Coaching "Look For" Examples

Instruction

Modeling

Clear Explanation (what evidence is present during instruction?)

4 The teacher provides clear demonstrations/ explanations of proficient performance	**3**	**2** The teacher does not provide clear demonstrations/ explanations of proficient performance.	**1**	**0** The teacher does not provide any demonstrations/ explanations of proficient performance.

***Modeling:* The teacher models the steps for solving a problem and involves the students in this modeling.**

- Modeling may start with a statement of the goal of the lesson and why this work is important. (That is, the teacher may identify a specific learning outcome.)
- The teacher models steps for solving a problem. This could involve using a checklist.
- The model (i.e., explanation) is correct, clear, and concise.
- While modeling the steps, the teacher uses precise mathematical language.
- During modeling, the students are active participants. They answer questions posed by the teacher. The teacher provides feedback.

Planned Examples (what evidence is present during instruction?)

4 All examples or materials selected are aligned to the stated or implied goal.	**3**	**2** Some examples or materials are aligned to the stated or implied goal; OR examples and materials are somewhat aligned to the stated or implied goal.	**1**	**0** Examples or materials selected are not aligned to the stated or implied goal.

***Planned examples*: Pre-selected problems aligned with the lesson's outcome.**

- The teacher provides examples that move from easier problems to more difficult problems.
- Planned example may include non-examples or worked examples. (This is not mandatory.)
- The teacher models using multiple planned examples.
- Guided practice uses planned examples.

Practice

Guided (what evidence is present during instruction?)

4 Guided practice is focused on the application of skills or strategies related to the stated or implied goal.	**3**	**2** Guided practice is somewhat focused on the application of skills or strategies related to the stated or implied goal.	**1**	**0** Guided practice is not focused on the application of skills or strategies related to the stated or implied goal.

***Guided practice*: The teacher and students work on math problems together. The teacher should be working on the same math problems as the student.**

- The teacher and students use the modeled steps (see Modeling) to provide appropriate prompts for working through a problem.
- The teacher provides immediate feedback to students.
- The teacher may do all of a problem with the students. The teacher may do some of a problem with the students (i.e., gets the students started on a problem and students work in pairs or individually to finish the problem).
- Guided practice provides scaffolded support for students.

Independent (what evidence is present during instruction? How prepared were the students for independent practice?)

4 The teacher systematically withdraws support as the students move toward independent use of the skills.	**3**	**2** The teacher withdraws support, but it is not withdrawn systematically.	**1**	**0** The teacher does not withdraw support; OR the teacher provides very limited support and then abruptly withdraws it.

***Independent practice*: Students practice individually with teacher support.**

- The teacher may review expectations and resources for meeting the learning outcome.
- The independent practice should align with the same skill from modeling and guided practice.
- The teacher provides feedback, when necessary.
- The teacher gives mini-reminders, when necessary.

Supporting Practices

Asking the right questions (what evidence is present during instruction?)

4 The teacher **consistently** asks both high and low-level questions **throughout the lesson**.	**3**	**2** The teacher **occasionally** asks both high and low-level questions throughout the lesson.	**1**	**0** The teacher **does not** ask both high and low-level questions throughout the lesson.

***Asking the right questions:* Teacher asks a mix of higher-level (i.e., How? Why?) and lower-level (i.e., What?) questions.**

- The teacher asks lower-level, easier questions to do brief checks for understanding.
- The teacher asks higher-level questions to develop a deep understanding of math.
- The teacher asks questions that are phrased appropriately.
- The teacher avoids rhetorical questions (i.e., Does that make sense? Do you understand?).

Eliciting frequent responses (what evidence is present during instruction?)

4 The teacher **consistently** checks for understanding **throughout the lesson.**	**3**	**2** The teacher only checks **some students** for understanding; **OR** the teacher does **not consistently** check for understanding throughout the lesson.	**1**	**0** The teacher does **no or very minimal** checking for understanding.

