Stack'em Up — *P022 scoring rubric*

Math Domain

☑ Number/Quantity	☐ Shape/Space	☐ Function
☐ Chance/Data	☐ Arrangement	

Math Actions (possible weights: 0 through 4)

2 Modeling/Formulating	0 Manipulating/Transforming
2 Inferring/Drawing Conclusions	2 Communicating

Math Big Ideas

☐ Scale	☐ Reference Frame	☐ Representation
☐ Continuity	☐ Boundedness	☐ Invariance/Symmetry
☐ Equivalence	☐ General/Particular	☐ Contradiction
☐ Use of Limits	☑ Approximation	☐ Other

1a. Answers will vary depending on the number and height of students in the, but are not likely to be affirmative. In general, the number of books, in general will be insufficient to match the height of the tallest student.

1b. Answers will vary depending on the desk height and the number of students/books in the classroom.

2. The answers will depend on the actual students, desks and books.

3. Estimation strategies should include comparing the height being measured to a height actually measurable in stacked books, such as the level of the tallest student's knee or the height of the chair attached to the desk, etc. Students should exhibit an ability to compare measurable quantities, and to roughly estimate their relative sizes.

	partial level (1 or 2)	full level (3)
Modeling/ Formulating (weight: 2)	Student makes some differentiation between estimation and measurement.	Student makes the connection between stack height and the number of books.
Transforming/ Manipulating (weight: 0)		
Inferring/ Drawing Conclusions (weight: 2)	Student makes some reasonable guesses, but has a fragile explanation for them.	Student provides a clear approach for the estimation in question **3**, and gives a reasonable answer.
Communicating (weight: 2)	Student provides partial reasoning and reports only a summary of results.	Student provides complete reasoning and a full explanation of how the results were obtained.