Observer Name: _____

Date: _____ Time of day: _____

Teacher: _____

Length of lesson:_____mins. Lesson interrupted: Yes ☐ No ☐

Boys: _____ Girls:_____ Control Classroom ☐ Experimental Class ☐

Lesson Focus/ Topic: _____

Physical Context

Computer Lab ☐ Stations/Centres ☐ Technology Centre ☐

Physical Environment

Heating Appropriate ☐ Inappropriate ☐ _____
Lighting Appropriate ☐ Inappropriate ☐ _____
Space Appropriate ☐ Inappropriate ☐ _____
Background noise Appropriate ☐ Inappropriate ☐ _____
Unobstructed view of teacher Appropriate ☐ Inappropriate ☐ _____
Unobstructed view of tools Appropriate ☐ Inappropriate ☐ _____

Classroom Management

Organisation of classroom Appropriate ☐ Inappropriate ☐ _____
Tone/approachability of teacher Appropriate ☐ Inappropriate ☐ _____
Teacher's voice projection Appropriate ☐ Inappropriate ☐ _____
Order in classroom Appropriate ☐ Inappropriate ☐ _____
Clarity of expectations Appropriate ☐ Inappropriate ☐ _____

Technology Use

Software loading time Appropriate ☐ Inappropriate ☐ _____
Teacher's comfort level Appropriate ☐ Inappropriate ☐ _____
Students' comfort level Appropriate ☐ Inappropriate ☐ _____
Engagement of teacher Appropriate ☐ Inappropriate ☐ _____
Engagement of students Appropriate ☐ Inappropriate ☐ _____

Time taken before actual teaching began: _____ minutes

Actual time taken on teaching/learning activities: _____minutes

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Number Concept Activities

I. **Counting**

a. How much time was spent on counting activities?
___1-5 min
___5-10 min
___10-15 min
___More than 15

Technology used: Y N

Computers ☐ Tablets (e.g. iPads) ☐

How many? _____

Smartboard ☐ Other _____

Software/website(s)_____

b. If counting in ELM, which activities did students do?

Activity 1 ☐ Activity 2 ☐ Activity 3 ☐ Activity 4 ☐ Activity 5 ☐

c. Did the teacher integrate ideas from the ELM lesson plan (short, activity 1)? Yes ☐ No ☐

d. Did the teacher use the consolidation questions offered in the LP for discussion? Yes ☐ No ☐

e. Did the students experience technical problems? _____

f. If not counting in ELM, what type of counting activities did you see? (Mark all that apply)
___ counting physical objects
___ keeping record while counting
___ one-to-one counting/enumeration
___ counting up/down
___ counting by twos, etc
___ applying ordinal terms
___ associating numeral with a count of objects

What other types of counting activities did you see?
_____

_____

g. What types of errors did students make?
_____

_____

h. How did teacher address these errors?
_____

_____

II. **Comparing**

a. How much time was spent on comparing activities?
___1-5 min
___5-10 min
___10-15 min
___More than 15

Technology used: Y N
Computers ☐ Tablets (e.g. iPads) ☐
How many? _____
Smartboard ☐ Other _____
Software/website(s)_____

b. If comparing in ELM, which activities did students do?

Activity 1 ☐ Activity 2 ☐ Activity 3 ☐ Activity 4 ☐

c. Did the teacher integrate ideas from the ELM lesson plan (short, activity 1)? Yes ☐ No ☐

d. Did the teacher use the consolidation questions offered in the LP for discussion? Yes ☐ No ☐

e. Did the students experience technical problems? _____

f. If not comparing in ELM, what type of comparing activities did you see? (Mark all that apply)
___ determining whether cardinalities are the same
___ determining which cardinality is smaller/bigger
___ practicing different ways of saying/writing that cardinalities are the same, bigger or smaller
___ comparing neighbouring numbers
___ playing games that involve keeping score
___ mental comparison of number words

What other types of comparing activities did you see?
_____

_____

g. What types of errors did students make?
_____

_____

h. How did teacher address these errors?
_____

_____

III. **Adding**

a. How much time was spent on adding activities?
___1-5 min
___5-10 min
___10-15 min
___More than 15

Technology used: Y N
Computers ☐ Tablets (e.g. iPads) ☐
How many? _____
Smartboard ☐ Other _____
Software/website(s)_____

b. If adding in ELM, which activities did students do?

Activity 1 ☐ Activity 2 ☐ Activity 3 ☐ Activity 4 ☐

c. Did the teacher integrate ideas from the ELM lesson plan (short, activity 1)? Yes ☐ No ☐

d. Did the teacher use the consolidation questions offered in the LP for discussion? Yes ☐ No ☐

e. Did the students experience technical problems? _____

f. If not adding in ELM, what type of adding activities did you see? (Mark all that apply)
___ determining the missing addend by adding objects
___ counting on or up (using a finger pattern, etc)
___ solving problems based on part-whole understanding
___ writing equations representing adding

What other types of adding activities did you see?
_____

_____

g. What types of errors did students make?
_____

_____

h. How did teacher address these errors?
_____

_____

IV. **Subtracting**

a. How much time was spent on subtraction activities?
___1-5 min
___5-10 min
___10-15 min
___More than 15

Technology used: Y N
Computers ☐ Tablets (e.g. iPads) ☐
How many? _____
Smartboard ☐ Other _____
Software/website(s)_____

b. If subtracting in ELM, which activities did students do?

