

# **EARTH & SPACE SCIENCE 8 MRS. DUDDLES**

**Q2 – SPACE SCIENCE**

# **FRIDAY 01/19/2018 – HALF DAY PM (RECORDS DAY)**

## **Objectives:**

- Students will relate Earth's days, years, and seasons to Earth's movement in space
- Students will describe the effects the sun and the moon have on Earth, including gravitational attraction, moon phases, and eclipses
- Students will explain what tides are and what causes them in Earth's oceans and to describe variations in the tides

## **White Space Question:**

**The moon revolves around Earth, about how many Earth days does it take for the moon to travel around Earth?**

## **Agenda:**

- Discuss and Review Daily Spark
- Work on “Calculating a Planet's Gravity” quick lab; work on your own for the first half of class then you may compare work with your lab group
- End Q2 Records Day

# THURSDAY 01/18/2018

## Objectives:

- Students will relate Earth's days, years, and seasons to Earth's movement in space
- Students will describe the effects the sun and the moon have on Earth, including gravitational attraction, moon phases, and eclipses
- Students will explain what tides are and what causes them in Earth's oceans and to describe variations in the tides

## White Space Question:

**What does a catalyst do?**

## Agenda:

- Take Science 8 Midterm Exam
- You have the entire 1 hour and 30 minutes to complete the exam (please use your time wisely)
- Turn in Midterm test packet and answer sheet when complete
- Work on Daily Spark for remainder of class; due tomorrow

**WEDNESDAY 01/17/2018**

**Math Block for Math Midterm Today**

**No ELA or Science class**

# TUESDAY 01/16/2018

## Objectives:

- Students will relate Earth's days, years, and seasons to Earth's movement in space
- Students will describe the effects the sun and the moon have on Earth, including gravitational attraction, moon phases, and eclipses
- Students will explain what tides are and what causes them in Earth's oceans and to describe variations in the tides

## White Space Question:

**What do astronomers mean by the Big Bang?**

## Agenda:

- Continue working on review for Midterm Exam (use Topics List student handout to guide you)
- Work on "Calculating a Planet's Gravity" quick lab

**MONDAY 01/15/2018**

**WCS District – No School**

**MLK Holiday**

# FRIDAY 01/12/2018

## Objectives:

- Students will relate Earth's days, years, and seasons to Earth's movement in space
- Students will describe the effects the sun and the moon have on Earth, including gravitational attraction, moon phases, and eclipses
- Students will explain what tides are and what causes them in Earth's oceans and to describe variations in the tides

## White Space Question:

**How do Earth, the moon, and the sun interact? What force causes this?**

## Agenda:

- Take The Earth-Moon-Sun System (Activities 6, 7, & 8) Unit Test
  - When complete turn in Unit Test to the teacher
- Start review for Midterm Exam (use Topics List student handout to guide you)

# THURSDAY 01/11/2018

## Objectives:

- Students will relate Earth's days, years, and seasons to Earth's movement in space
- Students will describe the effects the sun and the moon have on Earth, including gravitational attraction, moon phases, and eclipses
- Students will explain what tides are and what causes them in Earth's oceans and to describe variations in the tides

## White Space Question:

**Centripetal force is a force that makes a body follow a \_\_\_\_\_ path.**

## Agenda: Power Hour schedule

- Discuss and Review The Earth-Moon-Sun System (Activities 6, 7, & 8) unit review
- Read silently or study for The Earth-Moon-Sun System Unit Test

**Reminder: The Earth-Moon-Sun System (Activities 6, 7, & 8) Unit Test tomorrow  
Friday 01/12**



# **WEDNESDAY 01/10/2018**

## **Objectives:**

- **Students will relate Earth's days, years, and seasons to Earth's movement in space**
- **Students will describe the effects the sun and the moon have on Earth, including gravitational attraction, moon phases, and eclipses**
- **Students will explain what tides are and what causes them in Earth's oceans and to describe variations in the tides**

## **White Space Question:**

**How long does it take Earth to complete one orbit around the sun?**

## **Agenda:**

- **Discuss and Review Activity 8 Earth's Tides**
- **Work on The Earth-Moon-Sun System (Activities 6, 7, & 8) unit review; due tomorrow Thursday**

