COVER LETTER: Distance Learning	Week #2 April 27 – May 2, 2020

George Kelly School: 7th Grade CORE

Teacher	7th Grade- Mrs. Bartschi	7th Grade- Ms. Clary
Office Hours By email	By email- dbartschi@tusd.net Monday - Friday from 8:00 am to 3:30 pm **Emails received outside of these hours will be answered at teacher availability.* ***Do NOT wait until due date to complete assignments!*** CONTACT a FRIEND for assignment HELP too!	By email- dclary@tusd.net Monday - Friday from 8:00 am – 3:30 pm **Emails received outside of these hours will be answered at teacher availability.* ***Do NOT wait until due date to complete assignments!*** CONTACT a FRIEND for assignment HELP too!
By chat or video	Mon. thru Fri. from 1 pm to 3 pm **Go to Mrs. Basacker padlet, click on 'Distance Learning' page for ZOOM**	Mon. thru Fri. from 1 pm to 3 pm **Go to Mrs. Basacker padlet, click on 'Distance Learning' page for ZOOM**
Digital Access to Curriculum	padlet.com/kbasacker	padlet.com/kbasacker

Hard copies of materials and Study Sync books

4/24/2020 pick-up materials
5/8/2020 pick-up materials and drop-off Weeks 1 and 2 Assignments
5/15/2020 drop-off Weeks 3 and 4 Assignments

This Curriculum has been developed to support and reinforce the Core- ELA and Social Studies Middle School Standards:

Formatting ELA/Social Studies Assignments:

1. Typed/ or written in **INK** must include the following:
    a. Name
    b. Teacher's name
    c. Week# and date range
    d. Questions and answers: Study Sync use RACE format/ BLAST answer the questions
    e. Questions and answers: Complete sentences restating the question in your answer

Submitting Required Assignments:

1. Best option: Complete on-line through:
    a. Study Sync for ELA both Think Questions and BLAST
    b. Share through Office 365
    c. Attach document and send through e-mail
    d. Scan OR take a photo of completed assignment and attach to e-mail (written assignments MUST be completed legibly in **INK**)
2. Physical drop-off to school: **Fri. May 8 and Fri. May 15 *Refer to GKE Drop-off Schedule**

Assignments for the Week of April 27- May 2 , 2020

Language Arts:

Complete the following Study Sync Assignments:

1. Read the excerpt from the ***Apollo 13 (see below),*** annotating as you read.

2. Answer the **Apollo 13 Think Questions** (see below), using the R.A.C.E. format (Restate the question, Answer the question, Cite Textual Evidence, and Explain your evidence) format. Remember that grammar, spelling, and punctuation count.
3. Complete the assigned **BLAST** (see below) and respond to five of your peers. Remember that we can see **A L L** of your responses.
4. Expand your BRAIN and Continue Reading different genres of books!
5. Remember to submit your **BEST** work.
6. **Completed Think Questions and BLAST are due by Saturday, May 2th**

First Read: Apollo 13: Mission Highlights

Read

Mission Highlights

The first two days the crew ran into a couple of minor surprises, but generally *Apollo 13* was looking like the smoothest flight of the program. At 46 hours 43 minutes Joe Kerwin, the CapCom on duty, said, "The spacecraft is in real good shape as far as we are concerned. We're bored to tears down here." It was the last time anyone would mention boredom for a long time.

At 55 hours 46 minutes, as the crew finished a 49-minute TV broadcast showing how comfortably they lived and worked in weightlessness, Lovell stated: "This is the crew of *Apollo 13* wishing everybody there a nice evening, and we're just about ready to close out our inspection of *Aquarius (the LM)* and get back for a pleasant evening in *Odyssey (the CM).* Good night."

Nine minutes later, Oxygen tank No. 2 blew up, causing No. 1 tank also to fail. The *Apollo 13* command module's normal supply of electricity, light, and water was lost, and they were about 200,000 miles from Earth.

The message came in the form of a sharp bang and vibration. Jack Swigert saw a warning light that accompanied the bang, and said, "Houston, we've had a problem here." Lovell came on and told the ground that it was a main B bus undervolt. The time was 2108 hours on April 13.

