

MELL

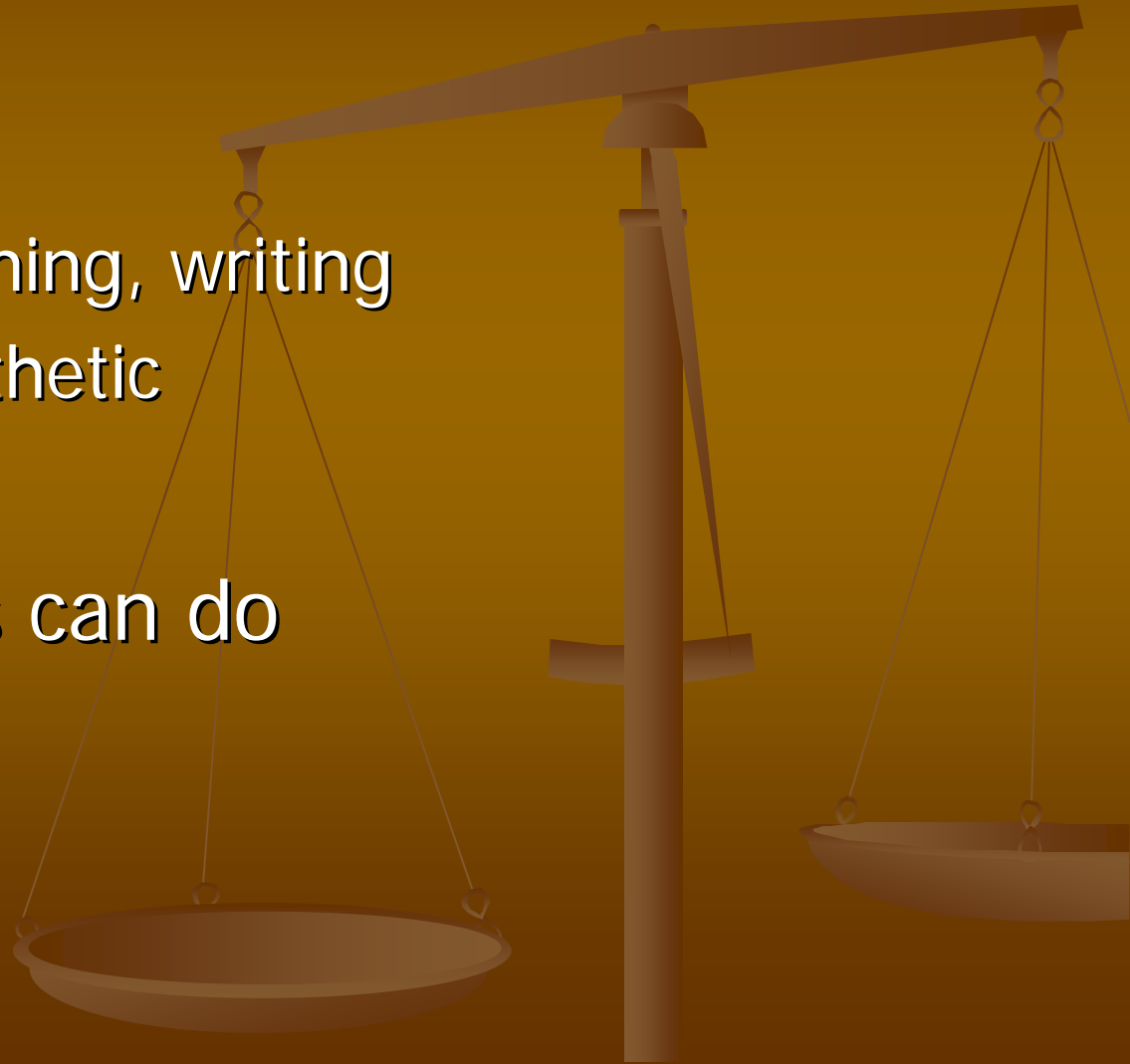


Simple and Quick Language Strategies
to Integrate in Your Mathematics
Lessons

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Agenda

