**Monday January 13, 2020**

Living Earth: Week 1 Day 91

**Standard:** Genetics

**Learning Target**: Preview the semester plan and get to know Ms. Peru. Brainstorm and discuss cell division.

**Essential Questions:** Why do cells divide?

**Agenda:**

1) Welcome back (new seats etc.)

2) Semester Preview

3) Meet Ms. Peru

4) Cell Division (why and how)

**Tuesday January 14, 2020**

Living Earth: Week 1 Day 92

**Standard:** Genetics

**Learning Target**: Brainstorm and discuss cell division. Write key information from a slide show on cell division. Compare and contrast mitosis and meiosis.

**Essential Questions:** Why do cells divide?

**Agenda:**

1) Cell Division (why and how) Notebook page 1

**Wednesday January 15, 2020**

Living Earth: Week 1 Day 93

**(Period 2 to Theater for Awards Assembly)**

**Standard:** Genetics

**Learning Target**: Compare and contrast mitosis and meiosis in a “4 corners” activity. Defend answers to your peers and organize information into a chart.

**Essential Questions:** Why do cells divide?

**Agenda:**

1) Cell Division (why and how) Notebook page 1 – finish last comparison box

2) Mitosis vs. Meiosis 4 corners activity

3) P. 2 (4 corners worksheet)

**Thursday January 16, 2020**

Living Earth: Week 1 Day 94

**Standard:** Genetics

**Learning Target**: Compare and contrast mitosis and meiosis. Defend answers to your peers and organize information into a chart.

**Essential Questions:** Why do cells divide?

**Agenda:**

1) Period 2 (finish p. 1 PPT), All other periods (fertilization video clip)

2) Page. 2 (4 corners worksheet)

3) Number of chromosomes (p. 3)

**Friday January 17, 2020**

Living Earth: Week 1 Day 95

**Standard:** Genetics

**Learning Target**: Demonstrate understanding of mitosis and meiosis by scoring well on a test that compares the two types of cell division. Collect data on class traits. Write Cornell notes and summarize.

**Essential Questions:** What is a trait?

**Agenda:**

1) Mitosis vs. Meiosis quiz

2) Traits (Cornell Notes) p. 4

3) Summarize

**Tuesday January 21, 2020**

Living Earth: Week 2 Day 96

**Standard:** Genetics

**Learning Target**: Set up and organize notebooks and summarize Cornell notes on traits. Write Cornell notes about Mendel and his laws.

**Essential Questions:** What are Mendel’s laws?

**Agenda:**

1) Notebook set-up

2) Traits (Cornell Notes) - finish summaries

3) Mendel’s Laws (Cornell notes) page 5

**Wednesday January 22, 2020**

Living Earth: Week 2 Day 97

**Standard:** Genetics

**Learning Target**: Write Cornell notes about Mendel’s Laws and practice determining the probability of single traits.

**Essential Questions:** What are Mendel’s laws?

**Agenda:**

1) Mendel’s Laws (Cornell notes) page 5

**Thursday January 23, 2020**

Living Earth: Week 2 Day 98

**Standard:** Genetics

**Learning Target**: Write Cornell notes about Mendel’s Laws and practice determining the probability of single traits.

**Essential Questions:** How are traits passed down from parents to offspring?

**Agenda:**

1) Monohybrid warm-up:



2) Mendel’s Laws (Cornell notes) page 5 (summarize)

3) Monohybrid crosses (p.6)

**Friday January 24, 2020**

Living Earth: Week 2 Day 99

**BALLARD IN CLASSES (15 min)**

**Standard:** Genetics

**Learning Target**: Practice determining the probability of single traits.

**Essential Questions:** How are traits passed down from parents to offspring?

**Agenda:**

1) Monohybrid crosses (p.6)

**Monday January 27, 2020**

Living Earth: Week 3 Day 100

**Standard:** Genetics

**Learning Target**: Revise Cornell notes to aid studying and practice differentiating between heterozygous and homozygous traits.

