

# Primary Grades Instructional Data (10 point option)

## Subject: Mathematics

### Goal: Problem Solving



Database last updated with additional data statements on 2/15/2008

141 - 150	Skills and Concepts to Enhance (73% probability*)	151 - 160	Skills and Concepts to Develop (50% probability*)	161 - 170	Skills and Concepts to Introduce (27% probability*)
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#### Logic, Reasoning, Conjectures, and Proof

165 Solves a non-routine story problem using reasoning strategies (substitution; 1-digit addends; sum  $\leq 10$ )

#### Solution Strategies and Verification of Answers

157 Selects a strategy of working backwards to solve a non-routine story problem (1-digit addends; sum  $\leq 20$ ; manipulatives shown)

#### Understand and Represent Word Problems

143 Represents an addition story problem (1-digit addends; sum  $\leq 5$ ; manipulatives shown; real-world objects)

148 Represents an addition story problem (1-digit addends; sum  $\leq 10$ ; using manipulatives; real-world objects)

149 Represents an addition story problem (1-digit addends; sum  $\leq 5$ ; using manipulatives; real-world objects)

151 Represents an addition story problem (1-digit addends; sum  $\leq 10$ ; using manipulatives; real-world objects)

156 Represents a subtraction story problem (1-digit minuend and subtrahend; minuend  $\leq 5$ ; using manipulatives; real-world objects)

156 Represents an addition story problem (1-digit addends; sum  $\leq 10$ ; manipulatives and operation symbol shown; base-10 blocks)

159 Represents an addition story problem (1-digit addends; sum  $\leq 10$ ; equations shown; addition and subtraction equations)

160 Represents an addition story problem (1-digit addends; sum  $\leq 10$ ; manipulatives shown; real-world objects)

160 Represents an addition story problem (1-digit addends; sum  $\leq 5$ ; manipulatives and operation symbol shown; base-10 blocks)

161 Represents an addition expression (1-digit addends; sum  $\leq 5$ ; manipulatives and operation symbol shown; geometric shapes)

161 Represents an addition story problem (1-digit addends; sum  $\leq 20$ ; manipulatives and operation symbol shown; real-world objects)

161 Represents an addition story problem (1-digit addends; sum  $\leq 5$ ; manipulatives and equations shown; addition and subtraction equations)

161 Represents an addition story problem (1-digit addends; sum  $\leq 5$ ; using manipulatives; real-world objects)

162 Represents a subtraction story problem (1-digit minuend and subtrahend; minuend  $\leq 5$ ; manipulatives shown; base-10 blocks)

163 Represents an addition story problem (1-digit addends; sum  $\leq 5$ ; manipulatives and operation symbol shown; geometric shapes)

\* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills.

141 - 150 Skills and Concepts to Enhance  
(73% probability\*)

151 - 160 Skills and Concepts to Develop  
(50% probability\*)

161 - 170 Skills and Concepts to Introduce  
(27% probability\*)

164 Represents a subtraction story problem (1-digit minuend and subtrahend; minuend  $\leq 10$ ; manipulatives shown; real-world objects)

164 Represents an addition story problem (1-digit addends; sum  $\leq 5$ ; manipulatives and equations shown; addition equations)

165 Represents an addition story problem (1-digit addends; sum  $\leq 10$ ; equations shown; addition and subtraction equations)

165 Represents an addition story problem (1-digit addends; sum  $\leq 5$ ; manipulatives and operation shown; real-world objects)

166 Represents repeated addition (1-digit addends; sum  $\leq 20$ ; manipulatives and equation shown; arrays)

167 Represents a subtraction expression (1-digit minuend and subtrahend; minuend  $\leq 5$ ; using manipulatives; base-10 blocks)

167 Represents an addition story problem (1-digit addends; sum  $\leq 10$ ; manipulatives shown; number lines)

169 Represents a subtraction story problem (2-digit minuend and 1-digit subtrahend; minuend  $\leq 20$ ; using manipulatives; real-world objects)

170 Represents a subtraction story problem (1-digit minuend and subtrahend; minuend  $\leq 5$ ; manipulatives shown; real-world objects)

\* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills.