Float Your Boat

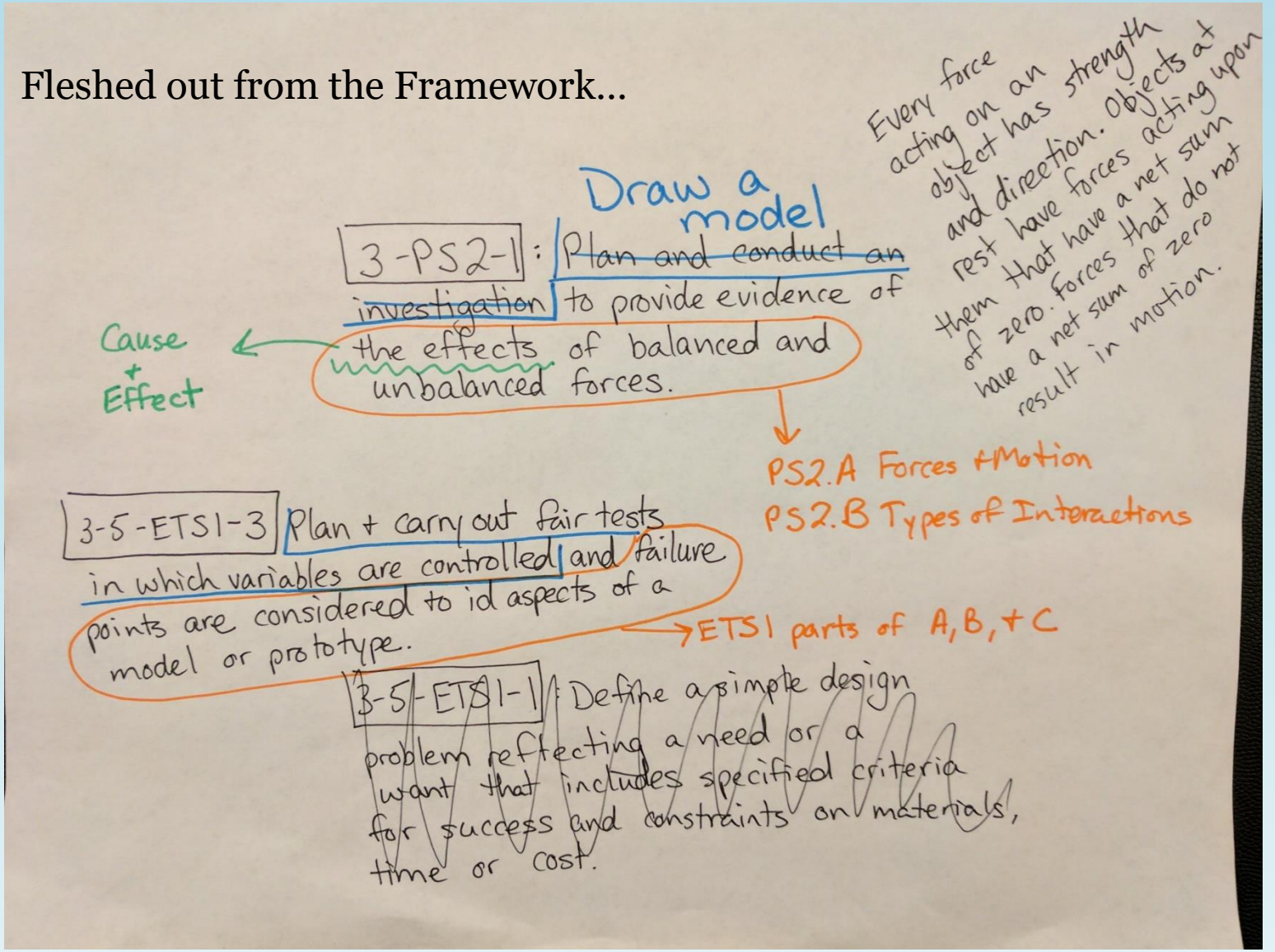
A 3rd Grade Buoyancy Inquiry

Start with the Standards!

3-PS2-1	**Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.** ***Clarification Statement: Examples could include an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all. Assessment Boundary: Assessment is limited to one variable at a time: number, size, or direction of forces. Assessment does not include quantitative force size, only qualitative and relative. Assessment is limited to gravity being addressed as a force that pulls objects down.***

