

Math Domain

- | | | |
|---|--------------------------------------|---|
| <input type="checkbox"/> Number/Quantity | <input type="checkbox"/> Shape/Space | <input type="checkbox"/> Function/Pattern |
| <input checked="" type="checkbox"/> Chance/Data | <input type="checkbox"/> Arrangement | |

Math Actions (possible weights: 0 through 4)

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|--|--|
| <input type="checkbox"/> 2 Modeling/Formulating | <input type="checkbox"/> 1 Manipulating/Transforming |
| <input type="checkbox"/> 2 Inferring/Drawing Conclusions | <input type="checkbox"/> 2 Communicating |

Math Big Ideas

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|--|---|--|
| <input type="checkbox"/> Scale | <input type="checkbox"/> Reference Frame | <input checked="" type="checkbox"/> Representation |
| <input type="checkbox"/> Continuity | <input type="checkbox"/> Boundedness | <input type="checkbox"/> Invariance/Symmetry |
| <input type="checkbox"/> Equivalence | <input type="checkbox"/> General/Particular | <input type="checkbox"/> Contradiction |
| <input type="checkbox"/> Use of Limits | <input type="checkbox"/> Approximation | <input type="checkbox"/> Other |

The intent of this task is to have students demonstrate their ability to read, interpret, and create scatter plots.

1. Some possible responses are: John is the heaviest, Sarah weighs the least, Sarah is the tallest, Alan is the shortest boy, Nurit is the lightest and the shortest girl, Sarah is both very tall and weighs the least so she must be pretty slim, etc.
- 2a. Fourth graders are generally taller and heavier than kindergarten students so the set of points would be moved diagonally towards greater values of both coordinates.
b. Although there will be some differences or “scatter” between heights and weights in the fourth grade, all of these points will stay in a relatively small area on the grid, and the spread between the points will not be noticeably different from the spread between the kindergarten points.
3. Again, there will be some difference between heights and hand length in fourth grade students, but all of the points should stay in a relatively small area on the grid.
4. Since people coming to a baseball game are of different ages, the scatter between the points on the diagram will be substantially greater than in the previous cases.

	partial level	full level
Modeling/ Formulating (weight: 2)	Correctly place points on the scatter plot taking either height or hand length into account.	Correctly place points on the scatter plot taking both attributes into account.
Transforming/ Manipulating (weight: 1)	Draw the picture of the class in 3 with partial accuracy.	Correctly draw the group graph in 3 , and have numerical labeling reasonable and consistent with units.
Inferring/ Drawing Conclusions (weight: 2)	Give reasonable assumptions and correctly interpret points on the scatter plot in 1 and 2 .	Additionally, give reasonable assumptions in 4 .
Communicating (weight: 2)	Neglect to include reasonable labels or to make a list of the measurements in 3 . Provide an unclear or incomplete explanation in 2a , 2b and 4 .	Draw a clear grid in 3 accompanied by a list of the measurements, and use appropriate labels on the axis. Provide a full verbal explanation in 2a,2b and 4 .