**Essential Questions:** How are traits passed down from parents to offspring?

**Agenda:**

1) Check notebook scores and StudentVue

2) p. 5 (Highlight and underline vocab and laws)

3) Check p. 7 (Spongebob)

4) Superheroes

**Tuesday January 28, 2020**

Living Earth: Week 3 Day 101

**Standard:** Genetics

**Learning Target**: Practice differentiating between heterozygous and homozygous traits through creating a superhero. Watch a video and practice determining prediction for genotypes and phenotypes of two traits.

**Essential Questions:** How are traits passed down from parents to offspring?

**Agenda:**

1) Finish Superheroes

2) Amoeba Sisters (Dihybrids) (only pers. 4 and 5)

**Wednesday January 29, 2020**

Living Earth: Week 3 Day 102

**Standard:** Genetics

**Learning Target**: Watch a video and practice making predictions for genotypes and phenotypes of two traits using Punnett squares.

**Essential Questions:** How are traits passed down from parents to offspring?

**Agenda:**

1) Amoeba Sisters (Dihybrids) (only pers. 2 and 6)

2) Dihybrid questions (mice) page 8

3) Exit Ticket:

**Thursday January 30, 2020**

Living Earth: Week 3 Day 103

**Standard:** Genetics

**Learning Target**: Practice determining the probability of two traits using a dihybrid cross and practice predictions of non-Mendelian codominance problems.

**Essential Questions:** How can we predict what traits will be passed down from parents to offspring?

**Agenda:**

1) Dihybrid questions (mice) page 8 (finish)

2) Amoeba Sisters (blood types – codominance)

3) Codominance and Multiple Alleles worksheet (p. 9)

**Friday January 31, 2020**

Living Earth: Week 3 Day 104

**Standard:** Genetics

**Learning Target**: Practice predictions of non-Mendelian codominance and incomplete dominance problems. Write Cornell notes about sex-linked traits and pedigrees.

**Essential Questions:** How can we predict what traits will be passed down from parents to offspring?

**Agenda:**

1) Codominance and Multiple Alleles worksheet (p. 9)

2) Incomplete Dominance Problems (p. 9)

3) Sex-linked traits and pedigrees notes (p. 10)

**Monday February 3, 2020**

Living Earth: Week 4 Day 105

**Standard:** Genetics

**Learning Target**: Write Cornell notes about sex-linked traits and pedigrees.

**Essential Questions:** How can we predict what traits will be passed down from parents to offspring?

**Agenda:**

1) Sex-linked traits and pedigrees notes (p. 10)

2) Summary

**Tuesday February 4, 2020**

Living Earth: Week 4 Day 106

**Standard:** Genetics

**Learning Target**: Practice answering questions to review for the test, write Cornell notes about sex-linked traits and pedigrees and practice “pedigree problems” to determine probabilities within families.

**Essential Questions:** How can we predict what traits will be passed down from parents to offspring?

**Agenda:**

1) Test review warm-up:

2) Sex-linked traits and pedigrees notes (p. 10)

3) Summary (p. 10)

4) Pedigree problems (p. 11)

**Wednesday February 5, 2020**

Living Earth: Week 4 Day 107

**Standard:** Genetics

**Learning Target**: Practice “pedigree problems” to determine probabilities within families. Determine groups and topics for a project on genetic engineering.

**Essential Questions:** How can we predict what traits will be passed down from parents to offspring?

**Agenda:**

1) Review Pedigree problems (p. 11)

2) Genetic Engineering Projects (introduction):



**Thursday February 6, 2020**

Living Earth: Week 4 Day 108

**(Filming of Ms. Peru in periods 2 and 6)**

**Standard:** Genetics

**Learning Target**: Research a real-world example of genetic engineering and communicate information to peers.

**Essential Questions:** How has genetic engineering impacted society?

**Agenda:**

1) Genetic Engineering Projects:



