# MINDS ON …. Name: Section: Campus:

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| **INSTRUCTIONAL TRAJECTORY:** *How the instruction will be organized for learning.* **CONNECTED QUESTIONS***To probe more deeply into students’ thinking**To encourage students to take risks**To build on students’ responses* |
| **MINDS ON** Establishing a positive learning environment Connection to prior learning and/or experiences. Setting the  context for learningDescribe in detail how the teacher activates and engages students’ prior knowledge in the first video to prepare students for the problem of the day. (Video #1)Describe in detail how the teacher introduces the problem of the day to the students. (Video #2)Describe how the teacher ensures the students understand the problem and the expectations for the group problem solving that is to follow. (Video#2) | **What questions does the teacher ask/could have asked?****What does questions does the teacher ask/ could have asked?****What questions does the teacher ask/could have asked?** |

**ACTION …. (Overview)**

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| **INSTRUCTIONAL TRAJECTORY:** *How will instruction be organized for learning?* **CONNECTED QUESTIONS***To probe more deeply into students’ thinking**To encourage students to take risks**To build on students’ responses* |
| **ACTION** Introducing new learning or extending/reinforcing prior learning. Providing opportunities for practice and  application of learning. Once students have completed reviewing the question with the teacher and the class they are placed in their problem solving groups. The teacher circulates the classroom and observe students to see if they are reinforcing prior learning and/or using new material that they have learned to solve the problem. **A**sk questions you think will further:* prompt (provide hints)
* encourage them to test their ideas
* extend their thinking

as they work on the problem …. |  |

**YOU FILL IN THIS CHART BELOW 🡇**

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| Group | How are students approaching the problem? | What tools, concepts are evident? | What SPECIFIC AND RELEVANT questions might you ask this group?For example to: prompt (provide hints); encourage them to test their ideas;extend their thinking;  |
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**CONSOLIDATION & CONNECTION …. (Overview)**

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| **INSTRUCTIONAL TRAJECTORY:** *How will instruction be organized for learning?* **CONNECTED QUESTIONS***To probe more deeply into students’ thinking**To encourage students to take risks**To build on students’ responses* |
| **CONSOLIDATION AND CONNECTION** Helping students demonstrate what they have learned. Providing opportunities  for consolidation and reflection. Providing home connections where appropriate.Once students have completed the problem solving in their groups the students return to the mat and discuss the problem. Once the teacher hears some feedback the teacher instructs the students to do a gallery walk (students will walk around the class and review each group’s problem solving). Each group will be provided with post-it notes which will be used to provide constructive feedback and suggestions to improve their math thinking and math representations. Review criteria for constructive, specific feedback (how to make it better):* what was done well/is correct
* what you don’t understand
* what is not clear
* alternate representations

Once students are done with the gallery walk they go back to their own group and review comments that were given by their peer groups. Each group has the option to use the feedback given or leave their problem representation as it is.Reinforce effective listening and feedback observed.Once students have reviewed feedback and/or revised their solution students will again return to the mat. They teacher will choose **three groups** that each used a different problem solving strategy (presenting of group problem solving – simple to complex / concrete to abstract), noted in the ASR Observation for Learning assessment tool.1. Simple-concrete
2. Semi-concrete
3. Complex

During the presentations of the problem solving strategies students will be given the opportunity to give feedback and ask questions. This will also give the teacher the opportunity to explain strategies & annotate student work. Questions that could be asked are but will depend on the work shared are:Conceptual ideas, misconceptions and connections among strategies that should be highlighted are:  Things to summarize:Have students return to their desk and do some independent practice: |  |

**YOU FILL IN THIS CHART 🡇**

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|  | Questions asked or could be asked for each sharing session/discussion: |
| First Sharing Session | * Explain the strategy and any tools/models that the group used to solve the problem.
* Record what you observed about the math discussion taking place.
* What is the role of the teacher in the math sharing session?
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| Second | * Explain the strategy and any tools/models that the group used to solve the problem.
* When the teacher steps into the discussion what math concepts does she clarify and what connections does she make between the two solution strategies?
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| Third | * Explain the strategy and any tools/models that the group used to solve the problem.
* Record what you observed about the math discussion taking place.
* Why does the teacher stop the whole class part way through and initiate a pair/share talk?
* Why does the teacher highlight the concept of unit rate again?
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| Highlights & Summary | * How does the teacher highlight the strategies and tools/models used by the students as well as highlight the math concepts in the problem?
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