Next, the warning lights indicated the loss of two of *Apollo 13's* three fuel cells, which were the spacecraft's prime source of electricity. With warning lights blinking on, one oxygen tank appeared to be completely empty, and there were indications that the oxygen in the second tank was rapidly being **depleted.**

Thirteen minutes after the explosion, Lovell happened to look out of the left-hand window, and saw the final evidence pointing toward **potential** catastrophe. "We are venting something out into the- into space," he reported to Houston. Jack Lousma, the CapCom replied, "Roger, we copy you venting." Lovell said, "It's a gas of some sort." It was oxygen gas escaping at a high rate from the second, and last, oxygen tank.

The first thing the crew did, even before discovering the oxygen leak, was to try to close the hatch between the CM and the LM. They reacted spontaneously, like submarine crews, closing the hatches to limit the amount of flooding. First Jack and then Lovell tried to lock the reluctant hatch, but the stubborn lid wouldn't stay shut. Exasperated, and realizing that there wasn't a cabin leak, they strapped the hatch to the CM couch.

The pressure in the No. 1 oxygen tank continued to drift downward; passing 300 psi, now heading toward

200 psi. Months later, after the accident investigation was complete, it was determined that, when the No. 2 tank blew up, it either ruptured a line on the No. 1 tank, or caused one of the valves to leak. When the pressure reached 200 psi, the crew and ground controllers knew that they would lose all oxygen, which meant that the last fuel cell would also die.

At 1 hour and 29 seconds after the bang, Jack Lousma, then CapCom, said after instructions from Flight Director Glynn Lunney: "It is slowly going to zero, and we are starting to think about the LM lifeboat." Swigert replied, "That's what we have been thinking about too."

Ground controllers in Houston faced a **formidable** task. Completely new procedures had to be written and tested in the simulator before being passed up to the crew. The navigation problem had to be solved; essentially how, when, and in what altitude to burn the LM descent engine to provide a quick return home.

With only 15 minutes of power left in the CM, CapCom told the crew to make their way into the LM. Fred and Jim Lovell quickly floated through the tunnel, leaving Jack to perform the last chores in the Command Module. The first concern was to determine if there were enough consumables to get home? The LM was built for only a 45-hour lifetime, and it needed to be stretched to 90. Oxygen wasn't a problem. The full LM descent tank alone would **suffice,** and in addition, there were two ascent-engine oxygen tanks, and two backpacks whose oxygen supply would never be used on the lunar surface. Two emergency bottles on top of those packs had six or seven pounds each in them. (At LM jettison, just before reentry, 28.5 pounds of oxygen remained, more than half of what was available after the explosion).

Power was also a concern. There were 2181 ampere hours in the LM batteries, Ground controllers carefully worked out a procedure where the CM batteries were charged with LM power. All non-critical systems were turned off and energy consumption was reduced to a fifth of normal, which resulted in having 20 percent of our LM electrical power left when Aquarius was jettisoned. There was one electrical close call during the mission. One of the CM batteries vented with such force that it momentarily dropped off the line. Had the battery failed, there would be insufficient power to return the ship to Earth.

Water was the main consumable concern. It was estimated that the crew would run out of water about five hours before Earth reentry, which was calculated at around 151 hours. However, data from *Apollo 11* (which had not sent its LM ascent stage crashing into the moon as in subsequent missions) showed that its mechanisms could survive seven or eight hours in space without water cooling. The crew conserved water. They cut down to six ounces each per day, a fifth of normal intake, and used fruit juices; they ate hot dogs and other wet-pack foods when they ate at all. The crew became dehydrated throughout the flight and set a record that stood up throughout *Apollo:* Lovell lost fourteen pounds, and the crew lost a total of 31.5 pounds, nearly 50 percent more than any other crew. Those stringent measures resulted in the crew finishing with 28.2 pounds of water, about 9 percent of the total.

Removal of Carbon Dioxide was also a concern. There were enough lithium hydroxide canisters, which remove carbon dioxide from the spacecraft, but the square canisters from the Command Module were not compatible with the round openings in the Lunar Module environmental system. There were four cartridge from the LM, and four from the backpacks, counting backups. However, the LM was designed to support two men for two days and was being asked to care for three men nearly four days. After a day and a half in the LM a warning light showed that the carbon dioxide had built up to a dangerous level. Mission Control **devised** a way to attach the CM canisters to the LM system by using plastic bags, cardboard, and tape—all materials carried on board.

