

Chemical Engineering Syllabus

Homeschool Day Program

Digital Harbor Foundation

Week	Date	Lesson	
1	1/30	Chemical Engineering Intro <ul style="list-style-type: none">Define Chemical EngineeringProvide examples of Chem Eng jobs Lab Safety <ul style="list-style-type: none">Identify ways to stay safe in a lab settingDefine wafting	Lab Safety Posters <ul style="list-style-type: none">Create a Lab Safety PosterUse GIMP (graphic design software) to create postersYouth will share posters in front of their peers.
2	2/6	Experiment Overview <ul style="list-style-type: none">Define experiment, independent variables, dependent variables, and control variables by watching and conducting mini experiments	Bubble Experiment <ul style="list-style-type: none">Youth will create their own experiment to craft the best bubble juice.Youth will identify the different variables in their experiment, conduct their experiment, record data, and draw conclusions.
3	2/13	Measurement & Mixtures <ul style="list-style-type: none">Practice using measuring toolsCreate a mixture & separate back into original componentsDefine mixture	Paper Chromatography <ul style="list-style-type: none">Youth will practice a new method of separating mixtures by dividing ink into its original colorsYouth will record data and draw conclusions on their results.
4	2/20	Chemical Reactions <ul style="list-style-type: none">Define chemical reactions and identify changes in a mixture that indicate a chemical reaction has occurred.Define acid and base and use litmus paper to determine the acidity of common liquids.	Bath Bombs <ul style="list-style-type: none">Youth will create their own acid base reactions and form bath bombs.Youth will use Tinkercad (3D modeling software) to create their own 3D printed bath bomb molds.
5	2/27	Periodic Table Intro <ul style="list-style-type: none">Explore the history of the Periodic TableCreate Element Cubes: research and share an elementComplete Periodic Table Scavenger Hunt	Make an Atom! <ul style="list-style-type: none">Youth will create a model of a simple atom and identify neutrons, protons, electrons, and nucleus.
6	3/6	Sew a Molecule	Bath Bomb Revisit

		<ul style="list-style-type: none"> ● Define molecules ● Youth will create a sewn H₂O molecule complete with removable hydrogen atoms. 	<ul style="list-style-type: none"> ● With molds printed & complete, youth will form their bath bombs and run tests.
7	3/13	<p>Surface Tension Introduction</p> <ul style="list-style-type: none"> ● Youth will explore the surface tension of water. ● Youth will conduct an experiment to identify liquids with high surface tension. ● During the experiment youth will collect data and make conclusions 	<p>Showcase (12:30-1pm)</p> <ul style="list-style-type: none"> ● Youth will share and present on what they have made

For more information or questions, please email Ashley at ashley@digitalharbor.org.