

Math Domain

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|---|--------------------------------------|-----------------------------------|
| <input checked="" type="checkbox"/> Number/Quantity | <input type="checkbox"/> Shape/Space | <input type="checkbox"/> Function |
| <input 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"/> 2 Manipulating/Transforming |
| <input type="checkbox"/> 2 Inferring/Drawing Conclusions | <input type="checkbox"/> 2 Communicating |

Math Big Ideas

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|---|---|--|
| <input checked="" type="checkbox"/> Scale | <input type="checkbox"/> Reference Frame | <input 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 checked="" type="checkbox"/> Approximation | <input type="checkbox"/> Other |

- A school bus is about 40 feet long, so each foot of the model would be 4 feet long.
 - Railroad cars are about 75 feet long, so the model's arms would be about 15 feet.
 - Any number between 30 and 50 feet is a reasonable answer for the lizard's height.
 - Since the circumference of a basketball is about 30", the head of the model would be about 6 inches, or $\frac{1}{2}$ foot in circumference.
- If students measure the length of their own feet, arms, height, and head circumference, they will find that the ratios between these body parts are quite different from those of the lizard. The largest difference will be in the ratio of the head to the other body parts.

	partial level	full level
Modeling/ Formulating (weight: 2)	Student develops a partially successful strategy to answer 2 , but may fail to use proportional reasoning to its full advantage.	Student develops a successful, logically sound strategy to answer 2 .
Transforming/ Manipulating (weight: 2)	Student may have some incorrect estimates, or may fail to convert estimates to 1/10 size.	All estimates are reasonable, and all are correctly converted by the 1:10 scaling factor.
Inferring/ Drawing Conclusions (weight: 2)	Student is not able to determine reasonable estimates from the provided information. or Student is unable to use the measurements in question 2 to answer the question.	All estimates are reasonable, and the personal measurements taken in 2 are used efficiently to answer the question.
Communicating (weight: 2)	The answer to 2 is unclear or incomplete.	The answer to 2 is stated in clear prose, with justifications stated completely and accurately.