

**7th Grade
Lesson Plan
Packet**

4/20/2020-4/24/2020

Remote Learning Packet

NB: Please keep all work produced this week. Details regarding how to turn in this work will be forthcoming.

April 20, 2020 - April 24, 2020

Course: Texas History

Teacher(s): Mrs. Malpiedi patricia.malpiedi@greatheartsirving.org

Mrs. Hunt natalie.hunt@greatheartsirving.org

Weekly Plan:

Monday, April 20

- Trace and label the map on page 552 once (15 min)
- Trace and label the map on page 552 again! (15 min)

Tuesday, April 21

- Map review (10 min)
- Copy down and answer the “Texas Geography Questions” (15 min)

Wednesday, April 22

- Check answers to yesterday’s geography questions (5 min)
- Copy down Chapter 16 timeline (10 min)
- Write summaries (10 min)

Thursday, April 23

- Ten Categories worksheet part 1 (10 min)
- Read 16.1 (10 min)
- Read about Life on an Oil Rig (5 min)

Friday, April 24

- Ten Categories worksheet part 2 (10 min)
- Read 16.2 (10 min)
- Email questions for Mr. Bernardo to Mrs. Malpiedi! (5 min)

Statement of Academic Honesty

I affirm that the work completed from the packet is mine and that I completed it independently.

I affirm that, to the best of my knowledge, my child completed this work independently

Student Signature

Parent Signature

Monday, April 20

We hope you enjoyed Friday's Wildflower assignment and that you are able to see some of those Spring beauties in person if you haven't already. Here are two exciting images from Mrs. Malpiedi's home garden. She had intended to plant these wildflowers at school, but because of the circumstances instead planted them at home. These young sprouts look very promising! On the left are Indian Blanket Flowers, and on the right are Mexican Poppies. We'll keep you updated.



For today's assignment, you will review Texas geography. What a valuable item to study! You will need your textbook and two pieces of paper (preferably thin notebook paper, tracing paper or even parchment paper.)

1. Add your heading and the following titles to each piece of paper:
Map of Texas #1 (on one page) and **Map of Texas #2** (on the other)
2. Turn to page 552 of your textbook. Carefully trace the *entire* page two times, so that you have one map on each page.

Do trace and label everything on the map, including:

- Bordering states and Mexico
- All the cities
- All the rivers (extending them beyond the Texas border, if needed)
- The compass rose
- The Albers Equal-Area Projection scale
- Mountains, plateaus, escarpments

When in doubt, add it to your map. You are welcome to use different colors for rivers, borders, etc. After today's lesson you should have two beautiful maps. We hope to admire them when you submit this week's packet.

- ★ **Song recommendation** (not required): As you work on your maps, you might listen to "Ain't No More Cane," a Southern traditional song. The song refers to work camps established along the Brazos River, where prisoners would have to harvest sugar cane. (Versions of the song have been covered by artists like The Band and Bob Dylan. Please get your parents' permission before searching for the song online.)

Tuesday, April 21

1. Spend ten minutes studying the map you made yesterday.
2. Add your heading and the following title to your notebook paper:
Texas Geography Questions
3. After, skip two lines. Copy down and answer the questions in the box with the help of your textbook. (Hint: What part of the textbook would you use to search for information with key terms?) You are welcome to ask your parents for help with these questions.

1. What are the major rivers which run through the state?
2. What is an escarpment?
3. Where is the “Hill Country”?
4. What is the “Panhandle”?
5. Where are the Piney Woods?
6. Why does Dallas have such fickle weather? 45 degrees and rainy one day, 85 and sunny the next?
7. What is our state capital and what highways would one take to drive there?

Wednesday, April 22

We are going to skip Chapter 15 and continue today with Chapter 16.

1. Check your answers to Tuesday’s Geography questions using the key at the end of this packet.
2. On a new piece of paper, add your heading and the following title:
Chapter 16: Modern Texas Emerges: 1900-1929 (p. 380-403)
3. Neatly copy down the timeline (both the Texas and World/US events) found on pages 380 and 381.
4. Under the timeline, write 2-3 sentence summaries for each question:
 - a. What events happened in Texas in the early 1900s?
 - b. What events happened in the world in the early 1900s?

Thursday, April 23

1. Read and complete the **Ten Categories Review Worksheet part 1**.
2. Read Chapter 16 Section 1 (pages 382-385).
3. Finally, read “Life on an Oil Rig” below and send any questions you would like to ask Mr. Bernardo to Mrs. Malpiedi.

Life on an Oil Rig



Mrs. Malpiedi's brother, Mr. Bernardo, works as a floorhand on an offshore oil rig in middle-of-nowhere New Mexico. (More accurately, Jal and sometimes Fort Stockton, NM. As Mr. Bernardo describes, "one hour from the closest Walmart.") He lives at the rig site for two weeks at a time, working twelve hours straight each day. His crew is made up of: one derrickman, one driller, one motorman and two to three floorhands. The crew's job is to drill holes 18,000-21,000 ft deep using a drill pipe, and then make sure the holes don't cave in. These holes are later used to retrieve oil. If you would like to ask Mr. Bernardo about his work and life on the rig, please send questions to Mrs. Malpiedi at patricia.malpiedi@greatheartsirving.org no later than 4pm tomorrow, 4/24.

Friday, April 24

1. Read and complete the **Ten Categories Worksheet part 2**.
2. Add the following heading to your notes:
16.2: Spindletop Ushers in the Oil Industry (pp. 386-389)
3. Email any questions for Mr. Bernardo about life on an oil rig to Mrs. Malpiedi
4. Store all your items neatly with this week's Remote Packet. Have a good weekend!

