The Task as Set Up rubrics are designed to accompany the *Instructional Quality Assessment* (IQA) middle-grades mathematics rubrics. To use the set-up rubrics, please contact Kara Jackson at kara.jackson@mcgill.ca. To use the IQA rubrics, please contact Melissa Boston at bostonm@duq.edu.

Task as Set Up Training Manual
Updated May 11, 2012

The Task as Set Up phase of instruction includes the time from when the teacher initiates work to set up the task for the day until the time when the students begin to work on the task. Task as Set Up includes, at most, 6 "scores":

1) Contextual Features (Rubric 1),
2) Mathematical Relationships (Rubric 2),
3) Potential of the Task (typical IQA scoring of the *potential* of the task)
    a. Pre-set up
    b. Post-set up
4) Maintenance of the Rigor of the Task, and
5) Task as Set Up Participation.

Contextual Features (Rubric 1) *focuses on* the extent to which the contextual features, of the problem-solving scenario are discussed. Contextual features are aspects of the scenario that students would not understand unless they had prior experience with it. (You can think of this as the non-mathematical features of the scenario.)

- Only use this rubric if the task has a problem-solving scenario.

Mathematical Relationships (Rubric 2*) focuses on* the extent to which the key mathematical relationships as represented in the task are discussed.

- Use this rubric for the set-up of *any* task (even if it does not have a problem-solving scenario).

Maintenance of the Rigor of the Task

In order to account for any change in the rigor of the task during the task as set up phase of instruction, please rate the following:

- Maintenance of the Rigor of the Task: At the end of the task as set up phase of instruction, please rate whether the teacher **maintained**, **increased**, or **decreased** the rigor of the task.
    - Maintained: The task as set up phase of instruction does not alter the rigor (i.e., cognitive demand) of the initial task the students are to complete.
    - Increased: The teacher asks the students to answer additional questions (not included in the initial task) or to solve the problem(s) in ways that increase the rigor (i.e., cognitive demand) of the initial task.
    - Decreased: The teacher reduces the rigor (i.e., cognitive demand) of the initial task. If a teacher does a sample problem in which s/he advocates for the use of a particular procedure, s/he has decreased the rigor of the task.

  Examples:

- If a task asks that the students create a table to organize data, and the teacher creates the table for the students, this is a decrease in the rigor of the task.
- If a task requires students to fill out a table, and a teacher fills out a row in the table, this is a decrease in the rigor of the task.

Task as Set Up Participation Score

Please use the IQA Participation Rubric to assign a participation score at the end of the task as set up phase of instruction. Only assign "n/a" if there is no posing of the task (e.g., the teacher hands the students the task with no elaboration, the teacher or students read the task with no elaboration). If there is any posing of the task, and only the teacher talks, assign a score of 0. Reading a task does *not* count as participation.

Task as Set Up Rubrics

I. How effectively did the task-as-set-up phase of instruction* establish a shared understanding of the contextual features of the problem-solving scenario and what is to be mathematized such that the students are able to begin solving the task?
***Includes prior to introduction of the task and/or in the context of introducing the task

***Contextual Features (Rubric 1): Establishing familiarity with the contextual features of the problem-solving scenario*:** To what extent were students supported to develop a shared understanding of the contextual features of the problem-solving scenario?