**Reminder: The Earth-Moon-Sun System (Activities 6, 7, & 8) Unit Test on Friday 01/12**

# **TUESDAY 01/09/2018**

## **Objectives:**

- **Students will relate Earth's days, years, and seasons to Earth's movement in space**
- **Students will describe the effects the sun and the moon have on Earth, including gravitational attraction, moon phases, and eclipses**
- **Students will explain what tides are and what causes them in Earth's oceans and to describe variations in the tides**

## **White Space Question:**

**How would periods of light and darkness differ if Earth didn't rotate?**

## **Agenda:**

- **Work on Activity 8 Earth's Tides; due tomorrow Wednesday**

**Reminder: The Earth-Moon-Sun System (Activities 6, 7, & 8) Unit Test on Friday 01/12**

# MONDAY 01/08/2018

## Objectives:

- Students will relate Earth's days, years, and seasons to Earth's movement in space
- Students will describe the effects the sun and the moon have on Earth, including gravitational attraction, moon phases, and eclipses
- Students will explain what tides are and what causes them in Earth's oceans and to describe variations in the tides

## White Space Question:

**What is the shape of orbitals do planets make when orbiting the sun? (Circular, spherical, elliptical?)**

## Agenda:

- Discuss and Review Activity 6 Earth's Days, Years, and Seasons; due Friday
- Discuss and Review Activity 7 Moon Phases and Eclipses; due today

**FRIDAY 01/05/2018**

**WCS District – No School due to inclement  
weather**

# THURSDAY 01/04/2018

## Objectives:

- Students will understand the role gravity played in the formation of the solar system and its effect on the motion of the planets
- Students will describe the structure of the universe, including the scale of distances in the universe
- Students will describe the stages of the life cycles of stars

## White Space Question:

**What do you know about how Earth moves in space?**

## Agenda:

- Take The Solar System Unit Quiz (Turn in Activities 4 & 5 and Unit Review with quiz)
- Finish work on Activity 6 Earth's Days, Years, and Seasons; due Friday
- Start work on Activity 7 Moon Phases and Eclipses; due Monday

# WEDNESDAY 01/03/2018

## Objectives:

- Students will understand the role gravity played in the formation of the solar system and its effect on the motion of the planets
- Students will describe the structure of the universe, including the scale of distances in the universe
- Students will describe the stages of the life cycles of stars

## White Space Question:

**What happens to a star when the fusion of hydrogen to helium ceases?**

## Agenda:

- Discuss The Solar System Unit Review (Activities 4 & 5 and Astronomy Notes Part 6 & 7) **due today**
- Start work on Activity 6 Earth's Days, Years, and Seasons

**Reminder: Quiz on The Solar System tomorrow Thursday 01/04**

**WEDNESDAY 12/20 – TUESDAY 01/02**

**WCS District – No School**

**Winter Break**

**Have a safe and happy break!**

# **TUESDAY 12/19/2017 – HALF DAY AM CLASSES ONLY**

## **Objectives:**

- Students will understand the role gravity played in the formation of the solar system and its effect on the motion of the planets
- Students will describe the structure of the universe, including the scale of distances in the universe
- Students will describe the stages of the life cycles of stars

## **White Space Question:**

**What happens to a star when the fusion of hydrogen to helium ceases?**

## **Agenda:**

- Work on The Solar System Unit Review (Activities 4 & 5 and Astronomy Notes Part 6 & 7) **due Wednesday 01/03**

**Reminder: Quiz on The Solar System Thursday 01/04**



# MONDAY 12/18/2017

## Objectives:

- Students will understand the role gravity played in the formation of the solar system and its effect on the motion of the planets
- Students will describe the structure of the universe, including the scale of distances in the universe
- Students will describe the stages of the life cycles of stars

## White Space Question:

**What happens inside the core of a star for most of its life cycle?**

## Agenda:

- Discuss and review Activity 4 Gravity and the Solar System guided reading **due Thurs 12/14**
- Discuss and review Activity 5 The Sun guided reading **due Friday 12/15**
- Work on The Solar System Unit Review (Activities 4 & 5 and Astronomy Notes Part 6 & 7) **due Wednesday 01/03**

**Reminder: Quiz on The Solar System Thursday 01/04**

# **FRIDAY 12/15/2017**

## **Objectives:**

- **Students will understand the role gravity played in the formation of the solar system and its effect on the motion of the planets**
- **Students will describe the structure of the universe, including the scale of distances in the universe**
- **Students will describe the stages of the life cycles of stars**

