

EARTH & SPACE SCIENCE 8

Mrs. Duddles

Q1 - Chemistry



FRIDAY – 11/02

Objectives:

- Students will describe the structure of the universe including the scale of distances in the universe
- Students will describe stars and their physical properties
- Students will describe the stages of the life cycle of stars

White Space:

What does a light-year measure, time or distance?

Agenda:

- Finish Space Science Unit Activity 1 Structure of the Universe directed reading; turn in student handout for grading
- CS Discoveries Unit 1 Lesson 4 What is A Computer?
- CS Discoveries Unit 1 Lesson 6 Card Sorting (if time)



THURSDAY – 11/01

Objectives:

- Students will describe the structure of the universe including the scale of distances in the universe
- Students will describe stars and their physical properties
- Students will describe the stages of the life cycle of stars

White Space:

How are the terrestrial planets different from the gas giants?

Agenda:

- Preview Space Debate Project including group assignments, directions, and debate grading rubric
- Discuss & review Space Science Unit Activity 1 Structure of the Universe directed reading
- Write Conclusion; turn in Activity 1 Structure of the Universe student handout for grading



WEDNESDAY – 10/31

Objectives:

- Students will describe the structure of the universe including the scale of distances in the universe
- Students will describe stars and their physical properties
- Students will describe the stages of the life cycle of stars

White Space:

What is at the center of our solar system?

Agenda:

- Review Chemistry Unit Test
- Finish Space Science Unit Activity 1 Structure of the Universe directed reading



TUESDAY – 10/30

Objectives:

- Students will describe the structure of the universe including the scale of distances in the universe
- Students will describe stars and their physical properties
- Students will describe the stages of the life cycle of stars

White Space:

Which element(s) do you think is most abundant on the Sun?

Agenda:

- New Seats Q2
- “We Are Made of Star Stuff” intro video to Space Science Unit
- Start Space Science Unit Activity 1 Structure of the Universe



MONDAY – 10/29

Objectives:

- Students will describe how chemical reactions observe the law of conservation of energy
- Students will use balanced chemical equations to model chemical reactions and to demonstrate that chemical reactions observe the law of conservation of mass
- Students will describe the interactions between atoms in ionic & covalent bonding

White Space:

Which kind of element is most likely used to make semiconductors (metals, nonmetals, or metalloids)?

Agenda:

- Take Chemistry Unit Test
 - No talking during or after testing
 - Turn in test and Balancing Equations WS (lavender sheet) when done
 - Read silently for remainder of class period



FRIDAY – 10/26 HALF DAY PM SESSION ONLY

Objectives:

- Students will describe how chemical reactions observe the law of conservation of energy
- Students will use balanced chemical equations to model chemical reactions and to demonstrate that chemical reactions observe the law of conservation of mass
- Students will describe the interactions between atoms in ionic & covalent bonding

White Space:

C – 12 and C – 14 are isotopes of the element carbon. Give the number of protons and the number of neutrons of each isotope.

Agenda:

- Discuss and Review Balancing Equations WS (lavender sheet)
- Study for Chemistry Unit Test:
 - Work on Study Guide
 - Ask Mrs. Duddles questions
- **HW: Study for Chemistry Unit Test Monday 10/29**



THURSDAY – 10/25

Objectives:

- Students will describe how chemical reactions observe the law of conservation of energy
- Students will use balanced chemical equations to model chemical reactions and to demonstrate that chemical reactions observe the law of conservation of mass
- Students will describe the interactions between atoms in ionic & covalent bonding

White Space:

In an exothermic reaction where energy is released as heat, what can you conclude about the energy in the chemical bonds of the reactants compared to the energy in the bonds of the products?

Agenda:

- Watch video on the Antoine Lavoisier, the father of modern chemistry
- Continue with Balancing Equations practice with Balancing Equations WS (lavender sheet)
- **Reminder: Chemistry Unit Test Monday 10/29; work on Study Guide**



WEDNESDAY – 10/24

Objectives:

- Students will describe how chemical reactions observe the law of conservation of energy
- Students will use balanced chemical equations to model chemical reactions and to demonstrate that chemical reactions observe the law of conservation of mass
- Students will describe the interactions between atoms in ionic & covalent bonding

White Space:

In an exothermic reaction where energy is released as heat, what can you conclude about the energy in the chemical bonds of the reactants compared to the energy in the bonds of the products?

