

Discussion Preparation

Name _____

Date: _____

| Timing | Rule of Thumb for Learning Focus What to Tell Groups to Draw/Write on The Board |
|--|---|
| New fundamental principle just introduced (e.g., forces, conservation of energy) | Learning focus is on how to draw new physics diagram(s) (where most alternative conceptions show up) |
| New concept has been introduced (e.g., independence of motion in the horizontal and vertical directions. | Learning focus is on how to incorporate the new concept in physics diagram(s), but you can often have students list equations as well. |
| No new concept has been introduced (or new concept is easy) | Learning focus is usually on the list of equations students need to solve the problem (indicates difficulties students continue to have in applying a principle and concepts) |

- I. Browse through *Competent Problem Solver* for examples of (a) how to draw the physics diagram for the group problem (e.g., motion, free-body, energy, and/or momentum diagram), (b) how to apply fundamental concepts and principles to solve problems, and (c) how to keeping track of the unknowns while constructing a solution.

Browse through textbook to see how similar problems are solved.

- II Solve the group problem in the way you would like students to solve the problem, so you know what to look for while coaching your students. Use the notation that is in the students' textbook.

- III Use Decision Table (above), your knowledge of difficulties your students had solving the last lab problem, and information from your team meeting to answer the following questions

| Opening Moves | |
|--|---|
| 1. What is the learning focus of this session that I will tell students? | |
| 2. What part(s) of the problem solution do you want groups to draw/write on the board? | |
| End Game | |
| 3. Do we need to spend extra time? | <input type="checkbox"/> YES <input type="checkbox"/> NO because: |
| 4. If YES, then how much extra time? What should I be prepared to coach and/or model? | Plan: |

IV. List some possible questions to ask groups during whole-class discussion (end game) that you think would promote a discussion.

| |
|----|
| a. |
| b. |
| c. |
| d. |
| e. |
| f. |
| g. |