CONTEXTUAL FEATURES (RUBRIC 1): ESTABLISHING FAMILIARITY WITH THE CONTEXTUAL FEATURES OF THE PROBLEM-SOLVING SCENARIO	
4	Teacher elicits what students know about the problem-solving scenario. The teacher and/or students **consistently** make connections between ideas that are likely to support the establishment of a shared understanding of the contextual features of the problem-solving scenario (e.g., through accountable talk moves like marking, revoicing, linking, pressing; connecting to shared experiences; establishing a representation that students refer to). More than one student actively participates in this segment of instruction. Students respond in ways that demonstrate knowledge or understanding of the contextual features of the problem-solving scenario. **The teacher and/or students must consistently make connections between ideas (that could include the establishment of a representation) that support and/or build toward a shared understanding of the contextual features of the scenario.** *The difference between a 3 and a 4 is that the teacher and/or students **consistently connect** ideas that build toward a shared understanding of the contextual features of the problem-solving scenario.*
3	Teacher elicits what students know about the problem-solving scenario. The teacher and/or students **inconsistently** make connections between ideas that are likely to support the establishment of a shared understanding of the contextual features of the problem-solving scenario (e.g., through accountable talk moves like marking, revoicing, linking, pressing; connecting to shared experiences; establishing a representation that students refer to). More than one student actively participates in this segment of instruction. Students respond in ways that demonstrate knowledge or understanding of the contextual features of the problem-solving scenario. **The teacher and/or students inconsistently make connections between ideas (that could include the establishment of a representation) that support and/or build toward a shared understanding of the contextual features of the scenario.** *The difference between a 2 and a 3 is that the teacher and/or students connect ideas together (albeit inconsistently) to build toward a shared understanding of the contextual features of the problem-solving scenario.*
2	Teacher elicits what students know about the problem-solving scenario *but* the teacher and/or students **do not connect ideas** together in a way that would support students in

	establishing a shared understanding of the contextual features of the problem-solving scenario. (I.e., the teacher surfaces some initial ideas about the contextual features of the problem-solving scenario, but the ideas do not build to a greater or shared understanding of the contextual features. For example, the teacher may ask the same question to a number of students to gather information, "What is your favorite_____?" but does not support a shared understanding of the particular idea.) *The difference between a 1 and a 2 is that students must actively participate in the discussion to warrant a 2.*
1	Teacher makes at least a brief mention of the problem-solving scenario that is central to completion of the task. The teacher is the *only* person providing information about the contextual features of the problem-solving scenario. The teacher may ask questions that require yes/no responses. Students do not actively participate in this chunk of instruction. *Examples:* • Superficial attempt (*Does anyone have a cell phone? Show a picture of a cell phone*.)
0	There is no attempt to discuss the contextual features of the problem-solving scenario.
N/A	The task as provided does not have a problem-solving scenario (e.g., it is a set of naked number problems).
NS	(No score). There is <u>no whole class discussion of the task prior to students starting the task</u> (e.g., teacher hands out the task and tells the students to start the task; teacher hands out the task and has students discuss it in groups prior to working on the task, but there is no whole class discussion prior to students starting the task). **Only assign NS for Contextual Features if the task has a problem-solving scenario* and *there is no whole class discussion of the task prior to students starting the task.*

MATHEMATICAL RELATIONSHIPS (Rubric 2): Developing understandings of key mathematical relationships as they are represented in the task: To what extent have students been given opportunities to develop understandings of key mathematical relationships (e.g., key mathematical ideas, relationships and/or quantities) as represented in the task?

MATHEMATICAL RELATIONSHIPS (RUBRIC 2): DEVELOPING UNDERSTANDINGS OF WHAT IS TO BE MATHEMATIZED IN THE TASK	
4	Teacher elicits the ideas students have developed *and* the teacher supports students in establishing a shared understanding of key mathematical ideas, relationships, and/or quantities (e.g., through marking, revoicing, linking, pressing) as represented in the task. Students actively participate in this segment of instruction. Students respond in ways that demonstrate understanding of how key mathematical ideas, relationships, and/or quantities are represented in the task. The students' responses connect to and build on each other. **In addition to what qualifies as a 3, the teacher and/or students must make at least one strong accountable talk move (e.g., teacher and/or student identifies connections between ideas and *how* the ideas are related, teacher presses on student's understandings of the mathematical ideas).** *The difference between a 3 and a 4 is the presence of **one strong accountable talk move** on the part of the teacher or students.*
3	Teacher elicits information about the ideas students have developed. The teacher and/or students **consistently use accountable talk moves (other than, or in addition to, repeating students' contributions)** to support students in establishing a shared understanding of how key mathematical ideas, relationships, and/or quantities are represented in the task. **Alternatively, the students (with or without the involvement of the teacher) jointly establish a representation that supports a shared understanding of relevant mathematical relationships**. Students actively participate in this segment of instruction. Students respond in ways that demonstrate understanding of how key mathematical ideas, relationships, and/or quantities are represented in the task. **The teacher and or/students consistently use accountable talk moves (other than, or in addition to, repeating students' contributions).** **OR** **More than one student is involved in the establishment of a representation that supports a shared understanding of mathematical relationships relevant to what is to be mathematized. Student talk must be aimed at developing a conceptual understanding of relevant mathematical ideas. (*More than one student must be involved in conceptual talk related to the representation.)** *The difference between a 2 and a 3 is that the teacher and/or students consistently use accountable talk moves (other than, or in addition to, repeating students' contributions) **or** students are involved in the **joint establishment** of a representation to develop a shared understanding of the mathematical relationships.*
2	Teacher elicits information about the ideas students have developed *but* the students

