Mathematics Grade 4 IAB - Operations and Algebraic Thinking - 16 Total Items

9 items are represented by the targets listed in Claim 1

Claim #1
Concepts and Procedures
Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.

Operations and Algebraic Thinking

Target A - 4 Items
Use the four operations with whole numbers to solve problems.
- Standards
  - 4.OA 1
  - 4.OA 2
  - 4.OA 3
- DOK 1, 2

Target B - 4 Items
Gain familiarity with factors and multiples.
- Standard
  - 4.OA 4
- DOK 1, 2

Target C - 1 Item
Generate and analyze patterns.
- Standard
  - 4.OA 5
- DOK 2, 3

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Mathematics Grade 4 IAB - Operations and Algebraic Thinking

2 items are represented by the targets listed in Claim 2

Claim #2
Problem Solving
Students can solve a range of complex well-posed problems in pure and applied mathematics, making productive use of knowledge and problem-solving strategies.

Target A
Apply mathematics to solve well-posed problems in pure mathematics and those arising in everyday life, society, and the workplace.

Target B
Select and use appropriate tools strategically.

Target C
Interpret results in the context of a situation.

Target D
Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flowcharts, or formulas).

4.OA.1-3, 4.NBT.4-6, 4.NF.1-7, 4.MD.1-3, 4.MD.5-7

DOK 2, 3
DOK 1, 2, 3
DOK 1, 2, 3
DOK 1, 2, 3
Claim #3
Communicating Reasoning
Students can clearly and precisely construct viable arguments to support their own reasoning and to critique the reasoning of others.

Target A
Test propositions or conjectures with specific examples.

Target B
Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures.

Target C
State logical assumptions being used.

Target D
Use the technique of breaking an argument into cases.

Target E
Distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in the argument—explain what it is.

Target F
Base arguments on concrete referents such as objects, drawings, diagrams, and actions.

4.OA.3, 4.NBT.1-3, 4.NBT.5-6,
4.NF.1, 4.NF.2, 4.NF.3a, 4.NF.3b, 4.NF.3c, 4.NF.4a, 4.NF.4b, 4.NF.5-7

DOK 2, 3
DOK 2, 3, 4
DOK 2, 3
DOK 2, 3
DOK 2, 3, 4
DOK 2, 3

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Claim #4
Modeling and Data Analysis
Students can analyze complex, real-world scenarios and can construct and use mathematical models to interpret and solve problems.

Target A: Apply mathematics to solve problems arising in everyday life, society, and the workplace.

Target B: Construct, autonomously, chains of reasoning to justify mathematical models used, interpretations made, and solutions proposed for a complex problem.

Target C: State logical assumptions being used.

Target D: Interpret results in the context of a situation.

Target E: Analyze the adequacy of and make improvements to an existing model or develop a mathematical model of a real phenomenon.

Target F: Identify important quantities in a practical situation and map their relationships (e.g., using diagrams, two-way tables, graphs, flowcharts, or formulas).

Target G: Identify, analyze and synthesize relevant external resources to pose or solve problems.


DOK 2, 3
DOK 2, 3
DOK 2, 3
DOK 2, 3
DOK 2, 3
DOK 3, 4
DOK 3, 4

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