One of the big questions was, "How to get back safely to Earth." The LM navigation system wasn't designed to help us in this situation. Before the explosion, at 30 hours and 40 minutes, *Apollo 13* had made the normal midcourse correction, which would take it out of a free-return-to-Earth trajectory and put it on a lunar landing course. Now the task was to get back on a free-return course. The ground computed a 35-second burn and fired it 5 hours after the explosion. As they approached the moon, another burn was computed; this time a long 5-minute burn to speed up the return home. It took place 2 hours after rounding the far side of the moon.

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The trip was marked by discomfort beyond the lack of food and water. Sleep was almost impossible because of the cold. When the electrical systems were turned off, the spacecraft lost an important source of heat. The temperature dropped to 38 F and condensation formed on all the walls.

A most remarkable achievement of Mission Control was quickly developing procedures for powering up the CM after its long cold sleep. Flight controllers wrote the documents for this innovation in three days, instead of the usual three months. The Command Module was cold and clammy at the start of power up. The walls, ceiling, floor, wire harnesses, and panels were all covered with droplets of water. It was suspected conditions were the same behind the panels. The chances of short circuits caused apprehension, but thanks to the safeguards built into the command module after the disastrous *Apollo 1* fire in January 1967, no arcing took place. The droplets furnished one sensation as we decelerated in the atmosphere: it rained inside the CM.

Four hours before landing, the crew shed the service module; Mission Control had insisted on retaining it until then because everyone feared what the cold of space might do to the unsheltered CM heat shield. Photos of the Service Module showed one whole panel missing, and wreckage hanging out, it was a sorry mess as it drifted away. Three hours later the crew left the Lunar Module Aquarius and then splashed down gently in the Pacific Ocean near Samoa.

Annotations

Apollo 13 Think Questions:

Question 1

What words, phrases, or clues in the first two paragraphs help readers determine the subject (or content) area of the text? Cite specific textual evidence to support your answer.

Question 2

What is the impact of technical language on the tone of the text? Cite specific evidence from the text to support your answer.

Question 3

How effective is the use of technical language in the text? Cite specific textual evidence to support you answer.

Question 4

Use context clues to determine the meaning of the word **formidable** as it is used in paragraph 10 of the text. Write your definition of “formidable” and identify the context clues you used to figure out the meaning of the word.

Question 5

Use context clues to determine the meaning of **devised** in paragraph 14. Write your definition of “devised” and identify the context clues you used in the text to determine its meaning. Confirm your definition by looking up “devise” in the dictionary. Revise your definition as needed.

Close Read: Apollo 13: Mission Highlights

Skills Focus

1. As you reread the first three paragraphs, highlight the names of the two spacecraft in which the astronauts are working and living. Highlight, too, how the text helps readers understand the difference between the two spacecraft. What context clues in paragraph 3, including any Greek or Latin prefixes, suffixes, or roots of words, help readers understand the technical information and technical language in paragraph 2? Highlight specific textual evidence, and use the annotation tool to explain your responses.
   CA-CCSS: CA.L.7.6, CA.RI.7.1, CA.RI.7.4
2. In paragraph 4, Lovell tells Houston that the problem is with a "main B bus undervolt." What clues in paragraph 3 help you infer what the "main B bus undervolt" supplies? Then highlight textual evidence in paragraph 5, and use the annotation tool to cite the other technical problems that the spacecraft is experiencing.
   CA-CCSS: CA.L.7.6, CA.RI.7.1, CA.RI.7.4
3. Why was the removal of carbon dioxide from the LM a problem in paragraph 14? How did Mission Control solve the problem? Highlight specific technical language, including any Greek or Latin prefixes, suffixes, or roots of words, that helped you understand the technical information and technical language in the paragraph. Use the annotation tool to help support your response.
   CA-CCSS: CA.L.7.4b, CA.L.7.6, CA.RI.7.1, CA.RI.7.4, CA.SL.7.1a
4. In paragraph 17, the text states: "A most remarkable achievement of Mission Control was quickly developing procedures for powering up the CM after its long cold sleep." What did flight controllers do to solve the problem? Highlight specific technical language and evidence in the text, and use the annotation tool to help explain your response.
   CA-CCSS: CA.L.7.6, CA.RI.7.1, CA.RI.7.4, CA.SL.7.1a
5. Apollo's 13's original mission was to explore a lunar highland, but after the explosion and failure of the spacecraft's oxygen tanks, the astronauts and mission control had a new goal in mind. What was this goal? Was it accomplished? Highlight specific evidence in paragraphs 15 and 18, and use the annotation tool to help explain your answers.
   CA-CCSS: CA.RI.7.1, CA.RI.7.2

