##### Purpose of assessment: To use world record data to predict a record forty years from now and to evaluate the strategy used.

|  | |  | A | B | C | D | E |
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| Understanding and Skills dimensions | Understanding & Fluency | Recall and use of facts, definitions, technologies and procedures  Display of world record data as a scatter plot and representation of the relationship as a linear function. | Accurate use of technologies to present data as a scatter plot. Accurate use of procedures to effectively represent the relationship as a linear function. | Accurate use of technologies and procedures to present data as a scatter plot and to represent the relationship as a linear function. | Use of technologies and procedures to present data as a scatter plot. | Some use of technologies and procedures to present data. | Attempted use of technologies and procedures to present data. |
| Use of mathematical language, conventions and symbols  Use of appropriate language, conventions and symbols when graphing data, developing equations and providing explanations. | Consistent use of appropriate conventions and symbols when graphing data and developing equations. Consistent use of appropriate mathematical language in explanations. | Use of appropriate conventions and symbols when graphing data and developing equations. Use of appropriate mathematical language in explanations. | Use of conventions and symbols when graphing data. Use of mathematical language in explanations. | Use of aspects of mathematical conventions, symbols and language. | Use of everyday language. |
| Problem solving & Reasoning | Development of models and representations  Development and evaluation of a mathematical model to determine how world records have changed over time and to predict a future world record. | Evaluation and interpretation of a scatter plot and a linear function to accurately describe a trend in world records and make a valid prediction. | Development of a scatter plot and a linear function to describe the trend in world records and to make a prediction. | Refers to a scatter plot to describe the trend in world records to make a rough prediction. | Statements about world record trends to make a prediction. | Isolated statements about world record trends or predictions. |
| Discussion of mathematical thinking, choices and strategies  Use of mathematical argument to support a prediction.  Evaluation of the suitability of the strategy used to make a prediction. | Clear explanation of a mathematical argument to support the prediction, including a logical justification of the strategies used. | Explanation of a mathematical argument to support the prediction, including a justification of the strategies used. | Description of the mathematical thinking behind the prediction and strategies used. | Statements about strategies used. | Isolated statements about strategies. |