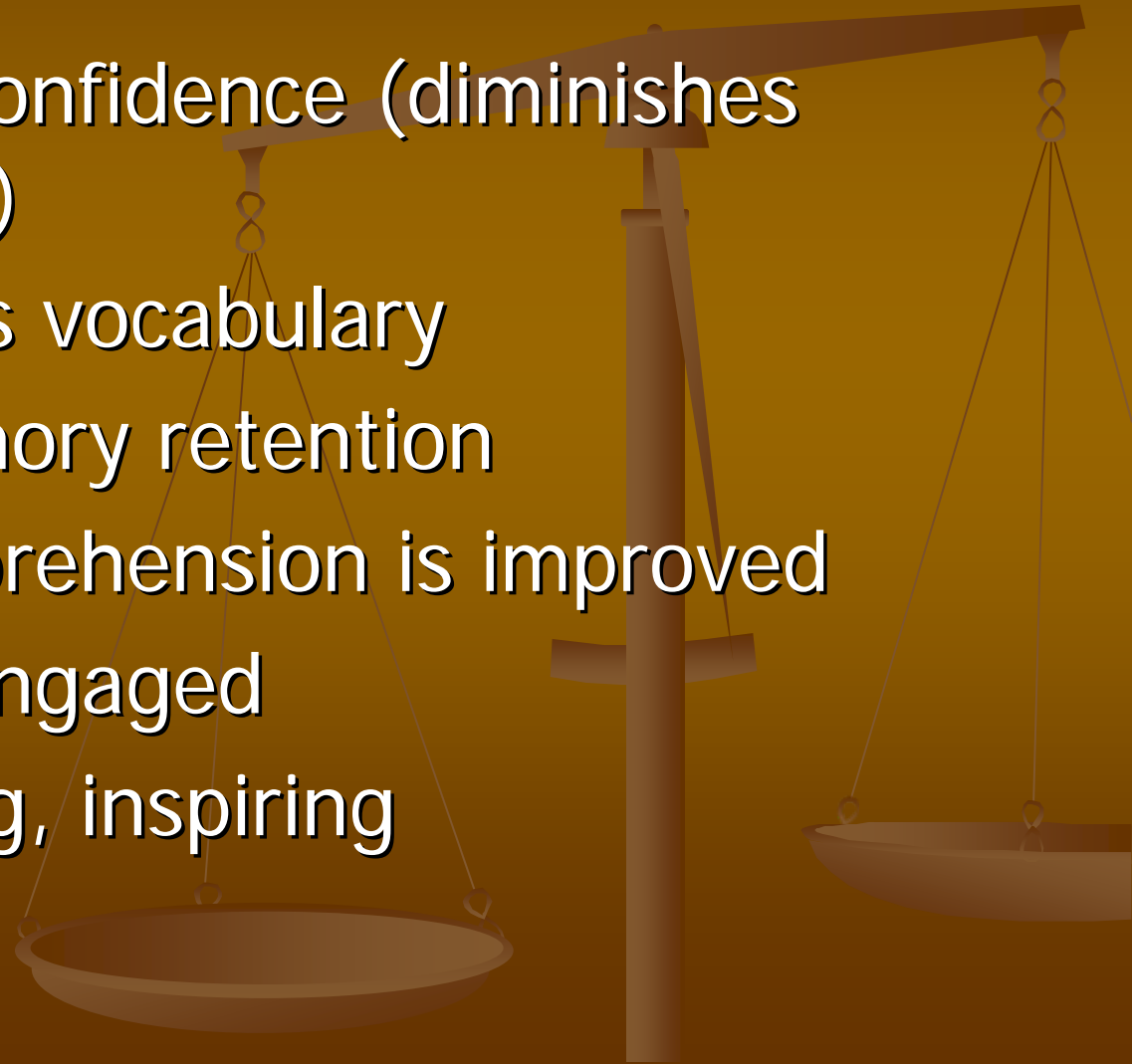
- Introductions
- Focus areas
 - Reading, listening, writing
 - Visuals, kinesthetic
- MELL lesson
- What teachers can do
- Activity