	(with or without the involvement of the teacher) do not **jointly establish** a representation nor are there consistent accountable talk moves that would support students in establishing a shared understanding of how key mathematical ideas, relationships, and/or quantities are represented in the task. **At best, there is inconsistent use of accountable talk moves (or consistent repeating of students' contributions).** *The difference between a 1 and a 2 is that students must actively participate in the discussion to warrant a 2.*
1	Teacher makes at least a brief attempt to provide or suggest how key mathematical ideas, relationships, and/or quantities are represented in the task. The teacher is the *only* person suggesting or providing ideas regarding how mathematical ideas, relationships, and/or quantities are represented in the task. The teacher may ask questions that require brief or one-word answers. Students do *not* actively participate in this chunk of instruction. At most, students provide yes/no responses or nod heads.
0	There is no attempt to discuss key mathematical ideas, relationships, and/or quantities.
N/A	The task is not mathematical in nature.
NS	(No score). There is no whole class discussion of the task prior to students starting the task (e.g., teacher hands out the task and tells the students to start the task; teacher hands out the task and has students discuss it in groups prior to working on the task, but there is no whole class discussion prior to students starting the task).

Contextual Features (Rubric 1)

Examples of establishing a shared understanding of the contextual features of the problem-solving scenario; examples apply to levels 2-4; score will increase depending on the extent ***to which the teacher and/or students connect ideas together to build toward a shared understanding of the contextual features of the task****:*

- Teacher elicits students' understandings of the contextual features of the problem-solving scenario (e.g., Teacher asks students, *Can anyone tell me what a dance marathon is?*).
- Teacher asks that students imagine that they are participating in the problem scenario, and then elicits information from the students about the scenario.
- Teacher elicits information from students about teacher-student shared experiences that are central to the contextual features of the problem-solving scenario (e.g., *Do you remember when we went on a bike ride together? Who can tell me how long it took us to ride around the lake?*)
- Teacher adopts a student's way of naming or describing contextual features of the problem-solving scenario.
- Teacher asks a student to restate or state in his/her own words something about the contextual features of the problem-solving scenario (e.g., *How are pledges and donations different?*).
- Teacher marks a student's idea (e.g., *Melissa said something interesting about race-walking*).
- Teacher makes a connection between the problem-solving scenario in the text and a cultural or social context that may be familiar to the students.
- Teacher makes a connection between the problem-solving scenario and a person, place, or thing (e.g., a historical figure or event) that is likely to be familiar or of interest to the students in the class.
- Teacher asks that a student or students act out something that is relevant to the contextual features of the problem-solving scenario (e.g., show what speed-walking is).

Mathematical Relationships (Rubric 2)

Examples of establishing how key mathematical ideas, relationships, and/or quantities are represented in the task; examples apply to levels 2-4; score will increase depending on the consistency and type of accountable talk moves made:

- Teacher adopts a student's way of describing or naming mathematical ideas, relationships, and/or quantities.
- Students restate or state in their own words the key mathematical ideas, relationships, and/or quantities in the task.
- Teacher and/or students develop a representation of the relationship between quantities (e.g., double number line) to support students' development of imagery.
- Teacher and/or students act out something that supports students' imagery of key mathematical ideas, relationships, and/or quantities (e.g., act out a box-and-whiskers plot given their heights, act out an exchange of money to illustrate the relationship between quantities).
- Teacher and/or students refer to relevant mathematical representations that were established in the past.