## **White Space Question:**

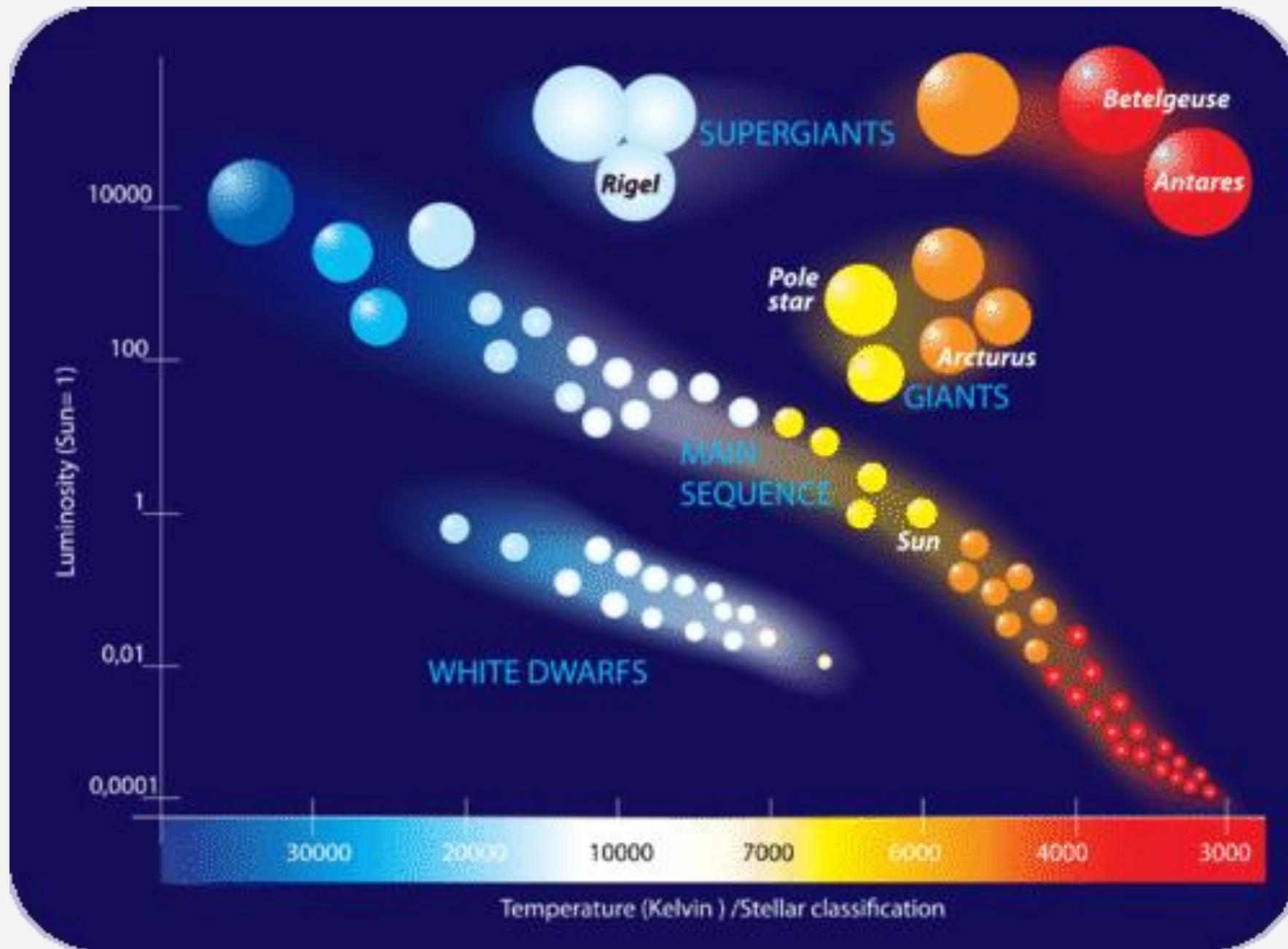
**What happens inside the core of a star for most of its life cycle?**

**Agenda: No Science or ELA class today**

- **Math Block with Mr. Carron**

**THURSDAY 12/14/2017**

**WCS District – No School due to inclement  
weather**



# WEDNESDAY 12/13/2017

## Objectives:

- Students will understand the role gravity played in the formation of the solar system and its effect on the motion of the planets
- Students will describe the structure of the universe, including the scale of distances in the universe
- Students will describe the stages of the life cycles of stars

## White Space Question:

How do you determine the median of a data set?