Reading

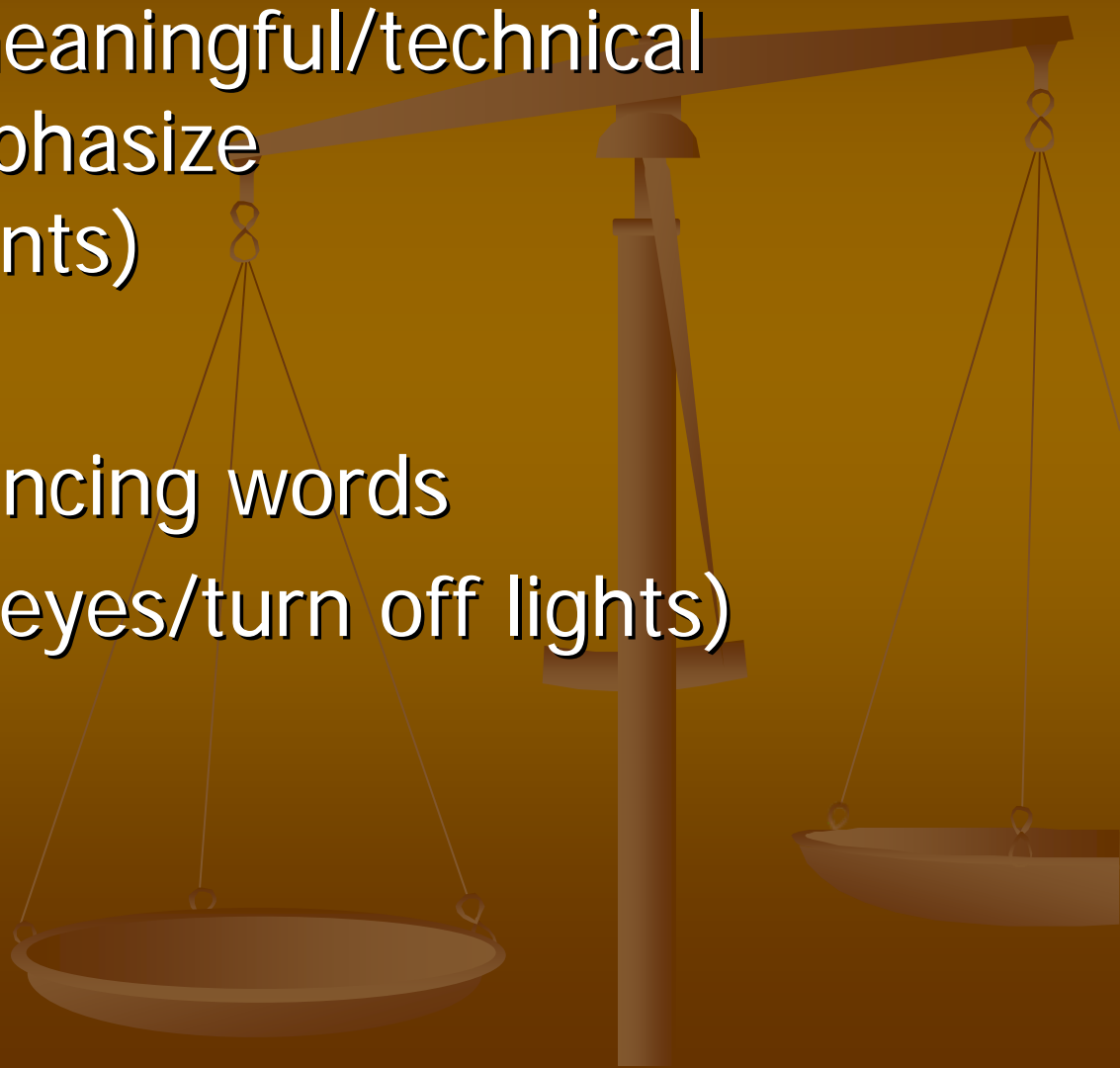
Read the problem out loud with the students

