

Facilitator Notes – Protocol 4
Aligning Barriers and Strategies

Time, Format & Materials	PPT Slides	Description	Comments to Facilitator
<p>10 min. Whole group</p> <p><i>Facilitator notes</i></p> <p><i>Provide participants with PPT handouts for note-taking</i></p>	<p>2</p> <p>3 - 4</p>	<p>Getting Started:</p> <ul style="list-style-type: none"> • Review <i>Summary of the Protocols</i> to set some context for today’s protocol and to briefly talk about how it fits within the set of the 5 protocols. • Go over goals and agenda • Revisit parking lot questions from last time – any that you want to address during the meeting today? (Don’t have to answer them now, but can flag ones that you hope to discuss/answer during today’s mtg.) 	
<p>20 min. Individually or in pairs</p> <p><i>HO 4.1</i></p>	<p>5 - 6</p>	<p>Complete the Math Problem</p> <ul style="list-style-type: none"> • Distribute: <i>Candies Problem (HO 4.1)</i>, and use slides 5-6 to introduce the problem. • The math facilitator can talk briefly review standard 6.RP1. It is important for the team to understand this standard so that when they discuss modifying the assessment they will know if the rigor is being maintained. • Participants read through the <i>Candies</i> problem then complete all 4 problems either individually or with a partner using visual models to show how they solved the problem. 	<p><i>It is ideal for each team member to work on the problems individually to get a sense of what kind of mathematical thinking is required for this problem. However, if you have some participants who are uncomfortable with working on the mathematics, you may want to suggest that team members work in pairs to complete the problems.</i></p>

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Whole group	7 – 9 10	<ul style="list-style-type: none">• Come back together as a whole group to review three different approaches to the problem shown in slides 7-9.• You may want to ask if there are any other solution methods not shown here that people want to share. As participants are sharing their thinking, they should show their visual models.	<i>See notes below.</i>

The intent of the whole-group discussion is to focus on one aspect of MP #3: construct a viable argument and critiquing the reasoning of others. So during discussion, highlight the different ways that someone could think about this problem. It is valuable for the team to understand that the importance of both thinking and reasoning used to solve this problem and the ability to conveying that thinking and reasoning.

*Some team members may need some help understanding that this math practice calls for more than simply listing the steps you took to solve the problem; it's also about explaining **why** each step follows from the one before. So you might want to offer a pair of sentence frames for people to use to share their thinking, such as:*

First I did _____ and I did this because _____.

Next, I did _____ and I did that because _____.

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<p>30 min. Individually...</p> <p><i>HO 4.2</i> <i>HO 4.3</i></p>		<p>Consider the Students’ Strengths & Challenges - Think / Pair / Share</p> <ul style="list-style-type: none"> • Distribute <i>Kym’s Description</i> and <i>Kym’s IEP</i>. • Participants individually read the student profile on the handout. 	
<p>... then in pairs,</p>	<p style="text-align: center;">11</p>	<ul style="list-style-type: none"> • With a partner, share and discuss the questions on slide 11: <ul style="list-style-type: none"> ○ <i>In the Candies problem, what are potential barriers for Kym in showing and explaining her work?</i> ○ <i>What learning strengths does Kym have that will help her show or explain her work?</i> ○ <i>What supports might she need to show or explain her work (supports that build on her strengths, if possible)?</i> 	<p><i>An important part of this next brief discussion is the exercise of identifying Kym’s strengths, not simply her challenges. Make sure team members do not skip this important step.</i></p>
<p>... then whole group</p>	<p style="text-align: center;">12</p>	<ul style="list-style-type: none"> • First, share your thinking about: <i>What are Kym’s strengths that might help her solve these problems?</i> • Then share your thinking about: <i>What challenges do you anticipate Kym will face when completing this pre-assessment?</i> 	

