Force and Motion Unit Revision

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How Did We Get Here?

- Force and Motion Unit piloted in Melissa’s grade 3 classroom
- Recognized the need for coherence from a student’s view
- Recognized the need for ease of implementation for teachers
How Did We Get Here?

- **Original Unit**
- Replaced videos with hand-on phenomena
- Split unit into 3 bends with separate phenomena
- Used the NGSS curriculum routines of Brian Reiser
- Added Assessments
Begin with the **Framework**
Force and Motion Student Workbook

https://tinyurl.com/yywqktds
Alignment to the Framework

Goals for student learning:

- Understand, use, and interpret scientific explanations of the natural world
- Generate and evaluate scientific evidence and explanations
- Understand the nature and development of scientific knowledge
- Participate productively in scientific practices and discourse
4 critical elements of an Anchoring Phenomenon Routine:

- **Element 1:** Explore the Phenomenon (*What do we notice?*)
- **Element 2:** Attempt to Make Sense of the Phenomenon (*How can we explain this? Do our explanations agree?*)
- **Element 3:** Identify Related Phenomena (*Where else does something similar happen?*)
- **Element 4:** Develop Questions and Next Steps (*What should we do to figure out how to explain this?*)
Navigation Routine

Looking Back - What did we just do?

Looking Forward - What are our next steps?
Connected Investigations Routine (navigation)

What question are students trying to answer or what problem are they trying to solve?

What are the students doing?

What pieces of the puzzle do students figure out?

Do you need to throw a wrench in their thinking?