Kinematics Concept Mapping

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Description:

In this single-class activity, students create a concept map representing their knowledge of kinematics using "nodes" and "links" (linking prepositions) and conceptual problems. They learn about the relationships between the various equations and concepts learned in kinematics and how the problems relate to these concepts. See a full description here.

Legend

Context Icons:
- Individual Work
- Work in Groups

Task Icons:
- Discuss
- Problem Solve
- Create/Design
- Revise/Improve
- Instructor Orchestration

Introduce Activity
- Explain how ideas can be linked together in a concept map, showing examples of concept maps
- Assign groups of 3-4
- Give each group sheets of "nodes" and "links" (linking prepositions) for their concept map. Each linking preposition represents concepts from kinematics

Create Concept Maps
- Working at whiteboards, cut out the nodes and links, using clear tape to affix them to the whiteboards to create a concept map.
- Note: Use the provided links and nodes rather than creating own links and nodes (constraining the concept map).

Answer Conceptual Questions
- Answer the four questions given by the instructor, providing a definitive and written rationale.

Finalize Responses
- Discuss the responses to the conceptual questions, coming to a consensus on each.

Revise Concept Maps
- Integrate the four questions as new nodes into the existing concept maps.

Gallery Walk
- Optional: Follow a gallery walk in which groups circulate around the whiteboards to observe and discuss or even peer review other groups' work.