## Agenda:

- Take Space Science Unit Quiz (Activities 1 – 3); turn in quiz when completed
- Continue work on Activity 4 Gravity and the Solar System guided reading **due Thursday 12/14**
- Start work on Activity 5 The Sun guided reading **due Friday 12/15**

# TUESDAY 12/12/2017

## Objectives:

- Students will understand the role gravity played in the formation of the solar system and its effect on the motion of the planets
- Students will describe the structure of the universe, including the scale of distances in the universe
- Students will describe the stages of the life cycles of stars

## White Space Question:

**How do you calculate the mean of a data set?**

## Agenda: Power Hour

- Work on Activity 4 Gravity and the Solar System guided reading
- Discuss and Review Space Science Unit Review (Activities 1 – 3)
- Prepare for Space Science Unit Quiz (Activities 1 – 3)

**Reminder: Quiz on Unit 2 Space Science Activities 1 – 3 tomorrow Wed 12/13**

# MONDAY 12/11/2017

## Objectives:

- Students will understand the role gravity played in the formation of the solar system and its effect on the motion of the planets
- Students will describe the structure of the universe, including the scale of distances in the universe
- Students will describe the stages of the life cycles of stars

## White Space Question:

How do you find the mode of a data set?

## Agenda:

- Turn in Daily Spark WS for grading
- Work on Space Science Unit Review (Activities 1 – 3)
- Discuss and Review “Gravity and Distance” and “Free-Fall Distances” Quick Labs

**Reminder: Quiz on Unit 2 Space Science Activities 1 – 3 on Wednesday 12/13**

# **FRIDAY 12/08/2017**

## **Agenda:**

- **Modified class schedule for MSVPA performance of “The Grunch” – No Science class today**
- **Work on “Free-Fall Distances” Quick Lab**



# THURSDAY 12/07/2017

## 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 cycles of stars

## White Space Question:

**What is gravity?**

## Agenda: Power Hour

- Work on Daily Spark question of the day (5 mins)
- Review Astronomy Part 7 Notes; practice problems with “Gravity and Distance” Quick Lab
- Discuss and Review “Gravity and the Solar System Stations” Lab

# WEDNESDAY 12/06/2017

## 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 cycles of stars

## White Space Question:

**What are models that use the Sun as the center called?**

## Agenda:

- Work on Daily Spark question of the day (5 mins)
- Watch documentary on the Sun

**HW: Complete Astronomy Part 7 Notes with note-sheet**

# TUESDAY 12/05/2017

## 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 cycles of stars

## White Space Question:

**What are models that use Earth as the center called?**

## Agenda: Power Hour

- Work on Daily Spark question of the day (5 mins)
- Complete “Gravity and the Solar System Stations” Lab (30 mins)

# MONDAY 12/04/2017

## 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 cycles of stars

## White Space Question:

**What are constellations?**

## Agenda:

- Turn in Stellar Evolution Project poster due today
- Finish Astronomy 6 Notes with note sheet
- Work on Daily Spark question of the day

# FRIDAY 12/01/2017

## 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 cycles of stars

## White Space Question:

Put the following objects in order from smallest to largest: galaxy, planet, universe, star.

## Agenda:

- Discuss and Review Activity 3 The Life Cycle of Stars book reading & questions
- Astronomy Part 5 & 6 Notes with note sheet

**HW: Work on Stellar Evolution Project (due Monday)**

# THURSDAY 11/30/2017

## 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 cycles of stars

## White Space Question:

**What are two possible objects left behind by a high-mass star at the end of its life cycle?**

## Agenda: Power Hour

- **Work on Stellar Evolution Project: read and follow student handout (due Monday)**
- **Work on Activity 3 The Life Cycle of Stars book reading & questions (due Friday)**

# WEDNESDAY 11/29/2017

## 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 cycles of stars

## White Space Question:

**What happens in a nuclear fusion reaction?**

## Agenda: Power 45

- Work on Stellar Evolution Project: read and follow student handout (due Friday)
- Work on Activity 3 The Life Cycle of Stars book reading & questions (due Thurs)