***Eliciting frequent responses:* Teacher engages students by providing prompts and asking questions during modeling and guided practice.**

- The teacher may use turn-and-talks.
- The teacher may ask questions and wait for response from one or multiple students.
- Student responses may be verbal, written, or physical (e.g., pointing or showing).
- The teacher may ask open-ended questions with many possible responses.
- The teacher may ask for choral responses (e.g., Ask for everyone's response after a signal).
- The teacher may use hand signals (e.g., teacher asks question and gets responses with thumbs up, first-to-five).
- Students may respond using whiteboards or manipulatives.

Providing immediate specific feedback (what evidence is present during instruction?)

4 Feedback is specific, timely and informative **throughout the lesson**.	**3**	**2** Feedback is **not consistently** specific and informative throughout the lesson; OR the teacher **occasionally** provides timely feedback.	**1**	**0** There is **no** feedback; **OR** it is **not at all** specific, timely and informative.

***Providing immediate specific feedback:* Teacher provides feedback to correct responses (as needed). Teacher provides immediate feedback to incorrect responses.**

- When a student shows an error or misconception, the teacher provides feedback with 1-to-1 support, verbal prompts, and questions to guide student to understand the error.
- When a teacher provides affirmative feedback, the teacher reinforces and restates the student's response. This should be mathematics-specific as much as possible.
- When a teacher provides corrective feedback, they help the student understand the error. They provide redirection is a meaningful way. The teacher does not use shaming language about the error.

Maintaining a brisk pace (what evidence is present during instruction?)

4 The teacher maintains an **appropriate** pace **throughout the lesson**	**3**	**2** The teacher maintains an **appropriate** pace during **some of the lesson.**	**1**	**0** The teacher maintains an **inappropriate** pace **throughout the lesson.**

Maintaining a brisk pace: Teacher is organized and ready to maximize the instructional time.

- The teacher has all materials ready for this lesson.
- The teacher does not allow for down time between problems or different parts of the lesson.
- The students are paying attention and on task.

Multiple Representations During Instruction

Concrete (what evidence is present during instruction?)

4	3	2	1	0
The teacher demonstrates an **excellent** ability to use a variety of concrete materials appropriately and correctly, gives clear and detailed explanations of each manipulative with accompanying models		The teacher demonstrates **some** ability to use a limited variety of concrete materials appropriately and correctly, gives a partially complete explanation of each manipulative with accompanying models		The teacher demonstrates a **limited** ability to use concrete materials appropriately and correctly, gives partial or no explanations of each manipulative, possibly without accompanying models

Concrete: Three-dimensional, hands-on tools used to learn mathematics concepts and procedures.

- Examples include: Algebra tiles, geoboards, Base-10 blocks, unifix cubes, fraction tiles, etc.
- The teacher and/or students should be touching, moving, or pointing with the manipulatives.

Visual (what evidence is present during instruction?)

4	3	2	1	0
The teacher **includes more than one clear and detailed** visual aide that are relevant and contribute to the understanding of the key concept		The teacher includes **one clear** visual aide that is relevant and contributes to the understanding of the key concept		The teacher includes **one** clear visual aide that have little relevance OR **does not** contribute to the understanding of the key concept

Visual: Two-dimensional images (on paper or presented virtually) used to learn mathematics concepts and procedures.

- A teacher or students may draw the images.
- The images may be graphic organizers or number lines.
- Images may be pre-printed.

Virtual (what evidence is present during instruction?)

4	3	2	1	0
The teacher demonstrates an **excellent** ability to use a variety of virtual materials appropriately and correctly, gives clear and detailed explanations of each virtual manipulative with accompanying models		The teacher demonstrates **some** ability to use a limited variety of virtual materials appropriately and correctly, gives a partially complete explanation of each virtual manipulative with accompanying models		The teacher demonstrates a **limited** ability to use virtual materials appropriately and correctly, gives partial or no explanations of each virtual manipulative, possibly without accompanying models

Virtual: Two-dimensional images (presented via technology) used to learn mathematics concepts and procedures.

- The images may be static or a teacher or students may touch and move the virtual manipulatives around a screen.

Abstract (what evidence is present during instruction?