**Friday February 7, 2020**

Living Earth: Week 4 Day 109

**Standard:** Genetics

**Learning Target**: Research a real-world example of genetic engineering and communicate information to peers.

**Essential Questions:** How has genetic engineering impacted society?

**Agenda:**

1) Genetic Engineering Projects:



**Monday February 10, 2020**

Living Earth: Week 5 Day 110

COUNSELORS

**Standard:** Genetics

**Learning Target**: Learn about options for class selections for sophomore year. Review material for the genetics test.

**Essential Questions:** What classes should you choose for next year?

**Agenda:**

1) Counselors

**Tuesday February 11, 2020**

Living Earth: Week 5 Day 111

COUNSELORS

**Standard:** Genetics

**Learning Target**: Learn about options for class selections for sophomore year. Review material for the genetics test.

**Essential Questions:** What classes should you choose for next year?

**Agenda:**

1) Counselors

**Wednesday February 12, 2020**

Living Earth: Week 5 Day 112

**Standard:** Genetics

**Learning Target**: Review material for the genetics test.

**Essential Questions:** Are you ready for the test?

**Agenda:**

1) “Fly Swatter Review” 

**Thursday February 13, 2020**

Living Earth: Week 5 Day 113

**Standard:** Genetics

**Learning Target**: Demonstrate understanding of genetics concepts by scoring well on a test.

**Essential Questions:** Did you study?

**Agenda:**

1) Genetics Test (turn in notebooks)

**Tuesday February 18, 2020**

Living Earth: Week 6 Day 114

**Standard:** Genetics

**Learning Target**: Create a slideshow, video, blog etc. to explain a use of genetic engineering to peers citing reliable sources.

**Essential Questions:** What are current examples of genetic engineering?

**Agenda:**

1) Finish Genetic Engineering Projects

2) P. 12 (Project notes)

**Wednesday February 19, 2020**

Living Earth: Week 6 Day 115

**Standard:** Genetics

**Learning Target**: Create a slideshow, video, blog etc. to explain a use of genetic engineering to peers citing reliable sources.

**Essential Questions:** What are current examples of genetic engineering?

**Agenda:**

1) Presentations

**Thursday February 20, 2020**

Living Earth: Week 6 Day 116

**Standard:** Genetics

**Learning Target**: Create a slideshow, video, blog etc. to explain a use of genetic engineering to peers citing reliable sources.

**Essential Questions:** What are current examples of genetic engineering?

**Agenda:**

1) Presentations

**Friday February 21, 2020**

Living Earth: Week 6 Day 117

**Standard:** Genetics

**Learning Target**: Read an article and consider ethical implications of using the cells of Henrietta Lacks without her knowledge.

**Essential Questions:** What are the ethical implications of using someone’s cells without their knowledge?

**Agenda:**

1) Henrietta Lack’s Article (p. 14)

2) Reflection:

**Monday February 24, 2020**

Living Earth: Week 7 Day 118

**Standard:** Cells to Organisms

**Learning Target**: Read information about prokaryotic and eukaryotic cells and use a Foldable to compare and contrast the different cell types.

**Essential Questions:** What are similarities and differences of prokaryotic and eukaryotic cells?

**Agenda:**

1) Mark article (color code differences between prokaryotes, eukaryotes)

2) Set up foldable (see Google Classroom)

**Tuesday February 25, 2020**

Living Earth: Week 7 Day 119

**Standard:** Cells to Organisms

**Learning Target**: Read information about prokaryotic and eukaryotic cells and use a Foldable to compare and contrast the different cell types. Write a summary.