# TUESDAY 11/28/2017

## 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 cycles of stars

## White Space Question:

**Where are stars formed?**

## Agenda:

- Distribute & Review Astronomy Part I Quiz
- Work on Stellar Evolution Project: read and follow student handout (due Friday)
- Work on Activity 3 The Life Cycle of Stars book reading & questions (due Thurs)



# **MONDAY 11/27/2017**

## **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 cycles of stars**

## **White Space Question:**

**List the Gas Giant planets and describe their composition.**

## **Agenda:**

- **Astronomy Part 4 Notes with note sheet**
- **Review Stellar Evolution Project student handout**

**WEDNESDAY 11/22 – FRIDAY 11/24**

**WCS District – No classes**

**Thanksgiving Break**

**Have a Happy Thanksgiving!**

# **TUESDAY 11/21/2017 – HALF DAY PM ONLY**

## **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 cycles of stars**

## **White Space Question:**

**List the terrestrial planets and describe their composition.**

## **Agenda:**

- **Watch National Geographic documentary video to learn more about the Big Bang Theory**

# MONDAY 11/20/2017

## 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 cycles of stars

## White Space Question:

## What is the Big Bang Theory?

## Agenda:

- Turn in Lab 4: Star Colors and Temperature handout for grading
- Take Quiz on Astronomy notes 1, 2, and 3 material including HR Diagram
- Read for remainder of class period

# FRIDAY 11/17/2017

## 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 cycles of stars

## White Space Question:

**What are some general properties of stars? How do they differ from one another?**

## Agenda:

- Work on Lab 4: Star Colors and Temperature
- Read and follow directions in lab handout

**Reminder: Quiz on Astronomy notes 1, 2, and 3 material including HR Diagram Monday 11/20. Review your notes!**

# THURSDAY 11/16/2017

## 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 cycles of stars

## White Space Question:

**Explain the difference between apparent magnitude and absolute magnitude of a star.**

## Agenda: Power Hour

- Discuss and review Hertzsprung-Russell Diagram (HR Diagram) activity
- Discuss and review Unit 2 Space Science Activity 2 “Stars” book work
- Turn in Activity 2 “Stars” work for grading
- **Quiz on Astronomy notes 1, 2, and 3 material including HR Diagram Monday 11/20**

# WEDNESDAY 11/15/2017

## 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 cycles of stars

## White Space Question:

What are stars?

## Agenda:

- Discuss and review “Modeling the Expanding Universe” quick lab activity; turn in student handout for grading
- Learn more about the Hertzsprung-Russell Diagram (HR Diagram) activity; turn in
- Read articles on Origins of the Universe (blue student handout)

**HW: Unit 2 Space Science Activity 2 “Stars” book work**

# TUESDAY 11/14/2017

## 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 cycles of stars

## White Space Question:

**What is a chemical property?**

## Agenda:

- Work on Unit 2 Space Science Activity 2 “Stars”:
  - Read pages 16 – 23 in the *Space Science* book
  - Answer Questions 1 – 3, and 5 – 13
  - Do Lesson Review on page 25, questions 1 – 10
  - Create definitions for Vocabulary. Answer Analysis Questions.



# MONDAY 11/13/2017

## 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 cycles of stars

## White Space Question:

**What is a physical property?**

## Agenda:

- Do “Modeling the Expanding Universe” lab activity
  - Read and follow directions in the student lab handout
  - Turn in for grading
- Astronomy Part 3 Notes with note sheet

# **FRIDAY 11/10/2017**

Half Day AM Only – No PM Classes Today

# THURSDAY 11/09/2017

## 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 cycles of stars

## White Space Question:

**Put the following concepts in order of increasing size: galaxy, universe, solar system, planet/star**

## Agenda:

- Finish Cosmic Time Line Events Calculations Activity
  - Turn in group calendar and individual student worksheet for grading
- Read for remainder of hour

# WEDNESDAY 11/08/2017

## 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 cycles of stars

## White Space Question:

**How is a star different from a planet?**

## Agenda:

- Astronomy Part 2 Notes (20 mins)
- Start Cosmic Time Line Events Calculations Activity; finish in class on Thursday