Activity 1 ☐ Activity 2 ☐ Activity 3 ☐ Activity 4 ☐ Activity 5 ☐

c. Did the teacher integrate ideas from the ELM lesson plan (short, activity 1)? Yes ☐ No ☐

d. Did the teacher use the consolidation questions offered in the LP for discussion? Yes ☐ No ☐

e. Did the students experience technical problems? _____

f. If not subtracting in ELM, what type of subtraction activities did you see? (mark all that apply)
___ removing objects from a pile
___ counting down (using a finger pattern, etc)
___ solving problems based on part-whole understanding
___ writing equations representing subtraction

What other types of subtraction activities did you see?
_____

_____

g. What types of errors did students make?
_____

_____

h. How did teacher address these errors?
_____

_____

V. Decomposing

a. How much time was spent on decomposing activities?
___1-5 min
___5-10 min
___10-15 min
___More than 15

Technology used: Y N
Computers ☐ Tablets (e.g. iPads) ☐
How many? _____
Smartboard ☐ Other _____
Software/website(s)_____

b. If decomposing in ELM, which activities did students do?

Activity 1 ☐ Activity 2 ☐ Activity 3 ☐ Activity 4 ☐

c. Did the teacher integrate ideas from the ELM lesson plan (short, activity 1)? Yes ☐ No ☐

d. Did the teacher use the consolidation questions offered in the LP for discussion? Yes ☐ No ☐

e. Did the students experience technical problems? _____

f. If not decomposing in ELM, what type of decomposing activities did you see? (Mark all that apply)
___ finding all pairs of numbers that sum to a given number
___ solving problems based on part-whole understanding
___ writing equations representing a decomposition of a number
___ addressing recognition of either or both the vertical or horizontal pattern in a table of decompositions of a number

What other types of decomposing activities did you see?
_____

_____

g. What types of errors did students make?
_____

_____

h. How did teacher address these errors?
_____

_____

VI. Place Value

a. How much time was spent on place value activities?
___1-5 min
___5-10 min
___10-15 min
___More than 15

Technology used: Y N
Computers ☐ Tablets (e.g. iPads) ☐
How many? _____
Smartboard ☐ Other _____
Software/website(s)_____

b. If doing place value in ELM, which activities did students do?

Activity 1 ☐ Activity 2 ☐ Activity 3 ☐ Activity 4 ☐

c. Did the teacher integrate ideas from the ELM lesson plan (short, activity 1)? Yes ☐ No ☐

d. Did the teacher use the consolidation questions offered in the LP for discussion? Yes ☐ No ☐

e. Did the students experience technical problems? _____

f. If not decomposing in ELM, what type of decomposing activities did you see?

_____

_____

g. What types of errors did students make?

_____

_____

h. How did teacher address these errors?

_____

_____

Motivation/engagement/enthusiasm

1. Are students engaged by Math activities? How do they show this?

_____

_____

2. Is the teacher enthusiastic about teaching Math? How does s/he show this?

_____

_____

Implementation Check (some items apply to non-ELM Math instruction)

On a scale of 1 to 5, where 1 means "strongly disagree" and 5 means "strongly agree", rate the following items

1. Students were able to effectively navigate ELM. _____

2. Teaching support was adequate. _____

What support/scaffolding was provided as students used ELM? _____

_____

_____

3. Students provided support for each other. _____

How did they support each other? _____

_____

4. The ELM activity/activities were related to other activities. _____

5. Teacher used mathematical language when giving instruction. _____

6. Teacher provided clear directions. _____

7. Teacher grouped students appropriately if applicable (*e.g.*, ability level etc). _____

8. Teacher circulated and provided feedback. _____

9. Teacher reacted to the ELM "softlock" and attempted to help a student. _____

10. Teacher reinforced Math concepts and skills. _____

11. Teacher allowed the students who mastered the basics taking more challenging tasks. _____

What types of additional tasks were these? If ELM additional activity(ies) were used, please name them

_____

12. Teacher took initiative to check on student understanding during instructional time. _____

13. Teacher took initiative to check on progress during work time. _____

14. Teacher encouraged student dialogue during activities. _____

15. Teacher encouraged class discussion to consolidate the students' learning. _____

What kinds of techniques did teachers use to involve students? (*i.e.*, questioning, etc.)

_____

What types of student-to-student interactions were there?

_____

_____

Teacher comments on ELM experiences

_____

_____

_____

_____

_____

_____

_____

Student comments on ELM experiences

_____

_____

_____

_____

_____

_____

_____

_____

Overall Quality of Teaching and Student Engagement:

"When observing this classroom, I see the following happening…" (Circle the appropriate response)

1	Not at all	*- Students are not attending to the task at hand. They are distracted and off-task.* *- There is a lot of disruption and movement not related to the activity.* *- The teacher cannot get the children to remain on task.*
2	Occasionally	*- Students occasionally attend to the given task.* *- There is occasional disruption and movement not related to the activity.* *-Occasionally, when the students are off task the teacher is able to refocus the group with some effort.*
3	Somewhat	*- Some students are attending to the given task.* *- There is little off task behaviour.* *- The teacher is able to guide students through the lesson with minimal diversions from the task.*
4	Mostly	*- Most students are attending to the given task.* *- There is minimal or no off-task behaviour* *- The teacher is able to guide students through activities effectively.*
5	Adequately	*- All students are involved in the given task.* *- There is no off task behaviour.* *- The children are discussing the task on their own with little or no prompting from the teacher.* *- The students are providing the teacher with new directions in which to go by actively participating in the discussions and are providing the teacher with feedback.*

Other comments: _____

_____

_____

Inter-rater reliability: How often did my colleague and I score or note similar activities while watching the same lesson?
0-20% of the time ☐ 20-40% ☐ 40-60% ☐ 60-80% ☐ 80-100% ☐

Colleague's name: _____ Signature: _____

Date:_____

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