

Week 1	Monday (50 minutes)	Tuesday (50 minutes)	Wednesday (50 minutes)	Thursday (50 minutes)	Friday (50 minutes)
Objectives	<ul style="list-style-type: none"> - Be able to describe how nanotechnology is currently used in consumer products. - Be able to provide examples of how an objects' characteristics change when at the nano-scale 	<ul style="list-style-type: none"> - Be able to design an experiment with two conditions - Be able to use data to make a conclusion on the relationship of the variables in the experiment - Be able to describe the effect of a changing surface area to volume ratio 	<ul style="list-style-type: none"> - Be able to make their own definition of self-assembly - Be able to design an experiment 	<ul style="list-style-type: none"> - Be able to correctly place items on a scale - Be able to identify the three worlds "macro, micro, nano", - - Be able to describe the relationship between DNA and chromosomes 	<ul style="list-style-type: none"> - Be able to describe how the properties of nano-sized particles apply to the nano ice cream activity
Daily Activities	<ul style="list-style-type: none"> - Pre-test - Entry Event - "Mess about" with size dependent stations 	<ul style="list-style-type: none"> - Debrief yesterday's activities, discuss components of a good experiment - Jigsaw lab groups: Create your own experiment 	<ul style="list-style-type: none"> - Bell Ringer and debrief yesterday's jigsaw activity - Create an experiment to get a liquid to turn into a capsule - Challenge: get staple into capsule, how could we use this? 	<ul style="list-style-type: none"> - Bell Ringer and debrief yesterday's activity - Nanoreisen - "How Big is It?" Lab 	<ul style="list-style-type: none"> - Bell Ringer and debrief yesterday's activity - Introduce Driving Question - Nano Ice Cream
Assignments Due	Exit ticket (Due at end of period)	Exit ticket (Due at end of period)	Exit ticket (Due at end of period)	Exit ticket (Due at end of period)	Portfolio Stage 1 Due
Handouts	Size dependent stations	Surface Area to Volume experiments, sugar lab, aluminum lab, enzymes	Gummy lab	Metric Scale cutouts (How Big is It?)	Nano Ice Cream

Week 2	Monday (50 minutes)	Tuesday (50 minutes)	Wednesday (50 minutes)	Thursday (50 minutes)	Friday (50 minutes)
Objectives	- Be able to recognize the structure of chromosomes and DNA	- Be able to compare the processes of transcription and translation - Be able to use the codon chart to see how the mutation may change the gene - Be able to decode segments of DNA to determine the protein that will be produced	- Be able to compare the processes of transcription and translation - Be able to use the codon chart to see how the mutation may change the gene - Be able to decode segments of DNA to determine the protein that will be produced	- Be able to compare the processes of transcription and translation - Be able to describe how all traits visible and invisible are controlled by genes	- Be able to complete a point mutation and frameshift mutation problem - Be able to use the codon chart to see how the mutation may change the gene - Be able to summarize how a single change can have different results on the organism
Daily Activities	- Bell Ringer and debrief Friday's introduction and activity - Breakdown video of DNA vs RNA - Assign groups and choose genetic disease	- Bell Ringer and debrief yesterday's homework and group work - Central Dogma Discussion - Transcription Activity	- Bell Ringer and debrief yesterday's transcription activity - Translation Discussion - Make protein lab - Work on portfolio	- Bell Ringer and debrief yesterday's Protein Lab - Online interactives - Bioman Protein Synthesis Race - Causes of disorders (use additional questions and outside experts)	- Bell Ringer and debrief yesterday's online interactive - Mutations lab "Smarties"
Assignments Due	Exit ticket (Due at end of period)	Exit ticket (Due at end of period) Protein Synthesis Video and Questions Due Checkpoint #1 Due	Exit ticket (Due at end of period)	Exit ticket (Due at end of period) Making Protein Lab Wrap-up Questions Due	Exit ticket (Due at end of period) Mutation Video and Questions Due Checkpoint #2 Due Checkpoint #3 Due Portfolio Stage 2 Due
Handouts	"Why RNA is Just as Cool as DNA - Amoeba Sisters" , "Protein Synthesis and the Lean, Mean Ribosome Machines- Amoeba Sisters"	Venn Diagram - DNA RNA, RNA WKS, Transcription WKS RNA Web Diagram (Optional)	Make Protein Lab Transcription – Translation Practice (Optional)	Bioman Protein Synthesis Race Mutations the Potential Power of a Small Change - Amoeba Sisters	Smarties Lab – Student

