Helpful Hints for Balance and Motion
2nd Grade

Investigation 1: “The First Straw”

- assembling the paper meter tape—remind students to only cut on dotted lines (not on solid lines) so that they can overlap the strips together
- color the meter tape (with a different color for every 10 cm)—do so before cutting/splitting them apart; this will help students in putting them in the right order
- “How Long Is It?” Science Notebook page—not needed to xerox for students; they can easily copy the chart from you on the board onto their lined paper
- add all Science Notebook pages, assessments, write-ups,...into Student Folders/Portfolios. Give each student a sheet protector to add into their folder.
- The sheet protector can be used to hold the meter tape and anything else that cannot fit in hole-punched sections.

Investigation 2: “Balance”

- Math Extension—Problem B—harder but good to try with whole class. My students enjoyed it. Teacher guides students along with the chart layout on board and breaks down the problem into smaller steps so that students can understand it better.

Investigation 3: “Spinners”

- teach students how to hold the shaft when trying to insert through disk. They should hold near the tip of the shaft that they want pushed into the disk’s hole. If they hold in the middle or bottom of shaft, the shaft can easily break or bend.
- some of my students enjoyed keeping the spinning tops contained in the paper lunch trays so that they can follow it better, especially when they want to see how their own designs look.
- the paper lunch trays also work well for the drawing tops, which are included in the kit. Put a half sheet of white paper in the tray to test out the drawing top. Students will see the path it takes.
- Zoomers activity—the string that’s supplied in the kit is not strong enough. Quite a few of them broke when my students tried to keep their zoomers going. Try to find some sturdier/thicker strings for this activity.
Investigation 4: “Rollers”

-Rolling Wheels--again remind students to hold at shaft’s end when inserting it through the disks’ holes

-Rolling Cups--use masking tapes (not Scotch tape) on the cups. Still not perfect because of the wax but better than clear tape. Keep lots of masking tapes on hand. Make sure students don’t bend/flatten the cups (will affect their roll and fall-in-your-face challenge)

-Rolling Wheels and rolling cups--at the end of each activity, gather students at rug/mat. Form 2 rows with the center being clear for 2 students to roll at a time for show-and-tell.

-Rolling Spheres--prepare for 3-4 days for this activity.
  ***1st day--partners test/explore and maybe small groups combine runways, using only 1 marble
  ***2nd day--whole class combine runways and test, using only 1 marble
  ***3rd day--record predictions on Marble Runways Science Notebook page and test out predictions. When testing out predictions, have 5-6 students work together with 3-4 foam runways and 1 marble.
  ***4th day--continue testing out predictions of Marble Runways; vocab. And concepts review after

***Great suggestion in FOSS--have a class-wide marble search at the end. This really works in finding almost all of the lost marbles!

Investigation 5: “Back and Forth”

-Kalimba and Xylophone challenges actually took my class 2 days to complete (not 1 day).

-additional Kalimbas and Xylophones can be found in the old 4th grade Sound unit kit (FOSS)

Possible Extensions:

-Field Trip:
  ***Exploratorium (for Sound and Magnetism)

-Video: “
  ***“Magic School Bus Plays Ball” (motion/friction)
-Suggested Books (taken from this unit’s Reading Extensions section –FOSS)

***Full of Energy by Sally Hewitt (K-5)
***How Do You Lift a Lion? by Robert E. Wells (K-2)
***Sounds All Around by Wendy Pfeffer (K-2)
***What Makes a Magnet? by Franklyn M. Branley (K-2)
***What’s Faster Than a Speeding Cheetah? By Robert E. Wells (K-5)
***Buzz by Janet S. Wong (K-2)
***The Listening Walk by Paul Showers (K-2)

***Above books are recommended by California Dept. of Education (CDE)