

	Week	Dates	Topics covered	SOLs covered
Nature of Science	1	1/31 – 2/01	Safety, nature of science	BIO.1h
	2	2/04 – 2/08	Experimental design, theory and law	BIO.1a-m
Building Blocks of Life: Macromolecules and Cells	3	2/11 – 2/15	Chemical bonding, reactions, enzymes, macromolecules, water properties, acids & bases	BIO.2a-c
	4	2/19 – 2/22 *2/18 OFF	Cell theory, cell structure & function, prokaryotes & eukaryotes	BIO.3a-b
	5	2/25 – 3/01	Organelles, membrane structure and transport	BIO.3c-e
	QUARTERLY PROJECT #1			
	6	3/04 – 3/08	Cellular respiration, photosynthesis	BIO.2d
Blueprints for life: genetics	7	3/11 – 3/15 *3/13 is ½ day	Chromosome structure, Cell growth and division, gamete formation, DNA technologies	BIO.5d-g
	8	3/18 – 3/22	DNA replication, transcription, translation	BIO.5g-h
	9	3/25 – 3/29	Heredity and Genetics, Punnett square	BIO.5a-c, i- j
QUARTERLY PROJECT #2				
	10	SPRING BREAK 4/01 – 4/05		
Diversity of life: evolution and classification	11	4/08 – 4/12	Evidence for evolution, Natural Selection and Microevolution	BIO.6a-e, BIO.7a,e BIO.11
	12	4/15 – 4/19	Macroevolution and Speciation, Classification	BIO.7b-c,e
	13	4/22 – 4/26 *4/24 is ½ day	Domains of life, viruses, bacteria, fungi, archaea	BIO.7d-e
Interactions of Organisms	14	4/29 – 5/03	Population dynamics, energy flow, dynamic equilibrium	BIO.4a-f
	QUARTERLY PROJECT #3			
Survey of life	15	5/06 – 5/10	Nutrient cycles, human effects on environment and ecosystems	BIO.4c, 8e
	16	5/13 – 5/17	Plant classification and structure, use and production	BIO.8a
	17	5/20 – 5/24	Animal systems, Invertebrate and vertebrate anatomy	BIO.8b-e
	18	5/28 – 5/31 *5/27 OFF	Human Systems	BIO.4d
QUARTERLY PROJECT #4				
	19	6/03 – 6/07	Research Project Presentations	
	20	6/10 – 6/12 *6/13 & 6/14 are EXAM days	REVIEW for exam	

Quarterly Projects:

Quarterly Project #1: Scientific theories

- Students independently investigate some scientific theory. In a poster, powerpoint, or some other form of presentation students will briefly explain the theory, describe what was thought before that theory, explain how it originated, explain how it has changed since then and to what degree it is accepted now.
- Students may choose widely accepted theories, controversial theories, or debunked theories as long as the theory has enough history to answer the above questions.
- Small group project: groups of 2-4

Quarterly Project #2: DNA technologies debate

- Class debate on DNA technologies. Class picks a topic. Suggestions are stem cell research, genetic engineering, genetic testing. Students are randomly assigned a side and must work together to argue that side.
- Choice: if students don't want to participate in the debate, they may write a position paper on the subject instead and then act as a judge in the debate.

Quarterly Project #3: Design your own species

- Design your own species. From what lineage did it evolve (start with an existing species)? How did it become its own species? How similar or different is it to its close relatives? Why? What's its habitat? Provide scientific justifications. Provide some sort of drawing or representation of the new species.
- Individual project

Quarterly Project #4: Research project

- Students individually design and carry out their own experiment. Components like topic, introduction, methods, data analysis are due throughout semester, leading up to final paper and presentation.

Extra Credit Project: Local Action

- Take local action! Find some scientific issue that is of importance to you and your local community and get involved in doing something about it. Students can volunteer with an organization, work on a local farm, write to their congressman about an important issue, make and distribute "seed bombs" in deserted areas, make observations and contribute to a database. Students should write a brief description of the local issue, write about and document what they did, and reflect on how they feel about the experience.
- May be completed any time throughout the year individually or as a group