have learned; this fosters deeper learning.
- Key points about consolidation in Building Thinking Classrooms:
  - Student-centered approach
  - Identifying learning gaps
  - Promoting critical thinking
  - Building connections between concepts through different perspectives
  - Assessment opportunity





## Responsive Framework

# Numeracy “How to”

### Week Two: Gathering Information and Establishing Routines

- Introduce numeracy games this week. Youcubed has a collection of high quality numeracy games: <https://www.youcubed.org/?s=math+games>
- This week is an opportunity to assess student numeracy behaviours and communication skills (notes can be taken on a clipboard class list with competency skill on top- blank room beside names for notes or simply proficiency). These competency focused observational assessment tools can be found on: <https://www.sd22learns.ca/middle-assessment>. Note any feedback given to students. Here is an example of one:

#### Communication in Numeracy Tasks



Quiet	Actively sharing ideas
Partially explains their process	Describes their problem-solving
Not listening to others' ideas	Listening to the group
Can't defend decisions	Presents a logical argument

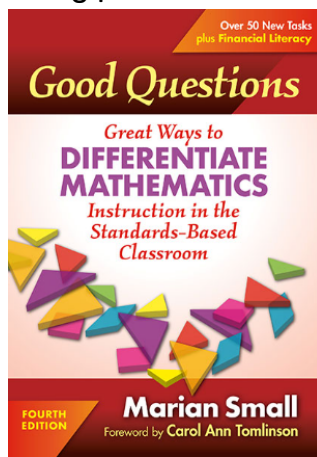
Name	Observations	Name	Observations

# Responsive Framework

## Numeracy “How to”

### Week Three: Conferring and Gathering Assessments

- Choose a competency to focus on for the week- display visually for students to refer to. (ex. connecting)
- This week, introduce individual practice. Provide a variety of levels of practice work (could be multiple questions, increasing in difficulty on the board mild, medium, spicy or task cards). Some helpful resources for levelled questions are: *Mathology*, *Good Questions* by Marian Small and *Open Questions* by Marian Small.
- Looking at the screener data you administered and observations so far- target instruction based on student needs. Could be small group or individual.
- For your vertical surface task introduce thin-slicing this week in addition to curricular tasks. In the context of "Building Thinking Classrooms," thin slicing refers to a teaching strategy where a teacher presents a series of small, progressively more challenging problems or tasks ("slices") to students, allowing them to gradually build understanding of a concept by working through each increment, starting with a very accessible entry point and gradually increasing complexity; essentially, making quick inferences about student learning based on small, carefully selected pieces of information.
- Begin with reviewing place value concepts in grade 6: how to show numbers in a variety of ways. To represent the value of numbers in different ways, you can use methods like: standard form (the typical way of writing numbers), word form (writing the number in words), expanded form (showing the value of each digit based on place value), and visual representations (like number lines, place value charts, or base ten blocks); all of which help to understand the place value of each digit within a number. An example of representing numbers in different ways using thin-slicing could be:  
45 689  
345 189  
2 347 892  
4 237 659 210
- The next thin-slicing practice could include decimals.



# Responsive Framework

## Numeracy “How to”

### Week Three: Conferring and Gathering Assessments

#### Sample Numeracy Schedule: Monday

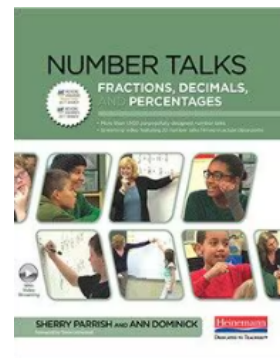
Learning Experience	Assessment	Time
<p><b>Instructional Routine:</b> Slow Reveal Graph (<a href="https://slowrevealgraphs.com/">https://slowrevealgraphs.com/</a>)</p>	<p>Observations, listening to what students are saying</p>	<p>10-15 minutes</p>
<p><b>Vertical Surface Task:</b> Thin-slicing (representing numbers in different ways: standard form, word form, visual representation) Review with students first. Say the first number orally students will represent. Once completed students are given the next number. Number order: 45 689, 345 189, 2 347 892, 237 658 267</p>	<p>Clipboard observations, focusing on the competency you are focusing on.</p>	<p>25-30 minutes</p>
<p><b>Individual Practice and Math Games:</b> Divide class into two groups (if students are at numbered vertical surfaces an easy way to divide is to have groups at odd numbers start at individual practice and groups at even numbers start at math games). Then they switch. During this time confer with groups of students or individual students. Students to confer with today: ----- -----</p>	<p>Conferring, self-assessment based on concept (online portfolio posts, photos, check in assessments), summative assessment, readiness</p>	<p>Two 15-20-minute rotations</p>

