Alignment of Texas State Standards with *Solve It!*

Standard	Description	Alignment with *Solve It!*
MATHEMATICAL PROCESS STANDARD A	Apply mathematics to problem solving arising in everyday life, society, and the workplace.	***Solve It!*** Is an instructional program designed to improve the mathematical problem-solving skills of students in middle and secondary school grades. Mathematical problem-solving skills are essential for success in school, on the job, and in the community. The purpose of ***Solve It!*** is to teach students to be successful problem solvers.
MATHEMATICAL PROCESS STANDARD B	Use a problem-solving model that incorporates analyzing, giving information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.	• **Paraphrasing** ("analyze giving information," "represent linear relationships using verbal descriptions…") • **Hypothesizing** ("formulating a plan or strategy, determining a solution, justifying the solution"; "determining solutions using experimental data for simple and compound events") • **Metacognition** ("evaluating the problem-solving process and the reasonableness of the solution") • **Checking** ("evaluating the problem-solving process and the reasonableness of the solution") • **Estimation** ("estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication, or division"; "make predictions and determine solutions using experimental data for simple and compound events") • **Computing** ("develop and use strategies and methods for positive number computations in order to solve problems with efficiency and accuracy")
MATHEMATICAL PROCESS STANDARD C	Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate along with techniques that include mental math, estimation, and number sense as appropriate to solve problems.	• **Visualizing** ("classify whole numbers, integers, and rational numbers using a visual representation") • **Estimation** ("determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction")

continued

Huang, Jia (2015). *State math standards aligned with* ***Solve It!*** Reston, VA: Exceptional Innovations.

Alignment of Texas State Standards with *Solve It!*

Standard	Description	Alignment with *Solve It!*
MATHEMATICAL PROCESS STANDARD D	Communicate mathematical ideas, reasoning, and their implications using multiple representations that include symbols, diagrams, graphs, and language as appropriate.	• **Visualizing** ("using multiple representations, including symbols, diagrams, graphs"; "using the graphical representation of numeric data to describe the center, spread, and shape of the data distribution") • **Paraphrasing** ("using multiple representations including… language")
MATHEMATICAL PROCESS STANDARD E	Create and use representations to organize, record, and communicate mathematical ideas.	• **Visualizing** ("extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers"; "represent multiplication of decimals with products to the hundredths using objects and pictorial models"; "represent a give situation using verbal descriptions, tables, graphs…") • **Hypothesizing** ("to organize mathematical ideas")
MATHEMATICAL PROCESS STANDARD F	Analyze mathematical relationships to connect and communicate mathematical ideas.	• **Hypothesizing** ("use mathematical relationships to generate solutions and make connections and predictions") • **Visualizing** ("use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism"; "extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers") • **Concepts of Operations** ("apply and extend previous understandings of operations to solve problems"; "use the order of operations"; "generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties") • **Estimation** ("use mathematical relationships to generate solutions and make connections and predictions")

continued

Alignment of Texas State Standards with *Solve It!*

Standard	Description	Alignment with *Solve It!*
MATHEMATICAL PROCESS STANDARD G	Display, explain, and justify mathematical ideas and arguments using precise mathematical languages in written or oral communication.	• **Visualizing** ("represent categorical data with bar graphs or frequency tables and numerical data") • **Estimation** ("round decimals to tenths or hundredths") • **Hypothesizing** ("display, explain, and justify mathematical ideas and arguments using precise mathematical languages in written") • **Computing** ("display…mathematical ideas and arguments using precise mathematical languages in written") • **Checking** ("evaluate arguments")