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Annotations

<u>Assignments for the Week of April 27 – May 2, 2020</u>

Social Studies:

<u>Complete the following Assignments:</u>

1. Read the DBQ/Background Essay entitled ***How did the Renaissance Change Man's View of the World?*** Think about this question as you are reading the document.
2. Read both Documents C and D. Simply write out the question and your answer in complete sentences restating the question in your answer.
3. Write an evidence sandwich that answer the questions ***How did the Renaissance Change Man's View of the World?***
   Evidence Sandwich Format:
   - **Claim**
   - **Background information in regards to the topic**
   - **Evidence -- Directly stated with a citation**
   - **Explain**
   - **Why it matters to the claim**
4. **Completed Background Essay Questions, Documents C and D, and the Evidence Sandwich are due by Saturday, May 2nd.**

Document C

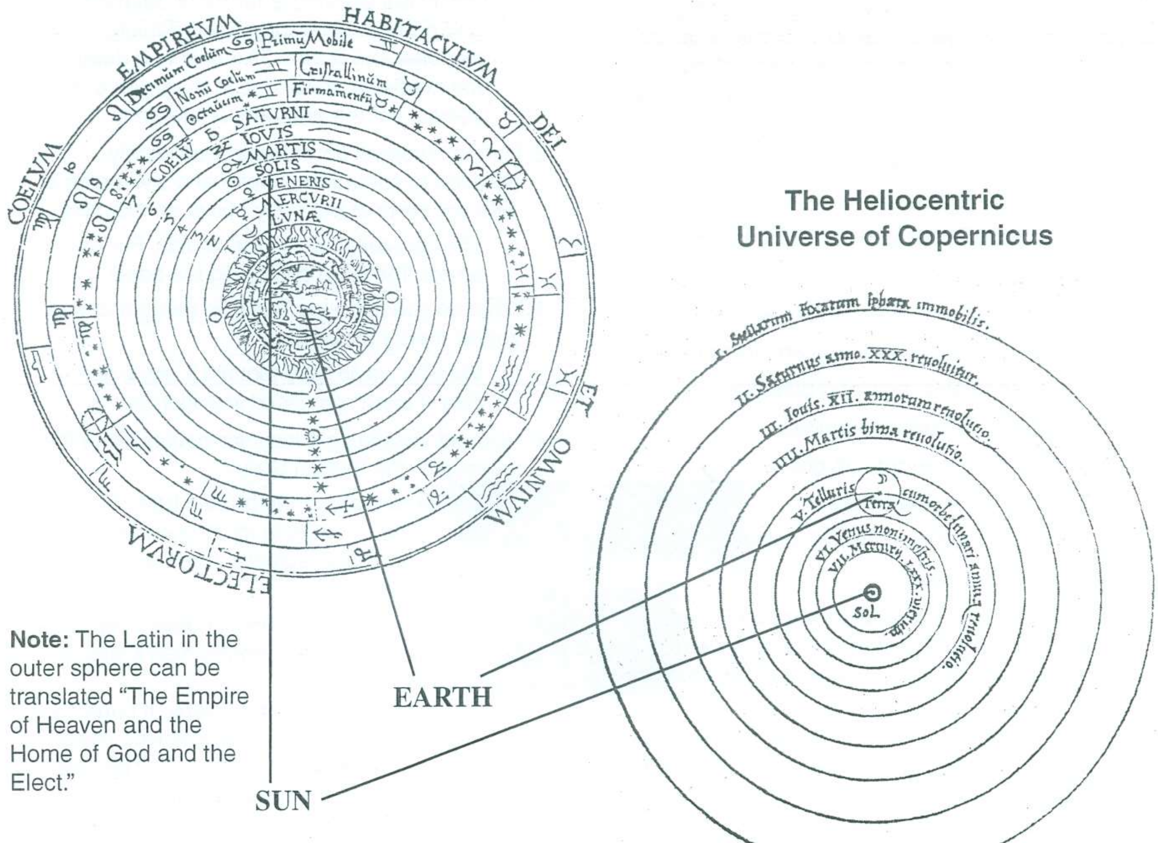
Source: Drawings of the universe by Claudius Ptolemy (circa 100 CE) and Nicolaus Copernicus (circa 1500).

