

FOR IMMEDIATE RELEASE

International Society for Design and Development in Education Selects Winners of First Annual Design Awards, "The Eddies"

Developers from UK's University of Nottingham and Michigan State University Are Recognized

Berkeley, CA (July 10, 2008) The International Society for Design and Development in Education (ISDDE) today announced the winners of the organization's first annual design awards, known as "the Eddies," to recognize excellence in design of educational products and materials in science or mathematics. The 2008 award winners and recipients of a \$10,000 prize are: Malcolm Swan of the Shell Centre at the University of Nottingham, for *The Language of Functions and Graphs*; and the team of Glenda Lappan and Elizabeth Phillips at Michigan State University, for *Connected Mathematics*.

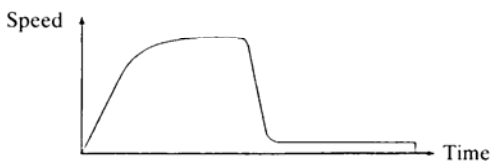
"These products are delightful to use in otherwise ordinary circumstances, effective for learning important and difficult mathematics, and original contributions to the field of design," said Philip Daro, University of California, Berkeley, and the Chair of the ISDDE Awards Committee.

"A product has to work for many different hands in the clamor of real classrooms. Most products do not work very well...you design wonderful tasks, you try them and discover they don't work. Then redesign, redesign until it works. Fail fast; fail often," said Hugh Burkhardt, Chair of the Society.

The Language of Functions and Graphs, developed by Malcolm Swan, opened eyes to the wonderful ways students can learn how the line graphs of mathematical functions model situations from the real world or from the imagination. The correspondences (and non-correspondences!) between the graph and the structure of the situation are brought delightfully to the student's attention through well-crafted problems and questions. The approach of direct interpretation from graph to engaging phenomenon is really developed for the first time in problems like "Which Sport?". Published in 1985, *The Language of Functions and Graphs* has influenced the design of instructional materials and assessments world-wide.

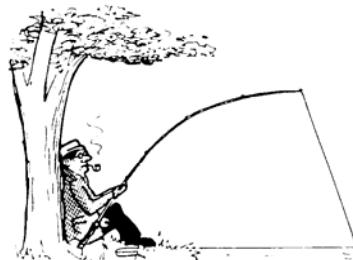
Which Sport?

Which sport will produce a graph like this?



Choose the best answer from the following and explain exactly how it fits the graph.

Write down reasons why you reject alternatives.



- Fishing
- Pole Vaulting
- 100 metre Sprint
- Sky Diving
- Golf
- Archery
- Javelin Throwing
- High Jumping
- High Diving
- Snooker
- Drag Racing
- Water Skiing

The Language of Functions and Graphs, colloquially known as “The Red Box”, is also notable for the systematic development process that included multiple trials and revision of the materials by the Shell Centre team, ultimately with representative samples of teachers and students. Swan’s empirically refined material proved robust across varied circumstances of use. It was also an early example of the well-aligned integration in a single module of the following elements: assessment tasks with rubrics for analyzing and grading performance; exemplified student performances; teaching materials for the new content; and a professional development package, with “do-it-yourself” robustness. To learn more about *The Language of Functions and Graphs*, visit www.mathshell.com.

Glenda Lappan and Elizabeth Phillips led a team at Michigan State in the development of *Connected Mathematics*, a three-year mathematics curriculum for U.S. middle school students, aged 11 to 14. Classroom instruction focuses on the investigation of mathematical ideas embedded in common situations. This careful design has been realized with considerable flair and imagination in many of the units. Original and effective use of text structures clarifies the important distinction between everyday and technical language that, left implicit, so often confuses students.

Two modules within the curriculum, *Variables and Patterns* and *Say It With Symbols* exemplify the excellence of the design work. In *Variables and Patterns*, students learn algebra by exploring everyday situations such as bicycle and car trips, costs of amusement park rides or car washes, box office receipts and races. *Say It With Symbols* tackles the development of robust fluency in symbolic manipulation (always a high priority) by focusing on “making sense of symbols” at every stage. Work on interpreting symbolic expressions leads on to creating equivalent expressions and thus to sense-making solution of linear and quadratic equations, and to modeling.

Lappan and Phillips employed a development process that was the epitome of good engineering, with substantial feedback (including, for example, video of the entire lesson sequence) from three rounds of field trials. The consultation with teachers and others was thorough. The trade-offs inevitable in any design were judged shrewdly, so that the *Connected Mathematics* has had systemic positive impact on U.S. middle school mathematics teaching and learning. To learn more about *Connected Mathematics*, visit <http://connectedmath.msu.edu/>.

ISDDE was founded to bring together outstanding designers and developers to collectively define and achieve excellence in educational products and materials, particularly in science, math, and technology; and to create a professional community that shares knowledge, research, approaches, and critiques. ISDDE advances these goals through annual conferences, a soon-to-launch e-journal, *Educational Designer*, and “The Eddies,” which recognize and give exposure to outstanding work in the field. The 2009 “Eddies” will recognize a substantial body of work over a period of years. For more information about ISDDE and its awards, visit www.isdde.org.

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