

Problem Solving Vocabulary List

(Definitions for Middle School Teachers)

A

- **Analytic Rubric for Problem Solving** – a rubric that can be considered as a guide for scoring assessment tasks that can be applied in a fair and consistent manner. Also, this type of rubric uses scaled scores for each criterion, focuses on specific aspects of the assessment task, and provides specific feedback about the learning.
 - For more Info:
<http://www.teach-nology.com/cgi-bin/math.cgi>
- **Assessment** – according to the National Council of Teachers of Mathematics, assessment is the process of gathering evidence about a student’s knowledge of, ability to use, and disposition toward mathematics and of making inferences from that evidence for a variety of purposes. Assessment is a term that has often been used interchangeably with the terms testing, measurement, and evaluation.

F

- **Formative Assessment** – a task that informs students about their learning through feedback provided by the teacher. This feedback can be used to direct instruction.

H

- **Holistic Rubric for Problems Solving** – a rubric that can be considered as a guide for scoring assessment tasks that can be applied in a fair and consistent manner. Also, this type of rubric uses one score for assessing the task, focuses on the overall quality of the assessment task, and provides general information about the learning.
 - For more info:
<http://www.teach-nology.com/tutorials/teaching/rubrics/whatare/>

M

- **Mathematical Tools** – tools that are used to solve math problems. According to the Texas Essential Knowledge and Skills (TEKS), mathematical tools for grade K-8 are real objects, manipulatives, paper/pencil, technology, mental math, estimation, and number sense.
 - For more info:
<http://illuminations.nctm.org/mathlets/>

P

- **Problem** – a problem is a situation, quantitative or otherwise, that confronts an individual or group of individuals, that requires resolution, and for which the individual sees no apparent path to the solution.
- **Problem Solving** – according to the National Council of Teachers of Mathematics (2000), problem solving means engaging in a task for which the solution method is not known in advance.

- **Problem Solving Heuristics** – heuristics provide a general direction to approach, understanding, and solving a problem. Heuristics can also be described as the general questioning strategies and techniques that one uses for solving problems.
- **Problem Solving Model** – a model for solving problems developed by George Polya. The model consists of four stages: (1) understand the problem, (2) devise a plan, (3) carry out the plan, and (4) review the results.
 - For more info:
http://www.tiu11.org/cpe/Polya_stages.doc
- **Problem Solving Strategies** – strategies that are used to solve math problems. Examples of problem solving strategies are to draw a picture, look for a pattern, guess and check, act it out, make a table, work a simpler problem, work backward, eliminate possibilities, use a matrix, and use algebra.
 - For more info:
<http://206.152.229.6/Problems/strategies.html>

S

- **Summative Assessment** – an evaluation or summary of what the student has learned, that is comprehensive in nature, provides accountability and is used to check the level of learning at the end of the program.