**Essential Questions:** What are similarities and differences of prokaryotic and eukaryotic cells?

**Agenda:**

1) Finish foldable (see Google Classroom) – page 15

2) Summarize (p. 15)

3) Amoeba Sisters “Plasma membrane”

4) “Bubble Lab” intro

**Wednesday February 26, 2020**

Living Earth: Week 7 Day 120

**Standard:** Cells to Organisms

**Learning Target**: Model the cell membrane using bubble solution and summarize each analog.

**Essential Questions:** What is the function of the cell membrane?

**Agenda:**

1) Cell Membrane “Bubble” Lab

**Thursday February 27, 2020**

Living Earth: Week 7 Day 121

**Standard:** Cells to Organisms

**Learning Target**: Explain how different cell types are made from stem cells if they all have the same DNA.

**Essential Questions:** How is our body made up of different cell types if they all have the same DNA?

**Agenda:**

1) Cell Diversity Warm-up

2) Cell Diversity Slide Show (make it)?

**Friday February 28, 2020**

Living Earth: Week 7 Day 122

**Standard:** Cells to Organisms

**Learning Target**: Explain how different cell types are made from stem cells if they all have the same DNA.

**Essential Questions:** How is our body made up of different cell types if they all have the same DNA?

**Agenda:**

1) Finish slideshows

2) Share out!

**Monday March 2, 2020**

Living Earth: Week 8 Day 123

**Standard:** Cells to Organisms

**Learning Target**: Extract your own DNA and understand that cells (including cheek cells) each have 6 feet of DNA inside the nucleus.

**Essential Questions:** How is DNA packaged in cells?

**Agenda:**

1) “DNA doesn’t look like what you think” video clip

2) DNA Extraction

3) Lab Write-up

**Tuesday March 3, 2020**

Living Earth: Week 8 Day 124

**Standard:** Cells to Organisms

**Learning Target**: Write definitions in your own words and find pictures online to add to a vocabulary matrix in order to get familiar with terms involved in Protein Synthesis.

**Essential Questions:** How are proteins made?

**Agenda:**

1) Protein Synthesis Vocabulary Matrix (Google Classroom)

**Wednesday March 4, 2020**

Living Earth: Week 8 Day 125

**Standard:** Cells to Organisms

**Learning Target**: Write key facts from a PowerPoint on Protein Synthesis.

**Essential Questions:** How are proteins made?

**Agenda:**

1) Protein Synthesis PowerPoint (p. 16)

**Thursday March 5, 2020**

Living Earth: Week 8 Day 126

**Standard:** Cells to Organisms

**Learning Target**: Model Protein Synthesis by using base pair rules to transcribe and translate.

**Essential Questions:** How are proteins made?

**Agenda:**

1) Protein Synthesis “Secret Code” activity

2) Gregorio clip

3) Reverse Transcription Practice (p. 17)

4) Protein Synthesis Clip and summary (p. 17)

**Friday March 6, 2020**

Living Earth: Week 8 Day 127

Sub Day – Field Trip

**Standard:** Cells to Organisms

**Learning Target**: Students will watch a video on growth and write key facts..

**Essential Questions:** How do humans grow?

**Agenda:**

1) “Amazing Human Body” Growth episode

**Monday March 9, 2020**

Living Earth: Week 9 Day 128

**Standard:** Cells to Organisms

**Learning Target**: Students will practice determining amino acids using an mRNA codon chart and will complete a thinking map about protein synthesis.

**Essential Questions:** How are proteins made from the DNA recipe?

**Agenda:**

1) Finish p. 17 (Reverse Transcription)

2) mRNA codon chart (p. 18)

3) Make groups for project

**Tuesday March 10, 2020**

Living Earth: Week 9 Day 129

**Standard:** Cells to Organisms

**Learning Target**: Students will practice protein synthesis while following a simulation and will model protein synthesis using paper pieces.

**Essential Questions:** How are proteins made from the DNA recipe?

**Agenda:**

1) Simulation (<https://learn.genetics.utah.edu/content/basics/txtl/>)

2) Performance Task (protein – step 1)

**Wednesday March 11, 2020**

Living Earth: Week 9 Day 130

**Standard:** Cells to Organisms

**Learning Target**: Students will model protein synthesis using paper pieces.

**Essential Questions:** How are proteins made from the DNA recipe?

**Agenda:**

1) Performance Task (protein – step 1)

2) Step 2: mRNA