**TUESDAY 11/07/2017**

**WCS District – No classes today**  
**Election Day**

# MONDAY 11/06/2017

## 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 cycles of stars

## White Space Question:

**What is Earth's place in the universe?**

## Agenda:

- Turn in Big History Webquest for grading
- Discuss and review Activity I “Structure of the Universe” book reading
- Turn in Activity I handout for grading (Analysis Questions and Conclusion will be graded as an assessment)

# FRIDAY 11/03/2017

## 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 cycles of stars

## White Space Question:

**What is a star?**

## Agenda:

- Big History Webquest (HW if you do not finish in class)
- Dimensional Analysis & Scientific Notation quiz retake (I will average this grade with your original quiz grade)

# THURSDAY 11/02/2017

## 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 cycles of stars

## White Space Question:

Convert the following numbers into standard notation:

$6.11 \times 10^{-4}$

and

$1.76 \times 10^5$

## Agenda: (Power Hour)

- Take Quiz on Dimensional Analysis and Scientific Notation (40 mins)
- Staple Dimensional Analysis and Scientific Notation practice worksheets to your Quiz & turn in for grading



# WEDNESDAY 11/01/2017

## 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 cycles of stars

## White Space Question:

Convert the following numbers into scientific notation:

**105,000;      .00982;    93.01**

## Agenda:

- Seating Arrangement for Q2
- Do “Size and Scale of the Universe” lab activity
- **Reminder: Quiz on Dimensional Analysis and Scientific Notation this Thursday 11/02**

# TUESDAY 10/31/2017

## 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 cycles of stars

## White Space Question:

**How can you differentiate the terrestrial planets from the gas giants?**

## Agenda:

- Check Scientific Notation practice worksheet
- Review Dimensional Analysis work
- Have Activity 1 “Structure of the Universe” work completed by Wednesday 11/01; be ready for discussion and review

**Reminder: Quiz on Dimensional Analysis and Scientific Notation this Thursday 11/02**

# MONDAY 10/30/2017

## 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 cycles of stars

## White Space Question:

**Which things found in our solar system are larger than Earth? Which are smaller?**

## Agenda:

- Engineering Design Process Practice and Reflection on “Design a Better Model” project: Complete the Engineering Design Process for the work that you did on the “Design a Better Model” project (if time)
- Check Dimensional Analysis Problems Set I; turn in “More Dimensional Analysis Problems” for grading
- Scientific Notation Review with notes sheet and practice worksheet

**Reminder: Quiz on Dimensional Analysis and Scientific Notation this Thursday 11/02**

# **FRIDAY 10/27/2017 – HALF DAY PM**

- **No Science class today – Math block with Mr. Carron for Decimals Project work**

# THURSDAY 10/26/2017

## 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 cycles of stars

## White Space Question:

**What things can be found in our universe?**

## Agenda: (No Power Hour)

- Engineering Design Process Practice and Reflection on “Design a Better Model” project (if time)
- Dimensional Analysis Review with notes & practice worksheets

# WEDNESDAY 10/25/2017

## 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 cycles of stars

## White Space Question:

**What is at the center of our solar system?**

## Agenda:

- Turn in **Galactic Address** assignment
- Science Notebook check
- Work on Activity I “Structure of the Universe”
  - Read pages 4 – 11 in the *Space Science* book
  - Answer questions 1 – 3, 5 – 7, 9 – 11, and 13
  - Do Lesson Review on page 13, questions 1 – 10

# TUESDAY 10/24/2017

## 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 cycles of stars

## White Space Question:

**Name as many planets which you know that belong to our solar system.**

## Agenda:

- Mrs. Duddles at Stream Leaders with 7<sup>th</sup> grade class
- Space Science Notes with Mr. Moore
- Science Notebook check tomorrow, Wednesday 10/25

# MONDAY 10/23/2017

## Objectives:

- Students will investigate and be able to describe the basic structure of an atom
- Students will begin to investigate chemical bonding and identify the signs of a chemical reaction
- Students will understand that balanced chemical equations show that mass is conserved

## White Space Question:

**Write the chemical equation for the process of cellular respiration.**

## Agenda:

- Turn in “Design a Better Model Project” model and poster; due today
- Discuss and review Chemistry Unit Test
- Start Space Science unit
- Science Notebook check this Wednesday 10/25