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<p>20 min. In pairs</p> <p>HO 4.4 HO 4.5</p>	<p>13</p> <p>14</p>	<p>Look at Kym’s Work</p> <ul style="list-style-type: none"> • Distribute <i>Kym’s Work</i> and <i>Looking at Student Work Tool for Kym</i>. • Pairs examine and discuss Kym’s work on the <i>Candies Problems</i>, and complete the template. 	<p><i>Looking at the student work provides the leadership team with a process for capturing more actual data about the student.</i></p> <p><i>Throughout this activity, team members may want to jump right into choosing and discussing strategies. If this occurs, ask them to stay focused on identifying what they understand about the student’s strengths, difficulties and barriers in relation to the Candies Problem. There will be an opportunity to discuss strategies in the next part of the protocol after first gaining a better understanding (and agreeing on!) what this student brings to the task.</i></p>
<p>Whole group</p>	<p>15</p>	<ul style="list-style-type: none"> • In the whole group, each pair shares out 1-2 ideas for the first prompt on slide 14: <ul style="list-style-type: none"> ○ <i>What strategies did Kym use? To what extent were they successful?</i> 	
<p>25 min. Whole group</p>	<p>16</p>	<p>Making Modifications for Kym</p> <p>Participants work in small groups to make modifications to Kym’s assessment. They will spend about 15 minutes making their modifications and then prepare to report back to the group on the following questions:</p> <ul style="list-style-type: none"> ○ <i>How would you change this pre-assessment to avoid unintended barriers?</i> ○ <i>How would your modified pre-assessment support Kym’s capability to show or explain her work?</i> 	<p><i>Remind team members to look back at Kym’s IEP to check that suggested modifications align with the recommendations on the IEP.</i></p>

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		<ul style="list-style-type: none"> ○ How do your revisions to the pre-assessment maintain the rigor of the mathematics? 	
		<ul style="list-style-type: none"> ● Briefly discuss the kinds of considerations that can arise when making modifications to a task or to an assessment for a student, such as “fairness.” 	<p><i>One example of discussion that may arise here is: People have different conceptions of “fairness.” Some people believe that “fair” means everyone gets exactly the same treatment or all the same experiences – and that if you provide different experiences to different people, that’s “not fair.” Do modifications feel “unfair?” Why or why not?</i></p>
<p>15 min. Whole group</p>	<p>16</p> <p>17</p> <p>18</p>	<p>Wrap Up</p> <ul style="list-style-type: none"> ● Summarize and list any outstanding questions that have not been answered yet and that are still under discussion. ● Ask team members to bring the math pre-assessment and notes about Kym to use in the next protocol. ● Review parking lot questions and how to handle them. Will they be addressed outside these meetings, or in a subsequent meeting? ● If there are any tasks to be done before the next meeting, review what those tasks are, who will take the lead on the task and when will the individual(s) attend to the task. ● Review the purpose of next meeting (put this on a slide). ● Clarify date, time and location of next meeting. 	

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<p><i>HO 4.6</i></p> <p><i>HO 4.7</i></p>		<ul style="list-style-type: none"> • Six Learning Areas and Student Difficulties • Ask team members to read <i>Accessibility Strategies for Mathematics</i> (HO 4.7) prior to the next meeting. 	<p><i>This article revisits the 6 areas of demand and difficulty and suggests specific accommodation strategies for each area. Participants will use this list of strategies throughout the next session, and it will be helpful if they familiarize themselves with it before the session.</i></p>

Resources

The following resources informed the development of this session and can be used to extend this work:

- Massachusetts Department of Elementary and Secondary Education. (2011). Massachusetts Curriculum Frameworks in Mathematics (ESE Website)
- IEP Process Guide (ESE Website)
- Explorations of the 2011 Math Frameworks (ESE Website)
- Resource Guide to the Massachusetts Curriculum Frameworks for Students with Disabilities (ESE Website)
- Inside Mathematics <http://www.insidemathematics.org/>
- Allsopp, David, Kyger, Maggie, Lovin, LouAnn. Teaching Mathematics Meaningfully. Baltimore: Paul H. Brookes Publishing Company, 2007.
- EDC Project: *Building District Capacity to Improve Mathematics Learning by Students with Special Needs* http://www.edc.org/projects/building_district_capacity_improve_mathematics_learning_students_special_needs
- EDC Project: *Addressing Accessibility in Middle School Mathematics* <http://www2.edc.org/accessmath/>
- Tools for the Common Core Standards <http://commoncoretools.me/tools/>