

**Roosevelt School District
ASU Math Leadership Academy**

Coaching Dialogue - Conversation Starters

You may find opportunities throughout the school year to engage in coaching dialogues with your teachers prior to their math lessons to ensure they are working toward full implementation of the principles for effective math instruction. These conversations can take place following a completed pre-conference, a grade level meeting, or any other opportune time.

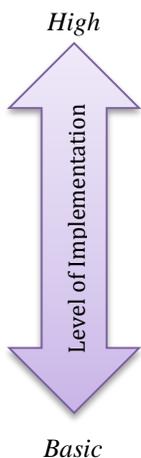
Listed below are sample questions, or conversation starters, generated by RSD principals and assistant principals to facilitate math coaching dialogues with teachers. Please note that by no means should you go through this extensive list of questions within one coaching session. Be selective and purposeful. Use your professional wisdom and knowledge of the individual teacher to determine a starting point and coaching strategy.

Task Analysis

What are some questions you can use to determine:

- if the task has been designed with a balanced approach (within a lesson, unit, year)?
- how the task has been segmented for learning considering a concrete, pictorial, abstract approach?
- if the task has been designed to ensure that students have the opportunity to develop/exhibit the Standards for Mathematical Practice?
- if misconceptions are being addressed?

Sample Questions Generated to Coach a Teacher on Task Analysis:



- In which area of a balanced approach (conceptual understanding/application/procedural fluency) will you focus your lesson?
- How are you going to give students the opportunity to develop and exhibit the mathematical practices?
- How does your lesson reflect the concrete to pictorial to abstract approach?
- How will students demonstrate their understanding of _____?
- How will you know when students gain conceptual understanding?
- How does your lesson fit into your unit and your year-long plans?
- What previous knowledge or experiences do your students bring to this lesson?
- How does this connect to the previous learning? Describe your previous lessons. Where are you going from here?

Conceptual Understanding

What are some questions you can use to determine:

- if the students are memorizing algorithms or developing understanding of a concept?
- if the students will be representing a mathematical concept? If so, how?
- what understandings the student should develop?
- the opportunities students will be given to explain their current understanding of the mathematical idea?
- how possible misconceptions will be addressed?

Sample Questions Generated to Coach a Teacher on **Conceptual Understanding**:



- How will you know if students have internalized the key idea or concept of this lesson?
- What opportunities have you planned for students to demonstrate individual conceptual understanding?
- At what stage are students currently performing? (concrete, pictorial, abstract)?
- What will you hear students say if they understand a concept? What does conceptual understanding sound like and look like?
- What visual representations or models will be used to help build conceptual understanding?
- What strategies/questions will you use to have students explain/justify their thinking?
- To whom will they be explaining their thinking?
- How have you planned for possible student misconceptions and how will you address them?
- What questions will you ask to elicit key ideas and details that demonstrate conceptual understanding?
- What questions will you ask so that student misconceptions surface?

Instructional Approach

What are some questions you can use to determine:

- whether it is appropriate for students to practice a modeled task or construct knowledge by thinking/experimenting?
- if the role of the teacher should be a facilitator and/or a lecturer for the lesson?
- if the appropriate time to define vocabulary is at the start or the end of the particular lesson?
- the precise vocabulary that they expect students to use when they are justifying ideas?

Sample Questions Generated to Coach a Teacher on **Instructional Approach**:

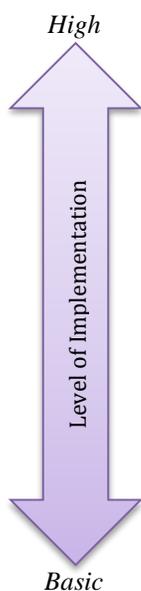


- How will you vary your role (presenter/facilitator) and at what point will the shift occur and how will you know it's appropriate?
- How will you build academic vocabulary in an inquiry based lesson?
- What will you do to model or articulate your thinking?
- How can you encourage students to use precise vocabulary?

Practice Aligned Activity

What are some questions you can use to determine:

- the scaffolding plan (from assistance to independence) for developing this concept?
- how students will practice sub-objectives?
- how students will examine their own thinking?
- what opportunities can be planned to develop a culture of student-to-student support?



Sample Questions Generated to Coach a Teacher on Practice Aligned Activity:

- How is the activity you have planned going to take students from where they are to where they need to be?
- What are the scaffolds you have planned? How does a gradual release model fit with this lesson?
- How/when will you determine if students are ready for you to fade away for them to practice independently?
- How will you provide opportunities for students to process at each sub-objective?
- How will students be encouraged to examine their own thinking and/or learning?
- How will students be encouraged to support one another during their practice?
- How have you determined that the practice you have planned is aligned to the targeted objective and evidence of learning?
- How will students demonstrate understanding at the independent level?
- How have you addressed your sub-groups with the practice activity? (modifications, content accessibility, correct level of difficulty)

Student-to Student Interactions

What are some questions you can use to determine how the lesson can unfold to require:

- equal participation of students?
- students communicating using multiple means?
- development of language proficiency?
- demonstration of deep learning?



Sample Questions Generated to Coach a Teacher on S-to-S Interactions:

- How will students build on each other's ideas?
- How are students holding one another accountable?
- How will you monitor conversations to ensure they are meaningful and relevant?
- How is the opportunity for student use of academic language embedded in your lesson?
- How have you planned your lesson for student dialogue that requires use of academic language with each other?
- What activities will you engage students in so that every student has an equal opportunity to justify his or her ideas?
- What activities will you engage students in so that every student has an opportunity to p?

Critical Thinking

What are some questions you can use to determine:

- the opportunities that will be given to students to think about and evaluate their thinking
- make connections
- devise an approach to solve or research a problem
- make new meaning
- propose and evaluate solution

Sample Questions Generated to Coach a Teacher with **Critical Thinking**:



- How are students being encouraged to create new models or different representations?
- How will you challenge or allow for students to examine their thinking and the thinking of others?
- How will students be encouraged to evaluate their own thinking?
- What questions have you planned that allow students to use complex reasoning to make new meaning?
- What probing questions have you considered to facilitate a student's reasoning and development of new meaning?
- How will students be encouraged to draw conclusions and make connections between this lesson and previous learning experiences?
- How will you push your students' thinking?
- How are students going to demonstrate comprehension of a concept?
- How will students use math journals to explain their thinking?