Note: Ptolemy (tol-eh-mee) was a Roman astronomer who lived in Alexandria, Egypt, shortly after the time of Jesus. He developed a theory of the universe that was adopted by most scholars during the Middle Ages. The Polish astronomer Nicolaus Copernicus lived from 1473 to 1543. Relying mostly on mathematics and observation, he developed a different understanding of the universe. Geocentric means "earth-centered" and heliocentric means "sun-centered."

EV

The Geocentric Universe of Ptolemy

The Heliocentric Universe of Copernicus



Note: The Latin in the outer sphere can be translated "The Empire of Heaven and the Home of God and the Elect."

Document Analysis

1. According to Ptolemy's diagram, how does the universe work? Where is the sun (solis) in his diagram?
2. According to Copernicus's diagram, how does the universe work?
3. The ideas of Copernicus were upsetting to the Catholic Church. What might explain this?
4. Which drawing of the universe has a habitation or home for God, the deity?
5. How might the ideas of Copernicus have changed the way people thought about the nature of man and man's place in the universe?

Document D

Source: A woodcut called "Zodiac Man" from a book by German astronomer Johann Regiomontanus, 1512, and a woodcut from the anatomy book *On the Makeup of the Human Body* by Belgian physician Andreas Vesalius, 1543.

Note: The image on the left reflects the Middle Ages belief that each sign of the zodiac* governed a certain part of the body. For example, the constellation of stars called Aries the Ram controlled the head. The illustration on the right was based on the research done by Andreas Vesalius, who dissected human corpses to better explain the human body.

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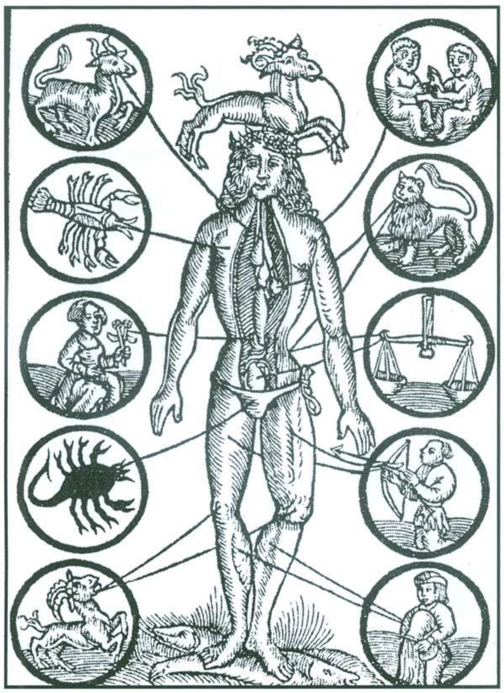
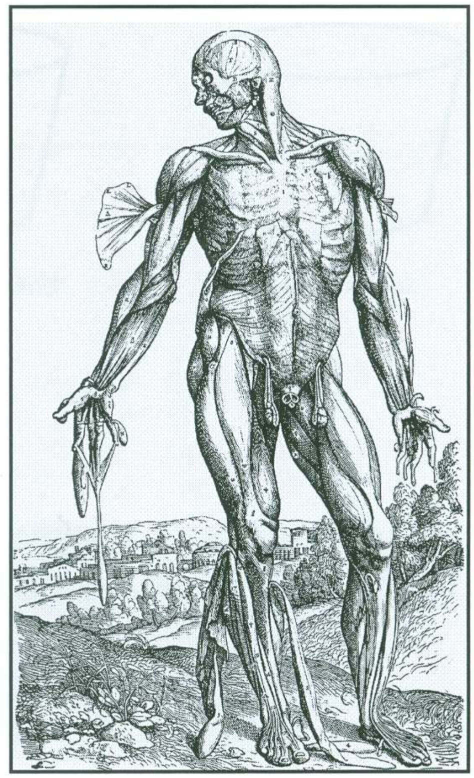
*The zodiac is a band of 12 constellations (stars) that stretch across the sky.





Document Analysis

1. Which of the drawings is more realistic? Explain.
2. During medieval times, what was widely believed to control the health and well being of different parts of the body? Give an example.
3. What do you suppose Vesalius thought of the zodiac theory of anatomy?
4. How did Vesalius get his information about the makeup of the human body?
5. In summary, how does this document reveal how the Renaissance changed man's view of the world?