

Los Angeles Unified School District
Office of Curriculum, Instruction, and School Support
MATH MYTHS AND MISCONCEPTIONS
SESSION 1 FACILATOR'S GUIDE

Materials: chart paper markers for charting blank paper for note taking computer-if presenting PowerPoint live LCD-if presenting PowerPoint live Misconception counter-examples for facilitator PowerPoint handout pages-optional timer-optional

| TIME | CONTENT | MATERIALS |
|------|--|-----------|
| | <p><u>Notes to session Facilitator:</u></p> <ul style="list-style-type: none"> ○ This session is designed to be a facilitated discussion of approximately 45 to 60 minutes, but can be extended to a longer time-block. Timing can be adjusted to fit your needs. The session can be done during a staff development, a grade-level, or other instructional meeting time. ○ This document is intended to be a <u>guide</u> to the facilitator, not a verbatim script to be read to the participants. This document contains background information, speaking notes, and a listing of materials needed to present this session. ○ It is highly recommended that the facilitator become familiar with the content of this presentation in order to facilitate a productive and in-depth discussion with the participants. ○ Handouts are indicated by the letters HO and the # symbol. These need to be copied and ready for each participant prior to the presentation of this session. Be sure to note and prepare ahead any other materials needed for the session, such as charts, manipulative, etc. ○ Bold type font indicates specific speaking points for the facilitator, while (<i>Italicized</i>) type font indicates notes or suggestions to the facilitator. ○ Prior to the session, be sure to set up projector, screen, and computer if you are presenting the PowerPoint live. Test equipment for proper functioning. The individual PowerPoint slides can also be Xeroxed and presented as hard copies if a projector and a computer is not available. ○ Be sure materials, equipment, and room are set up prior to the arrival of the participants. Arrange desks/chairs to facilitate group discussion and interaction. ○ The PowerPoint can be printed out as a handout and can be provided to the participants at the beginning of the session as a note-taking tool or given at the end of the session as a reference sheet. Do not read the PowerPoint slides to the participants unless the facilitator's guide indicates that you should do so. Use the background notes to enhance the information on the slide. ○ Consider having a co-presenter to help with charting group responses. Or ask for a participant volunteer to chart while you facilitate the discussion. | |

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| | <p><u>Slide 1:</u></p> <p><i>(Have slide 1 projected as participants enter the session. Welcome participants to the session.)</i></p> | |
| 1 min | <p><u>Slide 2:</u> (Session 1 title slide)</p> <p>We are beginning a series of professional development sessions focusing on the misconceptions our students may have in relation to mathematics and what we can do to repair, or better yet, prevent, these misconceptions. For this first session, we will be looking at three misconceptions students may have in relation to number sense and how these misconceptions can impact future mathematical understanding.</p> | |
| 5 min total | <p><u>Slide 3 through Slide 8:</u></p> <p><i>(Ask a volunteer to read the slide aloud to the group. Click to the next slide and ask another volunteer to read. Continue this for Slide 3 through Slide 8.)</i></p> | |
| 8 min total | <p><u>Slide 9:</u> (Misconception of not being able to take a larger number from a smaller number)</p> <p>Take a few minutes to read this misconception and quick-write your answers to the two questions. We will share our thoughts with one another in 2 minutes. <i>(Allow for 2 minutes of quiet thinking and writing by the participants.)</i></p> <p><i>(After 2 minutes ask the group members to turn to an elbow partner and share their responses to the two questions. Allow 3 minutes for this pair-share. After 3 minutes ask the group members to share out their thoughts as a whole group. Record their counter-examples and causes for the misconceptions on chart paper. Title one chart: <u>Counter-examples</u>. Title the other chart: <u>Causes for misconception</u>. Allow up to 5 minutes for participants to share ideas.)</i></p> | Chart paper and markers for recording responses. |

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| Up to 12 min total | <p>Slide 10: (Misconception of not being able to take a larger number from a smaller number)</p> <p>Let's now discuss as a group, how this misconception can impact future mathematical understandings and how we might prevent or eliminate this misconception.</p> <p><i>(Allow for up to 12 minutes for the group to discuss these two questions. Record their thoughts on chart paper. Title one chart: <u>Impact to future</u>. Title the other chart: <u>Prevention and/or Elimination</u>.)</i></p> | Chart paper and markers for recording responses. |
| 8 min total | <p>Slide 11: (Misconception that multiplication always creates a product larger than the two factors)</p> <p>Let's take two minutes to read through our next misconception and again quick-write your answers to the two questions. We will share our thoughts with one another in 2 minutes. <i>(Allow for 2 minutes of quiet thinking and writing by the participants.)</i></p> <p><i>(After 2 minutes ask the group members to turn to an elbow partner and share their responses to the two questions. Allow 3 minutes for this pair-share. After 3 minutes ask the group members to share out their thoughts as a whole group. Record their counter-examples and causes for the misconceptions on chart paper. Title one chart: <u>Counter-examples</u>. Title the other chart: <u>Causes for misconception</u>. Allow up to 5 minutes for participants to share ideas.)</i></p> | Chart paper and markers for recording responses. |
| Up to 12 min total | <p>Slide 12: (Misconception that multiplication always creates a product larger than the two factors)</p> <p>Let's now discuss as a group, how this misconception can impact future mathematical understandings and how we might prevent or eliminate this misconception.</p> <p><i>(Allow for up to 12 minutes for the group to discuss these two questions. Record their thoughts on chart paper. Title one chart: <u>Impact to future</u>. Title the other chart: <u>Prevention and/or Elimination</u>.)</i></p> | Chart paper and markers for recording responses. |

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| 8 min total | <p>Slide 13: (Misconception of just adding a zero to the end of number multiplied by 10)</p> <p>Let's take two minutes to read through our final misconception and again quick-write your answers to the two questions. We will share our thoughts with one another in 2 minutes. <i>(Allow for 2 minutes of quiet thinking and writing by the participants.)</i></p> <p><i>(After 2 minutes ask the group members to turn to an elbow partner and share their responses to the two questions. Allow 3 minutes for this pair-share. After 3 minutes ask the group members to share out their thoughts as a whole group. Record their counter-examples and causes for the misconceptions on chart paper. Title one chart: <u>Counter-examples</u>. Title the other chart: <u>Causes for misconception</u>. Allow up to 5 minutes for participants to share ideas.)</i></p> | Chart paper and markers for recording responses. |
| Up to 12 min total | <p>Slide 14: (Misconception of just adding a zero to the end of number multiplied by 10)</p> <p>Let's now discuss as a group, how this misconception can impact future mathematical understandings and how we might prevent or eliminate this misconception.</p> <p><i>(Allow for up to 12 minutes for the group to discuss these two questions. Record their thoughts on chart paper. Title one chart: <u>Impact to future</u>. Title the other chart: <u>Prevention and/or Elimination</u>.)</i></p> | Chart paper and markers for recording responses. |
| | <p>Wrap Up:</p> <p>(This can be done either orally as a group, or as a written reflection on the learning.)</p> <ul style="list-style-type: none"> ○ How has the session supported you as you consider the instructional needs of your students? | |