4	3	2	1	0
The teacher presents a **wide variety** of abstract examples with clear explanations of the numbers, symbols, and words of mathematics		The teacher presents **limited** abstract examples with some explanations the numbers, symbols, and words of mathematics		The teacher presents **no** abstract examples

***Abstract:* The numbers, symbols, and words of mathematics.**

Accurate Representation of Mathematical Concept

4	3	2	1	0
Chosen manipulatives or visual aides enhance the students learning and **clearly** align with the key mathematical concept		Chosen manipulatives or visual aides **adequately represent** the key mathematical concept but do not augment student learning		Chosen manipulatives or visual aides are **not clearly** aligned with the key mathematical concept and may lead to students becoming confused

***Accurate Representation of Mathematical Concept*: Concrete, visual, and/or abstract align with the mathematical concept.**

- The teacher connects to goal of the lesson to the used representation.
- The teacher integrates representation into the lesson and properly explains the representation to the students.

Implementation of Representations

4	3	2	1	0
Multiple representations are **seamlessly** included in the lesson; **all** students have access to the representations including manipulatives or visual aides		Multiple representations are **included** in the lesson with limited interruptions or disruptions to the flow of the lesson; **some** students have access to the representations including manipulatives or visual aides		The use of multiple representations **disrupts** the flow of the class or leads to behavior management issues; only the teacher or **a few** students have access to the representations including manipulatives or visual aides

***Implementation of representations*: Students have access to the representations.**

- Students use the representation(s) during guided or independent practice.
- Teacher properly support students in understanding how to use the representation(s).

Teacher Connections to Conceptual Understanding

4	3	2	1	0
The teacher makes **several** connections between the multiple representations and key mathematical concepts		The teacher makes **some** connections between the multiple representations and key mathematical concepts		The teacher **does not connect** the multiple representations to key mathematical concepts

***Teacher Connections to Conceptual Understanding*: Teacher connects the mathematics to the representations.**

- The teacher supports students in identifying similarities and differences in the used representation and categorizing and naming similarities.
- The teacher connects representations to real world use.

Fluency

Practice of Target Skill

4	3	2	1	0
The teacher provides students with practice of a target skill and cumulative		The teacher provides students with practice of a target skill and/or cumulative review somewhat adequate for supporting fluent computation.		The teacher provides students with practice of a target skill and/or

review adequate for supporting fluent computation.				cumulative review inadequate for support fluent computation.

Practice of Target Skill: Students develop accuracy and efficiency by solving a range of example problems.

- Adequate practice includes several opportunities for success and incorporate a range of examples appropriate for student skill levels.
- Teacher incorporates a range of examples and number sets increase in difficulty and/or involve different contexts, as appropriate.
- Practice should help students retain skills, discriminate across problem types, and connect new skills to those previously learned.

Systematic Presentation

4	3	2	1	0
The teacher's presentation of examples and/or practice problems is **systematic**, increasing in complexity in response to the needs of the students.		The teacher's presentation of examples and/or practice problems is **somewhat** systematic or **somewhat** responsive to the needs of the students.		The teacher's presentation of examples and/or practice problems is **not** systematic or **not** responsive to the needs of the students.

Systematic Presentation: Instruction that is deliberate, careful, and sequenced examples to support students' ability to calculate or apply a procedure correctly and efficiently.

- Clear and deliberate progression to the instruction that is responsive to the needs of students
- Teacher increases the complexity after ensuring that students are successful at the current level of complexity

Accurate Strategy Use

4	3	2	1	0
Students use **strategies**, as needed, that are based on mathematical concepts and properties.				Students **do not** use strategies, as needed, that are based on mathematical concepts and properties.

Accurate Strategy Use: Selection and use of the most appropriate strategy to solve a given problem and ability to apply strategies independently.

- Strategies might include counting-up, decomposing, or recall for number facts, or using visual representations, heuristics, or mnemonics for other procedures.
- Teacher provides students with adequate support as they apply an appropriate strategy to a given problem (may vary depending upon the complexity and nature of question and students level of understanding)
- Teacher can guide students toward independent use of more efficient strategies, as appropriate for the student.

Efficient Strategy Use

4	3	2	1	0
The teacher guides students, as needed, to use the **most efficient strategy** they can for a given problem.		The teacher guides students to use the **most efficient strategy** they can for a given problem but **more guidance is needed.**		The teacher does not guide students to use the **more efficient strategy** they can for a given problem.