- This will build confidence (diminishes embarrassment)
- It also increases vocabulary
- Reinforces memory retention
- Therefore comprehension is improved
- Entire class is engaged
- Friendly, inviting, inspiring

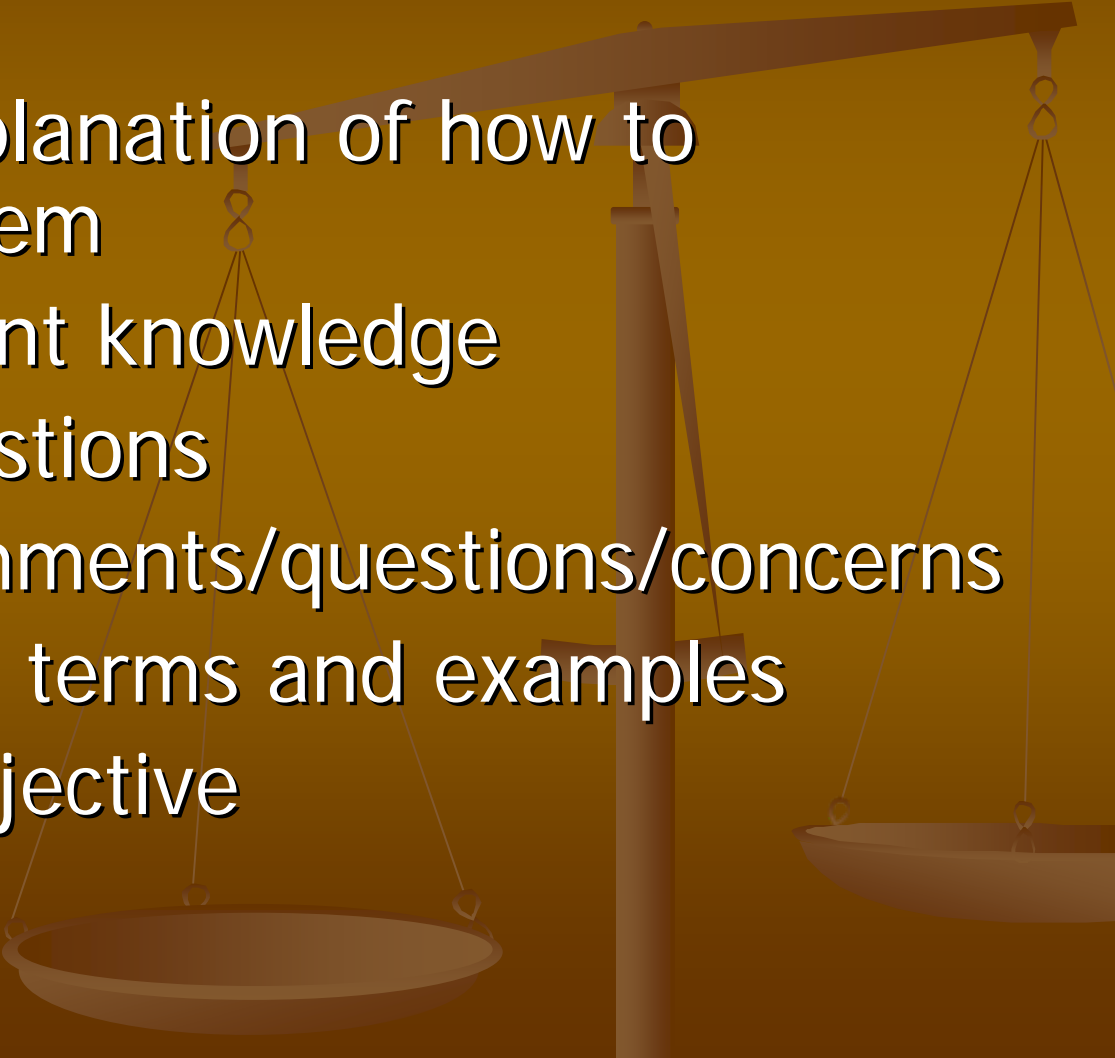


Listening

- Expression of meaningful/technical vocabulary (emphasize vowels/consonants)
- Enunciate
- Exercise pronouncing words
- Visualize (close eyes/turn off lights)



Writing

- Notes on lesson
 - Write verbal explanation of how to workout a problem
 - Rewrite important knowledge
 - Rewrite the questions
 - Anonymous comments/questions/concerns
 - Flash cards with terms and examples
 - Concept/skill/objective
- 

Writing Continued



- Summary:
 - covering the main points
- Conclusion:
 - the last part of something: as a: result, outcome
- Reflection:
 - an effect produced by an influence
 - a thought, idea, or opinion formed or a remark made as a result of meditation

Visuals

- Graphic organizers
- Video clips
- Pictures
- Gestures
- Body language
- Color coding
- Highlight/circle terminology
- Show and explain simultaneously