Agenda:

- Field Trip to Cranbrook Planetarium today; Bring lunch and money for gift shop
- **Reminder: Chemistry Unit Test Monday 10/29**



TUESDAY – 10/23

Objectives:

- Students will describe how chemical reactions observe the law of conservation of energy
- Students will use balanced chemical equations to model chemical reactions and to demonstrate that chemical reactions observe the law of conservation of mass
- Students will describe the interactions between atoms in ionic & covalent bonding

White Space:

In the photosynthesis reaction, describe how energy changes form.

Agenda:

- Distribute Chemistry Unit Study Guide; start reviewing for Unit Test on your own
- Finish review of directed reading activity from *Matter and Energy* book: Activity 3 Chemical Reactions. Turn in student handout for grading.
- Finish Chemistry Part 3 Notes; Continue with Balancing Equations practice
- **Reminder: Cranbrook F/T tomorrow; Bring lunch and money for gift shop**
- **Chemistry Unit Test Monday 10/29**



MONDAY – 10/22

Objectives:

- Students will describe how chemical reactions observe the law of conservation of energy
- Students will use balanced chemical equations to model chemical reactions and to demonstrate that chemical reactions observe the law of conservation of mass
- Students will describe the interactions between atoms in ionic & covalent bonding

White Space:

Why do we need to balance chemical equations?

Agenda:

- Assign groups for Cranbrook trip on Wednesday 10/24
- Discuss & review directed reading activity from *Matter and Energy* book: Activity 3 Chemical Reactions



FRIDAY – 10/19

Objectives:

- Students will describe how chemical reactions observe the law of conservation of energy
- Students will use balanced chemical equations to model chemical reactions and to demonstrate that chemical reactions observe the law of conservation of mass
- Students will describe the interactions between atoms in ionic & covalent bonding

White Space:

What type of bond is usually formed between two nonmetals? How is this bond formed?

Agenda:

- Finish directed reading activity from *Matter and Energy* book: Activity 3 Chemical Reactions
 - Do Lesson Review on page 223, 1 – 10
 - Create Vocabulary definitions. Answer Analysis Questions.
 - **Due Monday 10/22**
- Work on Balancing Equations practice



THURSDAY – 10/18

Objectives:

- Students will describe how chemical reactions observe the law of conservation of energy
- Students will use balanced chemical equations to model chemical reactions and to demonstrate that chemical reactions observe the law of conservation of mass
- Students will describe the interactions between atoms in ionic & covalent bonding

White Space:

What type of bond is usually formed between a metal atom and a nonmetal atom? How is this bond formed?

Agenda:

- Work on directed reading activity from *Matter and Energy* book: Activity 3 Chemical Reactions
 - Read pages 212 – 221 in Matter and Energy book
 - Answer questions 1, 3, 5 – 10, & 12 – 16 from reading
 - Do Lesson Review on page 223, 1 – 10.



WEDNESDAY – 10/17

Objectives:

- Students will describe how chemical reactions observe the law of conservation of energy
- Students will use balanced chemical equations to model chemical reactions and to demonstrate that chemical reactions observe the law of conservation of mass
- Students will describe the interactions between atoms in ionic & covalent bonding

White Space:

How do you find the oxidation number for elements in Groups 1, 2, and 13 – 18?

Agenda:

- Finish discussion on directed reading activity in *Matter and Energy* book: Ionic, Covalent, and Metallic Bonding. Turn in student handout for grading
- Start Chemistry Part 3 Notes
 - Please listen, take notes, and participate!



TUESDAY – 10/16

Objectives:

- Students will describe the interactions between atoms in ionic & covalent bonding
- Students will use atomic models to predict chemical bonding
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

White Space:

What type of bond forms in N_2 ? Draw the bond.