Efficient Strategy Use: Selection and use of the most efficient strategy to solve a given problem quickly, accurately, and independently.

- Strategies might include counting-up, decomposing, or recall for number facts, or using visual representations, heuristics, or mnemonics for other procedures.
- Teacher provides students with adequate support as they apply an appropriate strategy to a given problem (may vary depending upon the complexity and nature of question and students level of understanding)
- Teacher can guide students toward independent use of more efficient strategies, as appropriate for the student.

Word-Problem Solving

Address Critical Schema for Transfer/Generalization

4	3	2	1	0
The lesson consistently focuses on critical schema that will transfer/generalize to a range of examples.		The lesson inconsistently focuses on critical schema that will transfer/generalize to a range of example.		The lesson does not focus on critical schema that will transfer/generalize to a range of examples.

***Address Critical Schema for Transfer/Generalization*: Instruction addresses the underlying mathematical structure and generalize across contexts and numbers.**

- Teacher consistently focuses instruction on critical schemas that will transfer/generalize to new examples. Schemas may include: total (amounts put together), difference (amounts compared), change (an amount that increases or decreases), equal groups (groups with an equal number in each group), comparison (a set compared a number of times), ratios, or proportions. Other schemas may be used as well.
- Students address word problems with a knowledge of and using the mathematical relationships and concepts that drive problem-solving processes.

Range of Examples

4	3	2	1	0
The teacher presents a range of examples that support generalization of the schema.		The teacher presents a range of examples that somewhat support generalization of the schema.		The teacher does not present a range of examples that support generalization of the schema OR the teacher presents examples that are not aligned to the schema creating confusion

***Range of Examples*: Multiple opportunities for students to apply and generalize knowledge of schema to solve word problems .**

- Teacher support students' abilities to identify the mathematical relationship across multiple contexts.
- Teacher begins with simple number relations and familiar contexts, gradually selecting more difficult numbers and unfamiliar contexts.
- During the problem solving phase of instruction, the teacher should vary the placement of the unknown number.
- All examples should align with the schema that the teacher is focusing on.

Mnemonic, Heuristic, or Procedural Strategy Checklist

4	3	2	1	0
The teacher guides students to use a mnemonic, heuristic, or procedural strategy checklist to support the problem-solving process as needed.		The teacher provides some guidance to use a mnemonic, heuristic, or procedural strategy checklist to support the problem-solving process but more is needed.		The teacher does not guide students to use a mnemonic, heuristic, or procedural strategy checklist to support the problem-solving process as needed, or the support provided does not align with schema-based instruction.

Mnemonic, Heuristic, or Procedural Strategy Checklist: Strategy checklist is used to support problem solving process.

- Teacher is scaffolding students' problem solving process with general guidelines that apply across all problems.
- Guidance involves a gradual release of responsibility for representing word problems from teacher to student.
- Guidance can take the form of explicit modeling, gradual release of steps in the process, prompts, questions, etc.

Verbalizes and Models Reasoning for Schema & Solution Process

4	3	2	1	0
The teacher clearly and sufficiently verbalizes and models reasoning for the schema and/or solution process.		The teacher verbalizes and models reasoning for the schema and/or solution process but not clearly and sufficiently.		The teacher does not verbalize and model reasoning for the schema and/or solution process.

Verbalizes and Models Reasoning for Schema & Solution Process: ***Teacher is making the concepts and reasoning behind concepts clear and explicit for students.***

- Explanation and think-aloud proceeds step-by-step to provide reasons for decision making and procedures
- Teacher uses visual representations, schematic representations, modeling actions, and by carefully and thoroughly articulating the thinking processes involved in the example.
- Teacher uses modeling that may include gestures, as appropriate
- Does not include engaging in questioning of the students; this item is focused on the teacher clearly and sufficiently communicating thought. processes through explanation and think-aloud.

https://intensiveintervention.org/training/course-content/intensive-intervention-mathematics

https://intensiveintervention.org/resource/principles-designing-intervention-mathematics