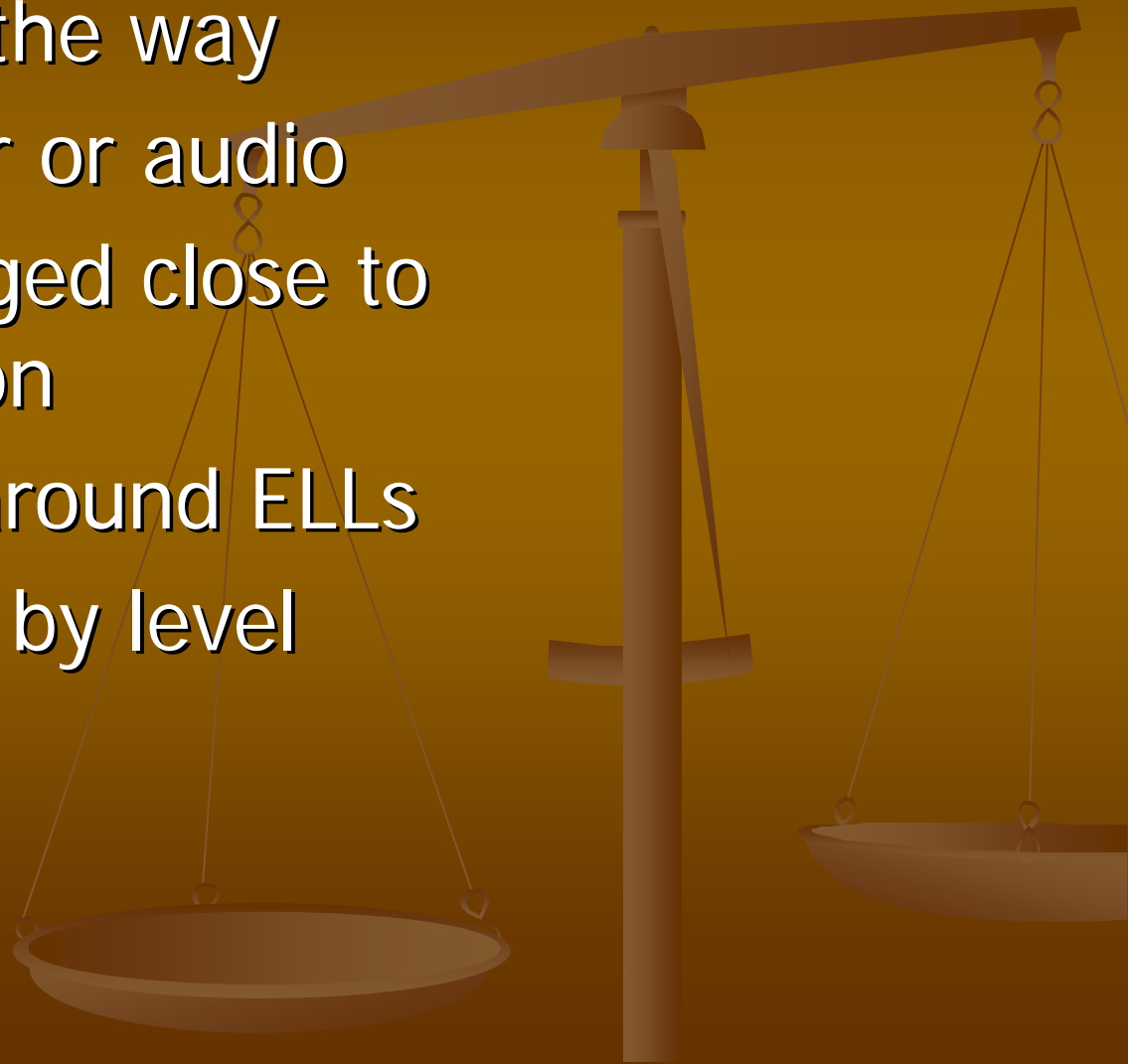
Kinesthetic

- Manipulatives
 - Cubes
 - Geoboards
 - Dice
- Tactile
 - Hands
 - Feet
 - Body



Seating Arrangement

- Teacher out of the way
- Close to teacher or audio
- Visually challenged close to screen/projection
- Friendly peers around ELLs
- Arrange groups by level



MELL LESSON EXAMPLE

MELL lesson plans – available free on MELL website

www.tsusmell.org

Maria's lesson:

Adding integers



Card Values

10 points



11 points



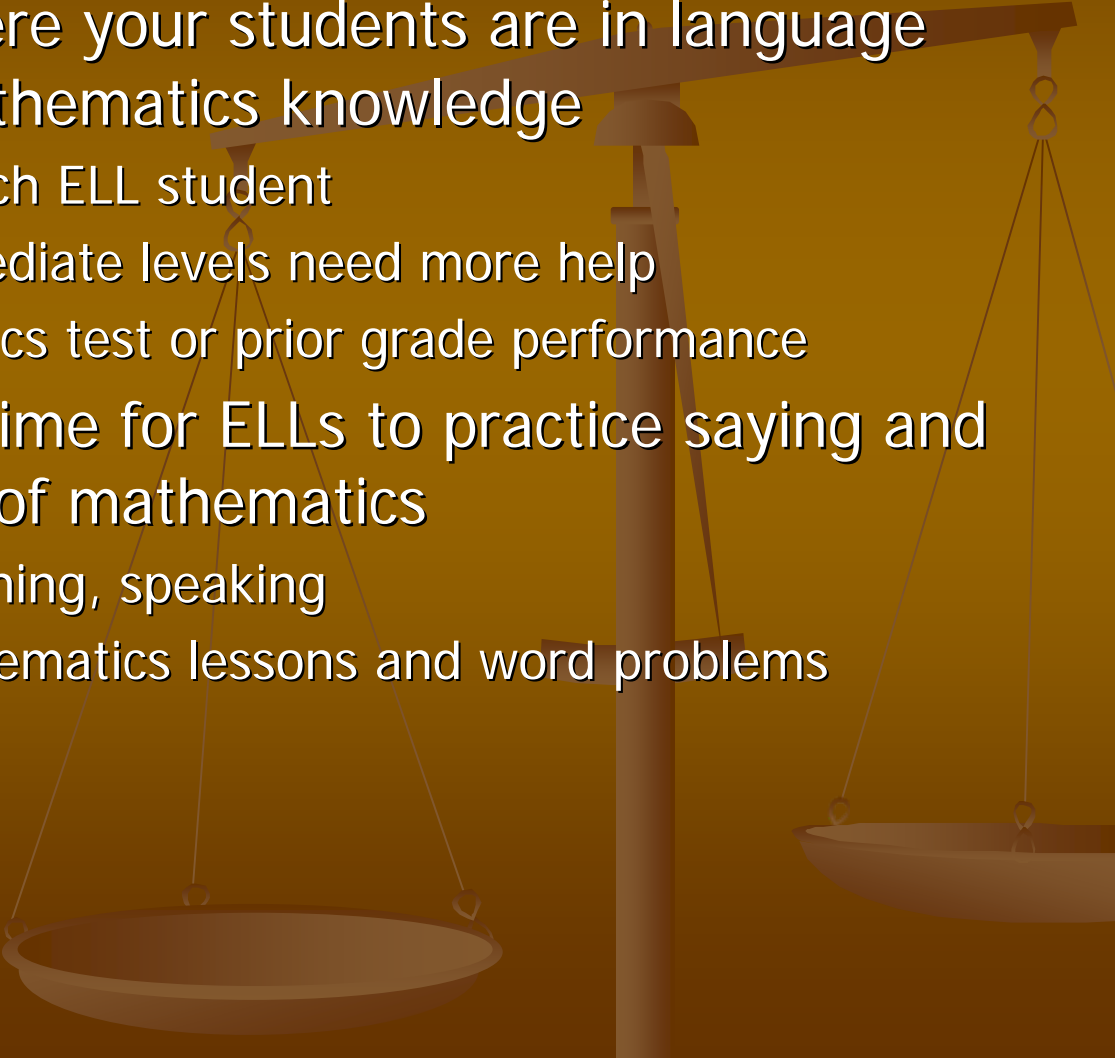
Negative Values



Positive Values

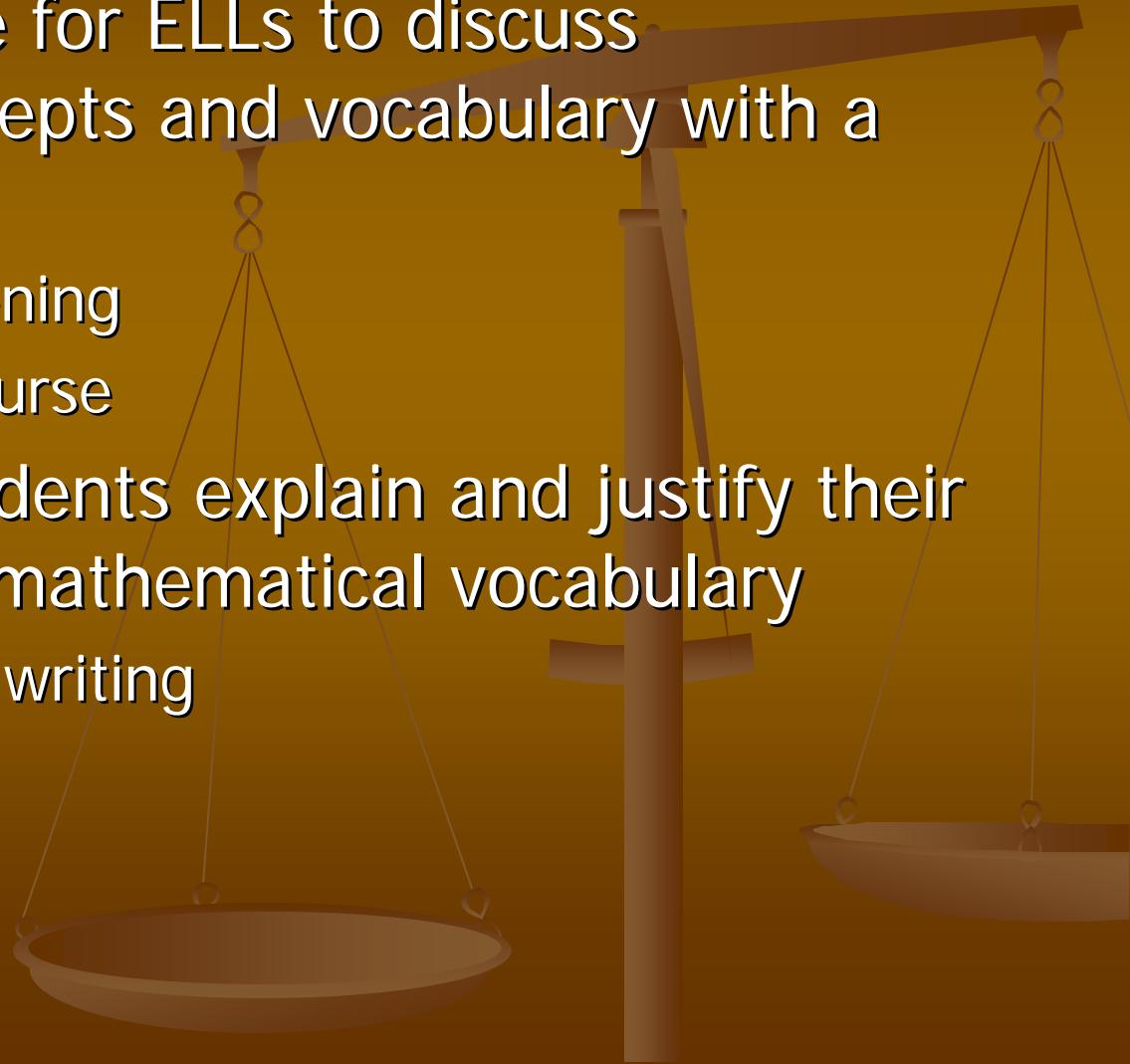


What Can Teachers Do

- Step 1 – find out where your students are in language development and mathematics knowledge
 - TELPAS ratings for each ELL student
 - Beginning and intermediate levels need more help
 - Mathematics diagnostics test or prior grade performance
 - Step 2 – allow extra time for ELLs to practice saying and writing the language of mathematics
 - Reading, writing, listening, speaking
 - Incorporate into mathematics lessons and word problems
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What Can Teachers Do

- Step 3 – Plan time for ELLs to discuss mathematics concepts and vocabulary with a partner