## Responsive Framework

# Numeracy “How to”

## Sample Numeracy Schedule:

### Tuesday



Learning Experience	Assessment	Time
<p><b>Instructional Routine:</b>            Number Talk            (<a href="https://mathforlove.com/lesson/number-talks/">https://mathforlove.com/lesson/number-talks/</a>)</p>	<p>Observations,            listening to what            students are saying</p>	<p>10-15 minutes</p>
<p><b>Vertical Surface Task:</b>            The film, Despicable Me 4, made \$27 million on its first day and \$20.4 million on its second. It went on to debut to \$75 million over the traditional three-day weekend, along with a total five-day gross of \$122.6 million, topping the box office. The film made \$43.6 million the following weekend, remaining in first place.</p> <p>How much did the movie earn in the first two weeks?            What’s the difference between the earnings in the first and second week?</p>	<p>Clipboard observations,            focusing on the competency you are focusing on.</p>	<p>25-30 minutes</p>
<p><b>Individual Practice and Math Games:</b>            Divide class into two groups. One group will go to independent practice, the other group will go to math games. Then they switch.            During this time confer with groups of students or individual students.            Students to confer with today:            _____            _____</p>	<p>Conferring, self-assessment based on concept (seesaw photos, check in assessments), summative assessment, readiness</p>	<p>Two 15–20-minute rotations</p>

# Responsive Framework

## Numeracy “How to”

### Sample Numeracy Schedule: Wednesday

Learning Experience	Assessment	Time
<p><b>Instructional Routine:</b> Slow Reveal Graph (<a href="https://slowrevealgraphs.com/">https://slowrevealgraphs.com/</a>)</p>	<p>Observations, listening to what students are saying</p>	<p>10-15 minutes</p>
<p><b>Vertical Surface Task:</b> Thin-slicing (representing numbers in different ways: standard form, word form, visual representation) Review with students first. Say the first number orally students will represent. Once completed students are given the next number. Number order: 125.1, 3 478.15, 45 239.04, 3 456 741.123</p>	<p>Clipboard observations, focusing on the competency you are focusing on.</p>	<p>25-30 minutes</p>
<p><b>Individual Practice and Math Games:</b> Divide class into two groups. One group will go to independent practice, the other group with go to math games. Then they switch. During this time confer with groups of students or individual students. Students to confer with today: ----- -----</p>	<p>Conferring, self-assessment based on concept (seesaw photos, check in assessments), summative assessment, readiness</p>	<p>Two 15-20-minute rotations</p>

# Responsive Framework

## Numeracy “How to”

### Sample Numeracy Schedule: Thursday

Learning Experience	Assessment	Time
<p><b>Instructional Routine:</b> Number Talk (<a href="https://mathforlove.com/lesson/number-talks/">https://mathforlove.com/lesson/number-talks/</a>)</p>	<p>Observations, listening to what students are saying</p>	<p>10-15 minutes</p>
<p><b>Vertical Surface Task:</b> Once a week, try to include a cross-curricular numeracy task. This one focuses on population rate and migration. Students are asked to determine the total population of the region after one year, five years, and ten years. Initial population: 75 000 Annual Growth Rate: 3000 Annual Migration: 700 people moving in, 400 people moving out.</p>	<p>Clipboard observations, focusing on the competency you are focusing on.</p>	<p>25-30 minutes</p>
<p><b>Individual Practice and Math Games:</b> Divide class into two groups. One group will go to independent practice, the other group with go to math games. Then they switch. During this time confer with groups of students or individual students. Students to confer with today: ----- -----</p>	<p>Conferring, self-assessment based on concept (seesaw photos, check in assessments), summative assessment, readiness</p>	<p>Two 15-20-minute rotations</p>

# Responsive Framework

## Numeracy “How to”

### Sample Numeracy Schedule:

#### Friday

Learning Experience	Assessment	Time
<p><b>Instructional Routine:</b> Estimation 180 (review and repeat other instructional routines explored)</p>	<p>Observations, listening to what students are saying</p>	<p>10-15 minutes</p>
<p><b>Vertical Surface Task:</b> Mr. Sand is going on a trip to the beach. The total distance to the beach is 263 km. His car has a 60 L gas tank and can travel 640 000 m on that tank of gas. Suppose that there are two service stations available to Mr. Sand. Station A charges \$40 for 25 L of gas, while Station B charges \$51 for 30 L of gas. Determine the cost of the gas for his trip if he fills up at Station A versus the cost if he fills up at Station B. Which is the more economical? (Credit to University of Waterloo Problem of the Week)</p>	<p>Clipboard observations, focusing on the competency you are focusing on.</p>	<p>25-30 minutes</p>
<p><b>Individual Practice and Math Games:</b> Divide class into two groups. One group will go to independent practice, the other group with go to math games. Then they switch. During this time confer with groups of students or individual students. Students to confer with today: ----- -----</p>	<p>Conferring, self-assessment based on concept (seesaw photos, check in assessments), summative assessment, readiness</p>	<p>Two 15-20-minute rotations</p>



## Responsive Framework

# Numeracy “How to”

- Set aside some time during the week to have students complete a self-reflection on the competency focused on the week. Students can post these reflections on their online portfolios and set a goal for the next week.
- As you observe and confer with students in the coming weeks, decide when it’s time to re-administer the ‘Empty Boxes’ task of the screener or another form of summative assessment. Use this information to decide whether or not to move on to new concept (not all students need to reach proficiency before moving on, they can still get there by the end of the year; however, if the majority of your students are not proficient more time needs to be spent on the concept). Make a note of which students did not reach proficiency at this time so you can provide the assessment again at a later date.