Week 3	Monday (50 minutes)	Tuesday (50 minutes)	Wednesday (50 minutes)	Thursday (50 minutes)	Friday (50 minutes)
Objectives	- Be able to summarize how a single change can have different results on a single organism	- Be able to compare dominant and recessive alleles	- Be able to use a Punnett square to determine genotypic and phenotypic ratios	- Be able to relate heritable diseases to the proper mode of inheritance	- Be able to track the transmission of a disease by using a pedigree based on the mode of inheritance
Daily Activities	- Bell Ringer and debrief Friday's Mutation Lab - Gallery Walk of proposals. - Group project work time	- Bell Ringer and debrief yesterday's gallery walk - Gregor Mendel research group activity	- Bell Ringer and debrief yesterday's discussion on Mendel and the Punnett Video - Group Punnett square discovery activity	- Bell Ringer and debrief yesterday's homework and the traditional Mendelian Punnett Squares - Group Jigsaw of modes of inheritance	- Bell Ringer and debrief yesterday's homework on Pedigree and the jigsaw of non-traditional Punnett Squares - Group pedigree construction - Group project work time
Assignments Due	Exit Ticket (Due at end of period) Mutations "Smarties" Lab Wrap-up Questions Due	Exit Ticket (Due at end of period) Gregor Mendel Video and Questions Due	Exit Ticket (Due at end of period) Punnett Square Video and Questions Due	Heritable Disease Video and Questions Due	Exit ticket (Due at end of period) Pedigree Video and Questions Due Portfolio Stage 3 Due
Handouts	Crash Course: Heredity (Video) Great Minds: Gregor Mendel (Video)	Punnett Squares (Video) Genetics Practice (Optional)	Heritable Diseases (Video) Punnett Square Practice Punnett Square Practice 2	Pedigree Charts (Video) Sex-linked Packet (Optional)	Pedigree Analysis (Optional)

Week 4	Monday (50 minutes)	Tuesday (50 minutes)	Wednesday (50 minutes)	Thursday (50 minutes)	Friday (50 minutes)
Objectives	--Work on group project--	--Work on group project--	--Run through presentations, get feedback--	--Presentations to 6th graders--	--Presentations to 6th graders, Final Portfolio due--
Daily Activities	<ul style="list-style-type: none"> - Bell Ringer and debrief the pedigree activity from Friday - Group Work Day - Group must choose the presentation tool they will use (PPT, Prezi, etc.) 	<ul style="list-style-type: none"> - Bell Ringer and debrief how yesterday's work day went (Bell Ringer – prior to class to 5 minutes) - Group Work Day 	<ul style="list-style-type: none"> - Bell Ringer and debrief how yesterday's work day went - Practice Presentations 	<ul style="list-style-type: none"> - Bell Ringer and debrief how yesterday's practice and revision went - Presentations 	<ul style="list-style-type: none"> - Bell Ringer and debrief how your presentation went yesterday or what you are thinking about your presentation today - Presentations - Post-Test
Assignments Due	Exit ticket (Due at end of period)	Exit Ticket (Due at end of period)	Exit ticket (Due at end of period) Checkpoint #4 Due	Exit ticket (Due at end of period) Checkpoint #5 Due	Exit ticket (Due at end of period) Final Portfolio Due Self/Peer Reflection Due
Handouts			Student Rubric for Presentations	Self/Peer Reflection	