 - Speaking and listening
 - Accountable discourse
- Step 4 – Have students explain and justify their understanding of mathematical vocabulary
 - Both orally and in writing



What Can Teachers Do

- Step 5 – Intentionally teach vocabulary within the context of the mathematics lesson
 - Much more than just a language objective
 - Show multiple representations
 - Say the word, write the word, and associate a picture or diagram with the word
 - Use verbal scaffolding (Sheltered Instruction)
 - Paraphrasing – restate student's response to show correct vocabulary definitions
 - Think-alouds – show how you (the teacher) would define and use a mathematics word
 - Reinforce contextual definitions – an equilateral triangle, one with all sides and angles congruent

What Can Teachers Do

- Step 5 – Intentionally teach vocabulary within the context of the mathematics lesson (cont.)
 - Use the mathematical register
 - Say reflection not “flip” except to provide support
 - Have students say and write mathematical definitions as much as they can using their developing English skills
 - Write word problems using mathematical words, not conversational English (and then provide support)
 - Model vocabulary with manipulatives and pictures
 - Polydrons to learn classification of solids and to “see” surface area
 - Use geoboards, tangrams, color tiles, and snap cubes to “practice” the mathematical terms



TODOS (Mathematics for All)--- NCTM affiliate

A national organization that supports equitable and high quality mathematics education for all students, with particular emphasis on Latino/Hispanic students.

<http://www.todos-math.org/>