Agenda:

- Discuss and review directed reading activity in *Matter and Energy* book: Ionic, Covalent, and Metallic Bonding
- Review Cranbrook Field Trip informational letter; assign groups for the day at Cranbrook
- Review Chemical Bonding Quiz



MONDAY – 10/15

Objectives:

- Students will describe the interactions between atoms in ionic & covalent bonding
- Students will use atomic models to predict chemical bonding
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

White Space:

How are exothermic reactions different from endothermic reactions?

Agenda:

- Discuss and review Chemistry in A Bag lab activity (15 mins)
- Take Chemical Bonding quiz; turn in when completed
- Finish directed reading activity in *Matter and Energy* book: Ionic, Covalent, and Metallic Bonding



FRIDAY – 10/12 HALF DAY AM SESSION ONLY

Objectives:

- Students will describe the interactions between atoms in ionic & covalent bonding
- Students will use atomic models to predict chemical bonding
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

Agenda:

- Half Day AM Session Only – No class today
- **Reminder: Study for Quiz on Chemical Bonding next Monday 10/15**



THURSDAY – 10/11

Objectives:

- Students will describe the interactions between atoms in ionic & covalent bonding
- Students will use atomic models to predict chemical bonding
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

White Space:

What charge does a cation have? What charge does an anion have?

Agenda:

- Review for Chemical Bonding quiz
- Start work on directed reading activity in *Matter and Energy* book: Ionic, Covalent, and Metallic Bonding
- **Reminder: Quiz on Chemical Bonding next Monday 10/15**



WEDNESDAY – 10/10

Objectives:

- Students will describe the interactions between atoms in ionic & covalent bonding
- Students will use atomic models to predict chemical bonding
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

White Space:

Atoms that bond covalently are usually metal atoms or non-metal atoms? Give an example of a molecule that is covalently bonded.

Agenda:

- Table Captains, get goggles for your tables
- Complete Chemistry in A Bag lab activity
 - Pay attention & listen for directions; absolutely no horseplay; wear goggles at all times!
- **Reminder: Quiz on Chemical Bonding next Monday 10/15**



TUESDAY – 10/09

Objectives:

- Students will describe the interactions between atoms in ionic & covalent bonding
- Students will use atomic models to predict chemical bonding
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

White Space:

What is the type of chemical bond where two atoms share electrons?

Agenda:

- Discuss and review Covalent Bond Practice WS
- Preview Chemistry in A Bag lab activity: Read lab objective and lab procedures so you know what to do when we do the lab
- **Reminder: Quiz on Chemical Bonding next Monday 10/15**



MONDAY – 10/08

Objectives:

- Students will describe the interactions between atoms in ionic & covalent bonding
- Students will use atomic models to predict chemical bonding
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

White Space:

Why do atoms form bonds?

Agenda:

- Finish Chemistry Part 2 Notes (Covalent Bonding)
- Work on Covalent Bond Practice WS; finish for HW



FRIDAY – 10/05

Objectives:

- Students will describe the interactions between atoms in ionic & covalent bonding
- Students will use atomic models to predict chemical bonding
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

White Space:

What type of bond does a Na atom make with a Cl atom? Show the bond using a Lewis Dot structure.

Agenda:

- CS Discoveries Unit 1 Lesson 3 The Problem Solving Process



THURSDAY – 10/04

Objectives:

- Students will describe the interactions between atoms in ionic & covalent bonding
- Students will use atomic models to predict chemical bonding
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

White Space:

Can you predict the oxidation number for Group 13 atoms, like Al? What is it?

Agenda:

- Watch teacher demo
- Work on Ionic Bonding Practice WS
- Continue Chemistry Part 2 Notes (Covalent Bonding) if time



THURSDAY – 10/04

Teacher Demo

Background Info:

The reaction that you will witness today is between baking soda and vinegar. The reaction equation is shown below:



vinegar

baking soda

sodium acetate in water

carbon
dioxide

- What are the reactants in this reaction?
- What are the products in this reaction?
- How do you know a chemical reaction happened?
- What do you think extinguish the flames of the candles?



WEDNESDAY – 10/03

Objectives:

- Students will describe the interactions between atoms in ionic & covalent bonding
- Students will use atomic models to predict chemical bonding
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

Agenda:

- NWEA 8th Grade Language Test today – no Science class



TUESDAY – 10/02

Objectives:

- Students will describe the interactions between atoms in ionic & covalent bonding
- Students will use atomic models to predict chemical bonding
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

White Space:

A neutrally charged atom has the same number of which subatomic particles?

