Introduction to Modeling Pedagogy

A 2-hour presentation to the McREL Math-Science Team
by Earl Legleiter <elegleiter@mcrel.org>, Senior Consultant - Science.
(formerly the physics teacher at El Dorado High School, El Dorado, Kansas)
August 19, 2003

1) Powerpoint presentation
   a) What is a model?
      i) Slides 13, 14, and 15

1) Vicarious lab experience – Unit III – acceleration lab

1) Post video discussion – Unit III – acceleration lab
   a) Question/answers about the lab activity
   b) Eliciting the model from the lab experience
      i) Developing the mathematical models
      ii) How to draw a motion map

1) Deployment activity
   a) Participant were assigned a problem from Unit III worksheet 1 to whiteboard
   b) Participants presented whiteboard
      i) Participants engage in modeling deployment activity
      ii) Leader models classroom instructors role
      iii) Question/answer about deployment activity

1) Powerpoint presentation cont.
   a) How does modeling foster student understanding?
      i) Slides 17 and 18
   b) Student justification of the model
      i) Slide 19
   c) How does modeling change the work of the instructor?
      i) Slide 20
   d) Effectiveness of modeling
      i) Slide 22
   e) Modeling is science as inquiry
      i) Slide 16

6) Conclusion and discussion

---

1 The numbers refer to the slide frames that were used from the “Colleague” ppt downloaded from the Modeling web page.
2 Participants viewed the 5.5 minute video prepared by Jim Rynearson of Lincoln, NE to see how a Modeling lab experience is structured.