

Grade 6 Unit	Anchor Phenomenon, Engineering Design Project/Inquiry Project	Performance Expectations covered (PEs)	# Lessons	# Days
1. Intro to Gr 6 Science	<b>Anchor:</b> What is dry ice? <b>IP:</b> Ice and dry ice investigations	(setting norms, practicing teamwork and SEPs)	13	17
2. Thermal Energy	<b>Anchor:</b> Can you really use energy from the Sun to cook food? <b>EDP:</b> Design a better solar cooker	MS-PS3-3, MS-PS3-4, MS-PS3-5, MS-ETS1-1, 1-2, 1-3, 1-4	14	26
3. Weather	<b>Anchor:</b> What causes different kinds of weather? <b>EDP:</b> Design or improve a weather instrument <b>IP:</b> What causes extreme weather phenomena?	MS-ESS2-4, MS-ESS2-5, MS-ETS1-1	16	23
4. Climate	<b>Anchor:</b> Why do places have such different climates? <b>EDP:</b> Design an ecotourism resort	MS-ESS2-6	12	16
5. Climate Change	<b>Anchor:</b> Can we do anything about climate change? <b>EDP:</b> Design a program as a class to lower carbon footprint, gather data to measure its effectiveness	MS-ESS3-3, MS-ESS3-5, MS-ETS1-1, 1-2, 1-3, 1-4	13	19
6. Cells	<b>Anchor:</b> What makes us sick? <b>EDP:</b> Design a magnifying device; Make a microbe-based food (optional) <b>IP:</b> Cancer	MS-LS1-1,1-2, 1-3 (start) MS-LS3-2 (start) MS-ETS1-1	25	33
7. Body Systems	<b>Anchor:</b> How does your body work? <b>EDP:</b> Design an organ donation and delivery system	MS-LS1-3 (cont.), MS-LS1-8 MS-ETS1-1	18	26
8. Traits and Survival	<b>Anchor:</b> Why are some species endangered? <b>IP:</b> Endangered species research project	MS-LS1-4, MS-LS1-5, MS-LS3-2 (cont.)	13	20

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**INTEGRATED Middle School Program for CA NGSS**

**Chart of Units**

Total: 180 days

Grade 7 Unit	Anchor Phenomenon, Engineering Design Project/Inquiry Project	Performance Expectations covered (PEs)	# Lessons	# Days
1. Intro to Gr 7 Science	<b>Anchor:</b> Who can be a scientist or engineer? <b>EDP:</b> Paper tower challenge	MS-ETS1-1, 1-2	11	13
2. Earth Systems	<b>Anchor:</b> How did the Grand Canyon form? <b>EDP:</b> Design a building for earthquakes	MS-ESS2-1, 2-2, 2-3, 3-2, MS-ETS1-1, 1-2, 1-3, 1-4	18	30
3. Properties of Matter	<b>Anchor:</b> What killed Blinky the fish? <b>EDP:</b> Design a density toy	MS-PS1-4, 1-2 (start) MS-ETS1-1	17	24
4. Elements and Compounds	<b>Anchor:</b> What is it made of? <b>EDP:</b> Design a crystal growing kit with package and instructions	MS-PS1-1, MS-PS1-3(start), MS-ETS1-1, 1-2	14	27
5. Physical and Chemical Changes	<b>Anchor:</b> How do hot/cold packs work? <b>EDP:</b> Design a hot or cold pack accessory	MS-PS1-2 (cont.) MS-PS1-5, 1-6, MS-ETS1-1, 1-2, 1-3, 1-4	16	19
6. Respiration and Photosynthesis	<b>Anchor:</b> What would you need for a Mars habitat? <b>IP:</b> Design an experiment to measure rate of photosynthesis or respiration. <b>EDP:</b> Design a sustainable Mars colony	MS-LS1-6, MS-LS1-7 MS-ETS1-1	14	20
7. Ecology	<b>Anchor:</b> How can we protect/restore ecosystems? <b>IP:</b> Ecosystem study, ecosystem restoration solutions	MS-LS2-1, 2-2, 2-3, 2-4, 2-5	19	28
8. Natural Resources	<b>Anchor:</b> How do we stop plastics pollution? <b>IP:</b> Recommend a solution to the plastics problem	MS-ESS3-1, MS-PS1-3(cont.)	10	19

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## Chart of Units

Grade 8 Unit	Anchor Phenomenon, Engineering Design Project/Inquiry Project	Performance Expectations (PEs)	# Lessons	# Days
1. Intro to Gr 8 Science	<b>Anchor:</b> How can we observe things that happen too slowly or quickly? <b>EDP:</b> Make a slow-motion or time lapse video	MS-ETS1-1	10	10
2. Motion and Forces	<b>Anchor:</b> How do we get astronauts safely to space and back? <b>EDP:</b> Design a capsule for safe landing	MS-PS2-1(start), 2-2, MS-ETS1-1, 1-2, 1-3, 1-4	29	32
3. Kinetic and Potential Energy	<b>Anchor:</b> How do we prevent concussions? <b>EDP:</b> Design and analyze safety equipment	MS-PS2-1(cont.), 3-1, 3-2, 3-5 (cont. from Th.Energy) MS-ETS1-1, 1-2, 1-3, 1-4	12	21
4. Electricity and Magnetism	<b>Anchor:</b> What is causing the Earth's magnetic field? <b>EDP:</b> Design an electrical system for a toy house	MS-PS2-3, 2-5, 3-2 MS-ETS1-1	17	22
5. Waves	<b>Anchor:</b> What are sound and light? What are they used for? <b>IP:</b> What makes a better cup phone? <b>EDP:</b> Design an art installation involving sound and light	MS-PS4-1, 4-2, 4-3	15	23
6. Earth's Place in the Universe	<b>Anchor:</b> Where are we in space? How do we know? <b>EDP:</b> Design an interactive model	MS-ESS1-1, 1-2, 1-3, MS-PS2-4	12	16
7. Geologic Time Scale	<b>Anchor:</b> Why did the dinosaurs go extinct? <b>IP:</b> Design a presentation on Earth's timeline, cite evidence	MS-ESS1-4	13	20
8. Evolution	<b>Anchor:</b> What causes these unusual traits? <b>IP:</b> Should genetic engineering be allowed?	MS-LS3-1, 4-1, 4-2, 4-3, 4-4, 4-5, 4-6	17	22
9. Human Impact	<b>Anchor:</b> How do our choices affect our planet? <b>EDP:</b> Recommend a solution and present it to decision makers.	MS-ESS3-4	10	14

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