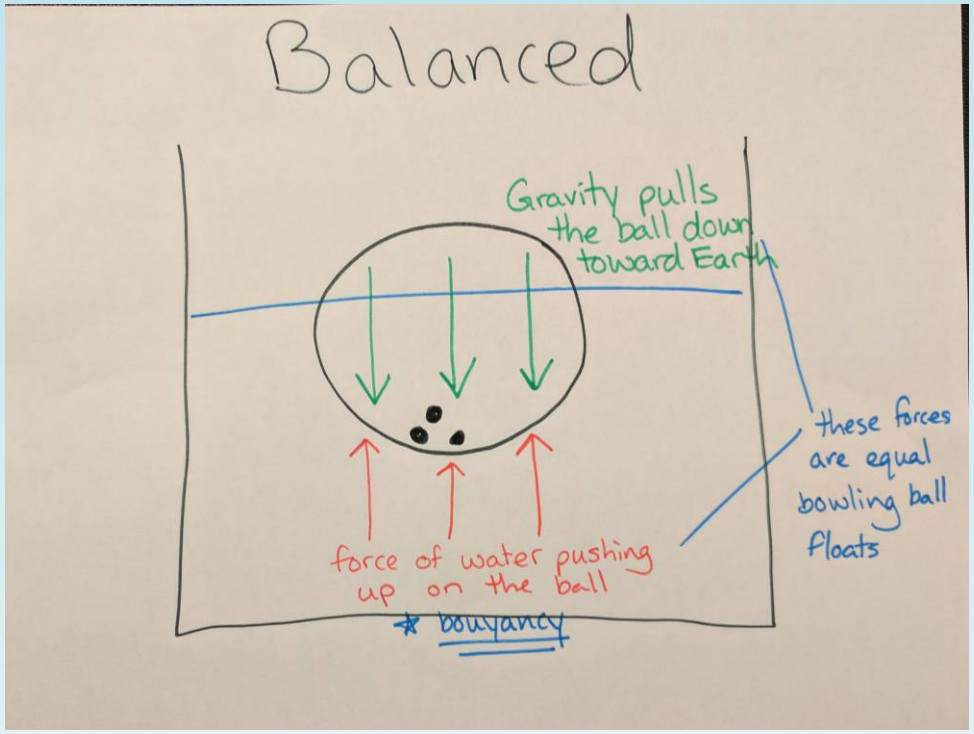
3-5-ETS1-1	**Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.**

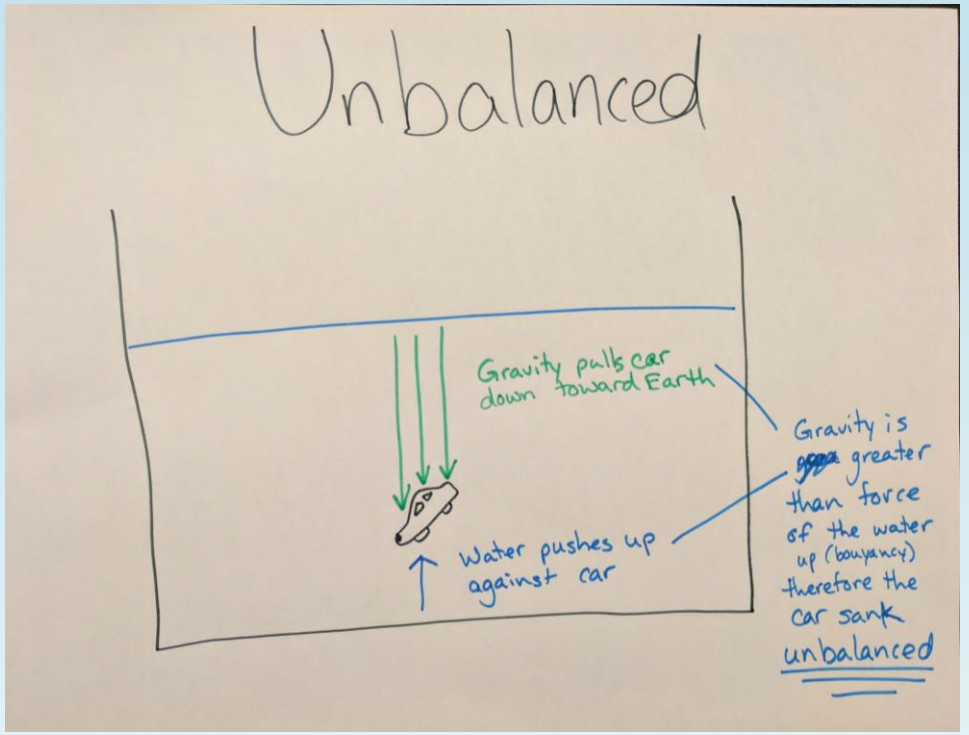
Fleshed out from the Framework…



Sink or Float Activity

Draw a model of an example from today's demonstration of an unbalanced force and a balanced force.





Float Your Boat

1. Build a boat out of 1 piece of aluminum foil. (approximately 30 cm x 30 cm)
2. Your boat must float and hold 5 pennies to be considered a “success.”
3. Draw a model of your first attempt.
4. Did it float? What improvements can you make?
5. Draw a model of your improved boat.
6. Repeat this process until you have “perfected” your design.

Contest!!! Whose boat can hold the most pennies?