

Unit 6: Showtime

Chemistry

15 Days

Topics from the NYC Scope and Sequence

Kinetics/Equilibrium
Nuclear Chemistry
Organic Chemistry
Chemical Bonding

New York State Core Curriculum Alignment

Kinetics/Equilibrium: 3.4h, 3.4i, 3.4j
Nuclear Chemistry: 3.1o, 4.4a, 5.3a, 3.1p, 4.4b, 4.4f, 4.4c, 5.3b, 5.3c, 4.4e, 4.4d
Organic Chemistry: 3.1ff, 3.1gg, 3.1hh, 3.1ii, 3.2c
Chemical Bonding: 5.2e

Pacing Guide (*This guide is based on 50-minute lesson length*)

Day	Living by Chemistry Lesson Title	Additional Resource
1	6.1- How Awesome: Chemical Demonstrations <ul style="list-style-type: none"> Main point: <i>The balance between products and reactants is important in many chemical demonstrations.</i> 	
2	6.2- How Backward: Reversible Reactions	
3	6.3- How Dynamic- Dynamic Equilibrium We suggest you skip the following lesson from Living by Chemistry because it is not necessary for Regents preparation: <ul style="list-style-type: none"> 6.4- <i>How Favorable: Equilibrium Constant K</i> 6.5- <i>How Balanced: Equilibrium Calculations</i> 	
4	6.9 -How Pushy: Le Châtelier's Principle	Video <ul style="list-style-type: none"> Le Châtelier's Principle Demo <ul style="list-style-type: none"> If you do not want to do the demo live, you can use this video and pause it to have students write down their predictions and observations.
	We suggest you skip the following lesson from Living by Chemistry because it is not necessary for Regents preparation: <ul style="list-style-type: none"> 6.7- <i>How Colorful: Applying Le Châtelier's Principle</i> <ul style="list-style-type: none"> <i>It is suggested to cover acid base indicator when teaching about acids and bases</i> 	

	<i>in unit 4</i>	
5	6.10 How Showy: Unit Review	
6-10	<p>If you did not complete Nuclear Chemistry in the beginning of the year this is a great place to teach this topic:</p> <ul style="list-style-type: none"> ● <i>Lessons Include:</i> <ul style="list-style-type: none"> ○ 1.15 - Nuclear Quest: Nuclear Reactions ○ 1.16 - Old Gold: Formation of Elements 	<p>nuclear fission video nuclear fusion video</p>
	<p>Regents alignment - <i>An additional activity not found in Living by Chemistry are required to address the following topics:</i></p> <ul style="list-style-type: none"> ● <i>Positron decay</i> ● <i>Half lifes</i> ● <i>Benefits and risks of radioactive isotopes / common radioactive isotopes (ex: C-14, U-238..)</i> ● <i>Explain differences between natural and artificial transmutation</i> 	<p>M&M half life lab</p> <ul style="list-style-type: none"> ● It is helpful to have the students collect the data on a shared excel document. ● It is recommended to add regents questions to the end of this lab
11-15	<p>If you did not complete Organic Chem in Unit 2: Smells, this is a great place to teach the following topics:</p> <p>Regents alignment - <i>Additional activities not found in Living by Chemistry are required to address the following topics:</i></p> <ul style="list-style-type: none"> ● <i>Branched alkanes</i> ● <i>Finish functional groups from table R if they were not completed in unit 2</i> ● <i>Organic Reactions:</i> <ul style="list-style-type: none"> ○ <i>Substitution reactions</i> ○ <i>Addition reactions</i> ○ <i>Fermentation</i> ○ <i>Esterification</i> ○ <i>Saponification</i> ○ <i>Combustion</i> ○ <i>Polymerization</i> 	<p>Demo</p> <ul style="list-style-type: none"> ● Polymerization reaction