Agenda:

- Start Chemistry Part 2 Notes with notesheet (Forming Ionic Bonds)
- Listen, participate, take notes



MONDAY – 10/01

Objectives:

- Students will use atomic models to predict chemical bonding
- Students will understand atomic theory and the parts of the atom
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

White Space:

How is the atomic mass of an atom calculated?

Agenda:

- Discuss and Review Electrons and Chemical Bonding directed reading
- Start Chemistry Part 2 Notes (if time)



FRIDAY – 09/28

Objectives:

- Students will understand atomic theory and the parts of the atom
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements

White Space:

If an atom has an equal number of protons and electrons, what is its charge?

Agenda: Modified schedule for Jog-A-Thon

- Work on Electrons and Chemical Bonding directed reading:
 - Read pages 180 – 187 in *Matter and Energy* book
 - Answer questions 1, 5 – 13, and 15-16
 - Do Lesson Review on page 189, questions 1 – 10
 - Complete Vocabulary. Answer Analysis Questions. Write Conclusion.
 - **HW if not done in class; due Monday**



THURSDAY – 09/27

Objectives:

- Students will understand atomic theory and the parts of the atom
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements
- Students will practice lab safety

Agenda:

- NWEA 8th Grade Math Test today – no Science class



WEDNESDAY – 09/26

Objectives:

- Students will understand atomic theory and the parts of the atom
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements
- Students will practice lab safety

White Space Question:

What is the family name for group 17 elements? What is the family name for group 18 elements?

Agenda:

- Take Chemistry Part 1 Quiz; turn in when completed
- Turn in Atoms and Isotopes Practice WS & Elephant Toothpaste Lab with quiz
- Work on CS Discoveries Unit 1 Lesson 2 The Problem Solving Process



TUESDAY – 09/25

Objectives:

- Students will understand atomic theory and the parts of the atom
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements
- Students will practice lab safety

White Space Question:

Draw the Bohr model for argon, Ar.

Agenda:

- View video on Niels Bohr
- Chemistry Part 1 quiz moved to Wednesday
- Work on Atoms and Ions Practice; discuss and review for quiz



MONDAY – 09/24

Objectives:

- Students will understand atomic theory and the parts of the atom
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements
- Students will practice lab safety

White Space Question:

Explain the difference between an ion and an isotope.

Agenda:

- View video on Ernest Rutherford
- Discuss and Review Lab Activity 1: Elephant Toothpaste
- Review for Chemistry Part 1 quiz

HW: Study for Chemistry Part 1 quiz Tuesday



FRIDAY – 09/21 HALF DAY PM SESSION ONLY

Objectives:

- Students will understand atomic theory and the parts of the atom
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements
- Students will practice lab safety

White Space Question:

What do you notice about the valence electrons for elements in the same group/family (or column)?

Agenda:

- Take Periodic Table quiz; turn in when completed
- View video on Rutherford (if time)

HW: Start studying for Chemistry Part 1 quiz Tuesday 09/25



THURSDAY – 09/20

Objectives:

- Students will understand atomic theory and the parts of the atom
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements
- Students will practice lab safety

White Space Question:

Which sub-atomic particles are found in the center of the atom (nucleus)?

Agenda:

- Finish Chemistry Part 1 Notes
- Review for Periodic Table quiz Friday 09/21



WEDNESDAY – 09/19

Objectives:

- Students will understand atomic theory and the parts of the atom
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements
- Students will practice lab safety

Agenda:

- NWEA 8th Grade Reading Test today – no Science class
- Periodic Table quiz still on Friday 09/21



TUESDAY – 09/18

Objectives:

- Students will understand atomic theory and the parts of the atom
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements
- Students will practice lab safety

White Space Question:

Name the sub-atomic particles that make up atoms. What are their charges?

