

2019 FVC Schedule -- FINAL v7 20190216						Notes
white = general, minds-on	gray = general, hands-on	yellow = topical, minds-on	orange = topical, hands-on	light-blue = independent, minds-on	medium-blue = independent, hands-on	
	Monday, Feb. 18	Tuesday, Feb. 19	Wednesday, Feb. 20	Thursday, Feb. 21	Friday, Feb. 22	
9:00-9:30 AM	<u>Dr. Z.</u> : Invention problem strip activity [P19]	<u>Mr. K.</u> : Review safety practices.	<u>Mr. K.</u> : Review invention & safety practices.	<u>Mr. K.</u> : Review invention & safety practices. / <u>Sci. Lit.</u> : Procedure writing	<u>Mr. K.</u> : Review invention & safety practices / <u>Sci. Lit.</u> : Lesson on brochures	
9:30-10:00 AM	<u>Mr. J.</u> : Introductions & "What's your fave invention?" Student-defined "invention." --> <b>synthesize to "useful &amp; unique"</b> Hand-out guides & introduce the week's activities [P13]	<u>Mr. J.</u> : Inventing is a team sport. Four Corners to aid in team selection [7]	<u>Mr. J.</u> : Build a Circuit to Control a Motor [53-60]	<u>Mr. K.</u> : "Meet Eben Bayer" [69] or some different inventor?	<u>Mr. J.</u> : Invention Challenge: Make second prototype [ITERATION C2]	
10:00-10:30 AM	<u>Mr. K.</u> : Safety first! [9-10] Keep yourself safe. Keep others safe. Keep workspace clutterfree. [Errors WS; preview tools]	<u>Mr. J.</u> : Construct a Door: Intro & Step 1 [24-25]		<u>Mr. M.</u> : Lead work-time for finalizing/tweaking <b>first</b> prototypes	<u>Mr. J.</u> : Peer-review of Invention Challenges [ITERATION C2]	
10:30-10:40 AM	Break	Break	Break	Break	Break	
10:40-11:00 AM	<u>Dr. Z.</u> : Design cell phone stands. [2-3]: Draw, then make!	<u>Mr. K.</u> : Construct a Door, Steps 2-5 [27-33]	<u>Mr. M.</u> : Simple Machines: The Lever [62-63]	<u>Mr. J.</u> : Peer-review of doors ITERATION "D1"	ALL: Prepare for showcase: Revise brochures, finalize prototypes, complete Invention Worksheets, film videos	
11:00-11:30 AM	<u>Dr. Z.</u> : Think about your stand. Share design / process. Did you get someone else's opinion? What would you do the same or differently?		<u>Mr. K.</u> : Build a Mechanical Door Opener [64-67]	<u>Mr. J.</u> : Lead work-time for finalizing/tweaking <b>second</b> prototypes		
11:30 AM-Noon	<u>Mr. J.</u> : Intro to Machines [10-11] & Simple Machines video/s [11]	<u>Mr. J.</u> : The Science of Motors [35-38]		AH: Skype with inventor		
Noon-12:30 PM	Lunch	Lunch	Lunch	Lunch	Working lunch	
12:30-1:00 PM	<u>Mr. K.</u> : Six Simple Machines [11-15]; Kahoot; practice with tools	<u>Mr. M.</u> : Investigate motors [39-40]	<u>Ms. M.</u> : Intro to Invention Chall. [71-73] ( <i>curious, empathetic leaders</i> )	<u>Mr. J.</u> : Invention Challenge: Make first prototype [ITERATION C1]	Mr. J.: Showcase of Winter Camp with special guests (LMIT, BC, Clarks, parents) Presentation of certificates	
1:00-1:30 PM	<u>Mr. J.</u> : Investigate Mechanical Door Openers [16-19]	<u>Mr. J.</u> : Build a Simple Circuit [46-48]	<u>Ms. M.</u> : Explore team members' 10 ideas each (30-40 per group); Pick top 3-5 problems by clumping similar problems and discarding problems that may be less beneficial.			
1:30-2:00 PM	<u>Mr. M.</u> : Identify Users and Their Needs [19-20]	<u>Mr. J.</u> : Controlling the Motion of a Motor [49-52]	<u>Ms. M.</u> : Select 1 Problem & draw multiple solutions; use readily available materials to make models (grab bag inventing, cardboard, recycle bin); <b>SCAMPER</b> [74-75]	<u>Mr. J.</u> : Peer-review of Invention Challenges [ITERATION C1]		
2:00-2:30 PM	<i>General overflow time / If time allows, Mr. J.: Types of Team Members</i>	<u>AB &amp; MA</u> Introduce empathy. How does empathy relate to invention? How are you empathetic?	<u>Ms. M.</u> : Complete Invention Worksheet for one problem. Continue to research and draw possible solutions. [54,58]	RG Skype with _____	<b>DK+SK</b> : Reflection and feedback	
2:30-3:00 PM	<u>Mr. J.</u> : Summarize the day, go over key terms, preview tomorrow, <b>then assign "10 ideas" HW (be curious to brainstorm about doors/lids/openings);</b> ask, "What'd you do today?" Complete Exit Slips (self-assessment + mini-CER)	<u>Mr. J.</u> : Summarize the day, go over key terms, preview tomorrow, <b>re-frame "10 ideas" HW. (be empathetic to brainstorm about doors/lids/openings);</b> ask, "What'd you do today?" Complete Exit Slips	<u>Mr. J.</u> : Summarize the day, go over key terms, preview tomorrow, <b>emphasize "one idea" *and* door / lid / opening as HW (discuss them with family/friends, and/or bring materials);</b> ask, "What'd you do today?" Complete Exit Slips	<u>Mr. J.</u> : Summarize the day, go over key terms, preview tomorrow, <b>emphasize "one idea" *and* door / lid / opening as HW (discuss them with family/friends, and/or bring materials);</b> ask, "What'd you do today?" Complete Exit Slips	<b>DK+SK</b> : Exit Slips Interviews	
Extra material	Types of Team Members [7]	CAD Drawings [21-22]; Motor Spec Sheets [41-44]				
Essential Vocab.	invention, iteration, prototype, force, inclined plane, lever, machine, motor, pulley, screw, system, torque, wedge, wheel-and-axle, work	actuator, empathy, foam insulation board, load, motor, nut, resistance, screw (n) [x2], torque, voltage, washer	lever	<see Mon.-Wed.>	<see Mon.-Wed.>	
Non-essential Vocab.	engineering, modification, patent, PhD	hydraulics, Lorentz force, magnetic field, Millinewton meters (mN*m), nominal voltage, Ohm's Law, pilot hole, revolutions per minute, rotor, stator, velocity	input effort, mount, output effort, pitch, production sample, proof of concept, working prototype	N/A	N/A	