Model Building

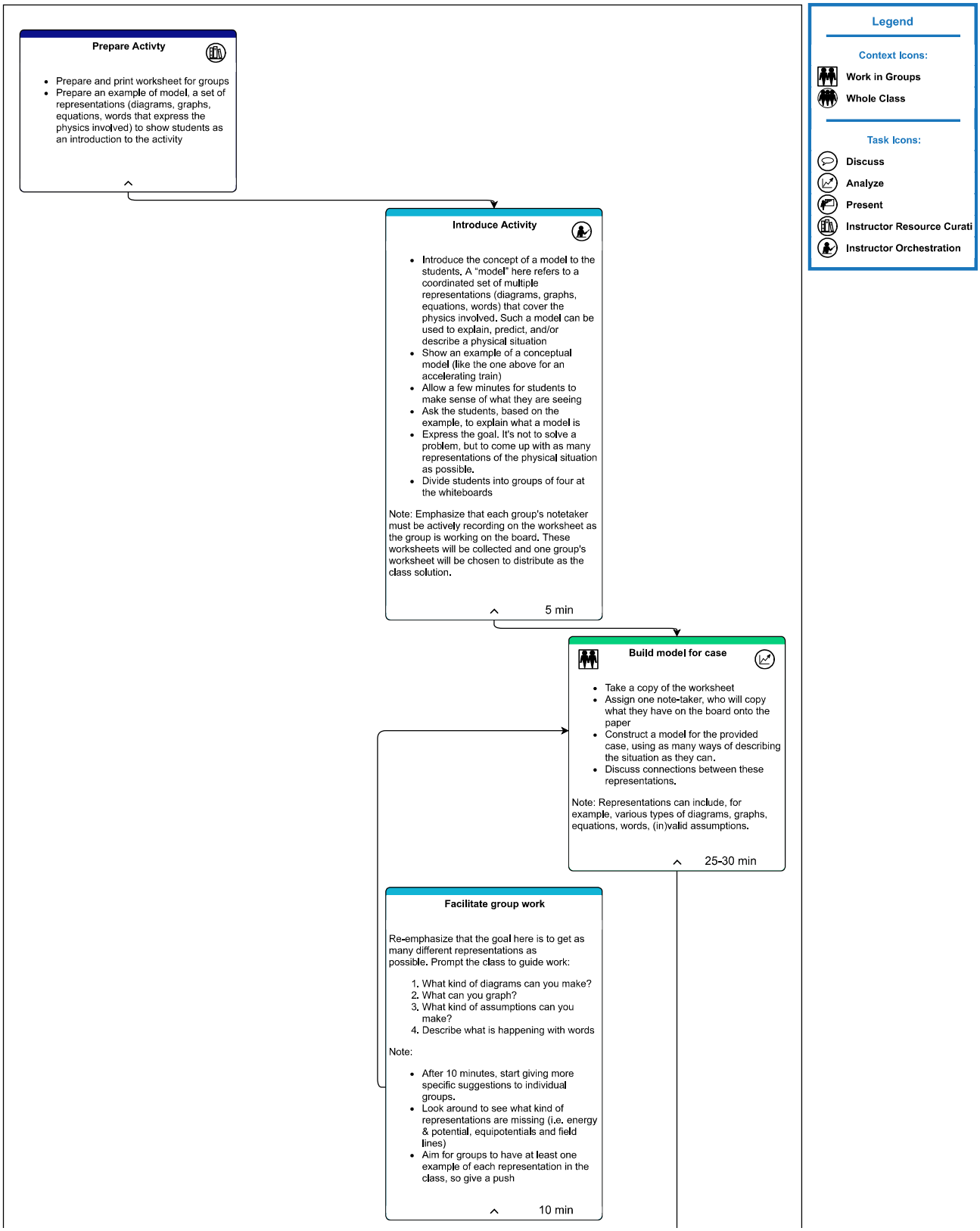
By Patrick Rogers

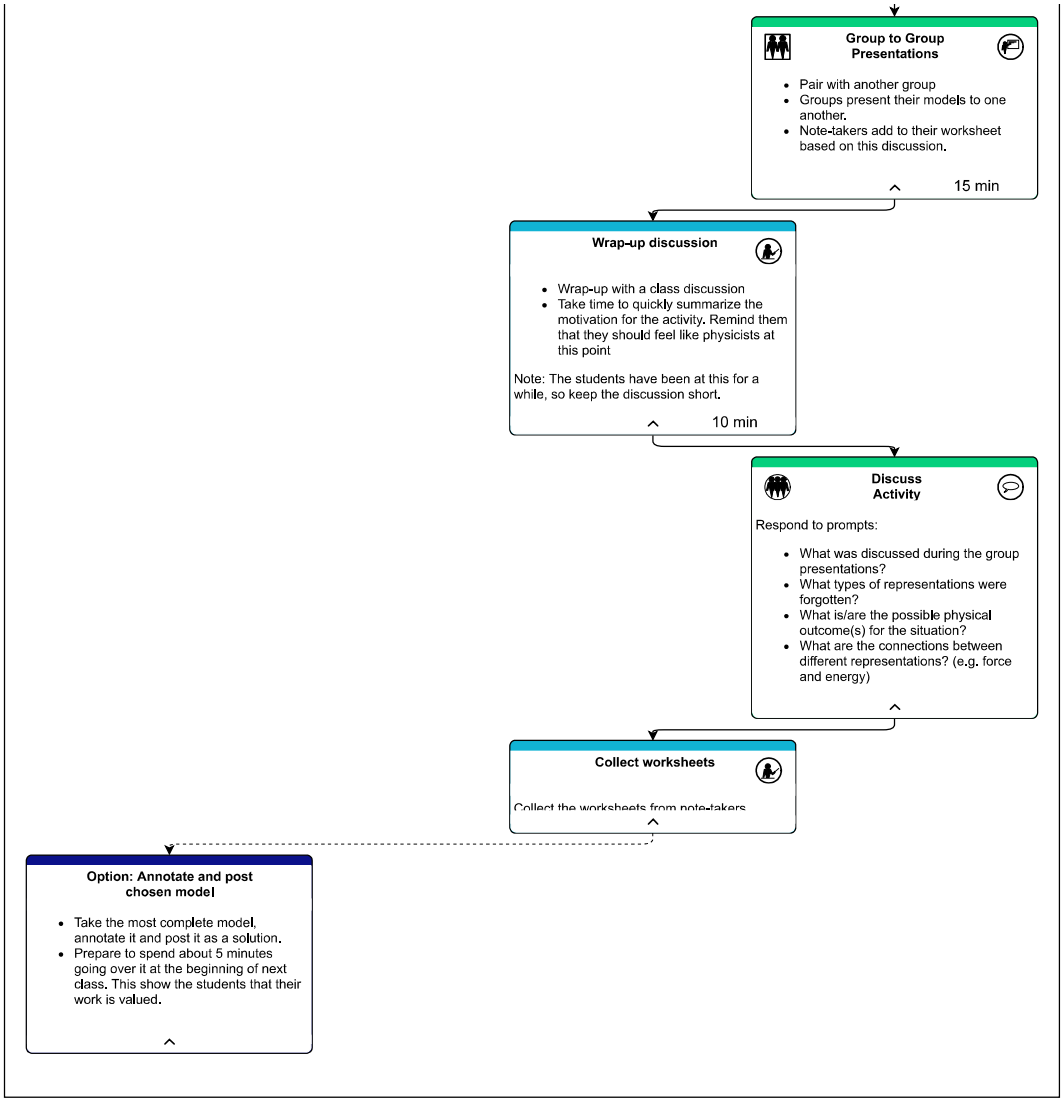
Description:

In this single-class activity, students build a conceptual model for a proton being launched towards a fixed, negatively charged particle. Through using multiple representations, this activity improves students' ability to solve problems and re-enforces connections between physics concepts.




Out of Class (Instructor) **Out of Class (Students)** **In Class (Instructor)** **In Class (Students)**




Group to Group Presentations
Pair with another group
Groups present their models to one another.
Note-takers add to their worksheet based on this discussion.
15 min
Wrap-up discussion
Wrap-up with a class discussion
Take time to quickly summarize the motivation for the activity. Remind them that they should feel like physicists at this point
Note: The students have been at this for a while, so keep the discussion short.
10 min
Discuss Activity
Respond to prompts:
What was discussed during the group presentations?
What types of representations were forgotten?
What is/are the possible physical outcome(s) for the situation?
What are the connections between different representations? (e.g. force and energy)
Collect worksheets
Collect the worksheets from note-takers
Option: Annotate and post chosen model
Take the most complete model, annotate it and post it as a solution.
Prepare to spend about 5 minutes going over it at the beginning of next class. This show the students that their work is valued.