Agenda:

- Continue Chemistry Part 1 Notes (if time)
- Do Lab Activity 1: Elephant Toothpaste



MONDAY – 09/17

Objectives:

- Students will understand atomic theory and the parts of the atom
- Students will describe the arrangement of elements on the Periodic Table and the properties of those elements
- Students will practice lab safety

White Space Question:

What is matter?

Agenda:

- Discuss and Review The Organization of the Periodic Table activity; due today
- Chemistry Demo on the reactivity of Group 1 Alkali metal, Na
- Start Chemistry Part 1 Notes

Reminder: Complete Pre-Survey for CS Discoveries course at code.org



FRIDAY – 09/14

Objectives:

- Students will practice lab safety
- Students will review how to keep a Science Notebook
- Students will review CHAMPS classroom behavior

White Space Question:

What is a computer?

Agenda:

- CS Discoveries Unit 1 Lesson 1 Aluminum Boats

HW:

Finish The Organization of the Periodic Table activity; due Monday

Complete Pre-Survey for CS Discoveries course at code.org



THURSDAY – 09/13

Objectives:

- Students will practice lab safety
- Students will review how to keep a Science Notebook
- Students will review CHAMPS classroom behavior

White Space Question:

Name the three parts that make up a scientific explanation.

Agenda:

- Start The Organization of the Periodic Table activity

HW: Don't forget to create email login for code.org to participate in CS Discoveries course with Mrs. Duddles; follow directions in student handout



WEDNESDAY – 09/12

Objectives:

- Students will practice lab safety
- Students will review how to keep a Science Notebook
- Students will review CHAMPS classroom behavior

White Space Question:

What is the main difference between metals and nonmetals?

Agenda:

- Finish Claim, Evidence, Reasoning (CER) activity; discuss & review
- Start ptable.com Scavenger Hunt Activity; HW if not done in class

HW:

Create email login for code.org to participate in CS Discoveries course with Mrs. Duddles; follow directions in student handout



TUESDAY – 09/11

Objectives:

- Students will practice lab safety
- Students will review how to keep a Science Notebook
- Students will review CHAMPS classroom behavior

White Space Question:

What is the most important thing during lab experiments?

Agenda:

- Finish reading article “Titanic: Was It Doomed by Chemistry?”
- Complete the Anticipation Guide and Reading Guide; Discuss & Review
- Start Claim, Evidence, Reasoning (CER) discussion & activity



MONDAY – 09/10

Objectives:

- Students will practice lab safety
- Students will review how to keep a Science Notebook
- Students will review CHAMPS classroom behavior

White Space Question:

How do we make observations in Science class?

Agenda:

- Read article “Titanic: Was It Doomed by Chemistry?”
- Before you read, complete the first column of the Anticipation Guide
- As you read, complete the Anticipation Guide and Reading Guide



FRIDAY – 09/07

Objectives:

- Students will learn & practice lab safety
- Students will review how to keep a Science Notebook
- Students will review CHAMPS classroom behavior

White Space Question:

What materials should you bring to Science class everyday?

Agenda:

- Turn in completed Syllabus Signature page due today
- Take Lab Safety quiz; turn in quiz when completed
- Read for remainder of hour or watch “Fresh Water” episode from BBC Planet Earth documentary series
- Practice CHAMPS classroom behavior



THURSDAY – 09/06

Objectives:

- Students will learn & practice lab safety
- Students will review how to keep a Science Notebook
- Students will review CHAMPS classroom behavior

White Space Question:

List 3 ways you practice lab safety.

Agenda:

- Turn in completed Syllabus Signature page
- Complete Lab Safety demo & activity; Quiz Friday
- Review how to keep Science Notebook & Practice CHAMPS classroom behavior

HW Reminder: Syllabus Signature page due Friday



WEDNESDAY – 09/05

Objectives:

- Students will review CHAMPS classroom behavior & syllabus course expectations

Agenda:

- Seating Chart
- Conduct classroom housekeeping procedures: materials, syllabus, CHAMPS class expectations
- Distribute Science Notebook & discuss how to keep a Science Notebook

HW:

- Review course syllabus with parents/guardians & turn in signature page to Mrs. Duddles by this Friday



TUESDAY – 09/04

Half Day – Home Schools Only



MONDAY – 09/03

**WCS District – No School
Labor Day Observance**