Thursday, April 23, 2020

The Ten Categories Review: Part I

What are the Ten Categories?

- Read the passage below.

The work of the Liberal Arts is the work of finding ways to say things...In antiquity, it was understood that there were ten 'ways of saying things': that correspond ten 'aspects' of things in reality. After Aristotle, these ten ways were called 'Categories' from the Greek kata (against, toward to) + agora (place where speeches were made).

from Great Hearts Irving: *Our Classical Nature*

The "Ten Categories," in other words, are a tool we use to describe a thing, or "substance," in order to understand it better. Do you remember each of the Ten Categories?

- Match each category to the question it asks.

1. Quality _____	A. Where is the thing?
2. Quantity _____	B. What is the thing?
3. Position _____	C. How big/how much of the thing is there?
4. Place _____	D. What is the thing like?
5. Possession _____	E. When is the thing?
6. Passion _____	F. What does the thing do?
7. Relation _____	G. What is done to the thing?
8. Action _____	H. What is the thing's interaction/relation to other things?
9. Time _____	I. In what position is the thing?
10. Substance _____	J. What does the thing have/ what belongs to the thing?

Friday, April 24, 2020

The Ten Categories Review: Part II

Repeat: The “Ten Categories” are *a tool we use to describe a thing (substance) in order to understand it better.*

- ☐ Check your answers to “The Ten Categories Review: Part I” using the chart below.

Quality	What is the thing like?
Quantity	How big/how much of the thing is there?
Position	In what position is the thing?
Place	Where is the thing?
Possession	What does the thing have/ what belongs to the thing?
Passion	What is done to the thing?
Relation	What is the thing’s interaction/relation to other things?
Action	What does the thing do?
Time	When is the thing?
Substance	What <i>is</i> the thing?

- ☐ Now, try to describe the **1900 Hurricane in Galveston** using the Ten Categories. Use what you know from reading Chapter 16.1 in the textbook (pages 382-385). The first is done for you.

Substance	What is the thing?	The 1900 Hurricane in Galveston
Quality	What is the thing like?	
Quantity	How big/how much of the thing is there?	
Position	In what position is the thing?	
Place	Where is the thing?	
Possession	What does the thing have/ what belongs to the thing?	
Passion	What is done to the thing?	
Relation	What is the thing’s interaction/relation to other things?	
Action	What does the thing do?	
Time	When is the thing?	

Remote Learning Packet

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April 20 - 24, 2020

Course: 7th Grade Latin 1B

Teacher(s): Ms. Baptiste and Mr. Bascom

Weekly Plan:

Monday, April 20

- Read the article “Cobwebs and mice”
- Complete the worksheet “Present active participles”

Tuesday, April 21

- Read the passage “Petro” on page 136.
- Complete the worksheet “remedium medicī”

Wednesday, April 22

- Review Stage 20 Vocabulary checklist on page 150.
- Complete “CLC Stage 20 Vocabulary Review.”

Thursday, April 23

- Complete “Writing your own present participles” worksheet.

Friday, April 24

- Complete “Stage 20 Practicing the Language” worksheet.

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Monday, April 20

Some of the actions taken by Phormio and the *Astrologus* may have seemed bizarre to you. Cobwebs and mice to heal an injury? Please read the article “Cobwebs and mice” which provides some historical background into the practices we saw last week.

When you are finished reading the article, please complete the worksheet “Present active Participles.” Because **participles** are essentially *adjectives*, they must agree with the noun they describe in case, number, and gender. You have probably already noticed that 3rd declension adjectives/nouns have the same endings, whether masculine or feminine, so you should concentrate on making sure your participle’s case ending agrees with the case ending of the noun you think it is describing. Context, as always, helps us figure this out as well.

Tuesday, April 21

As you recall from the passage **remedium astrologi**, Barbillus asked Phormio to look for his doctor (**medicum**), Petro. Today we will read the passage called “**Petro**” on page 136 of your blue book. As you read through the passage, stop when you get to the lines indicated in the first column of the worksheet **remedium medicī**, and write a brief description of what he did with each of the pictured tools/items. In order to help you locate these items in the passage, their Latin names are listed below:

Item # 1: *spongiam et acētum*: sponge and vinegar

Item # 2: *aquam feventem*: boiling water

Item #3: *forceps*-->*forcipem*

Item #4: (same as #2)

Item #5: (not actually named, but the verb **conseruit**: *stitched*, tells you everything you need to know.)

Item #6: (not named) a roll of bandage

Item #7: *lectus*: bed/couch

Wednesday, April 22

Review Stage 20 vocabulary on page 132 and complete the crossword review.

nota bene: You are sometimes asked for a different case of a noun or a different tense or principal part of a verb.

E.g. The clue for 6 Across is “wounds (*this noun is in the neuter gender*). We know that “wound” is **vulnus, vulneris**. But we need the plural nominative or accusative. Using the noun stem provided in the genitive case, **vulner-**, we form the plural noun, **VULNERA**.

Thursday, April 23

Complete the worksheet entitled “Writing your own present participles.” Follow instructions given for endings:

first conjugation verbs: -āre -----> -ans, -antis

second conjugation verbs: -ēre -----> -ēns, -entis

third conjugation verbs: -ere -----> -ēns, -entis

fourth conjugation verbs- -īre -----> *iēns, -ientis*

Friday, April 24

Complete the “Stage 20 Practicing the Language” #2 (not 1 or 3) worksheet from page 142 in your blue book. This exercise reviews verbs in the **imperative mood**. Choose the correct form of the imperative and translate each sentence.

Cobwebs and mice

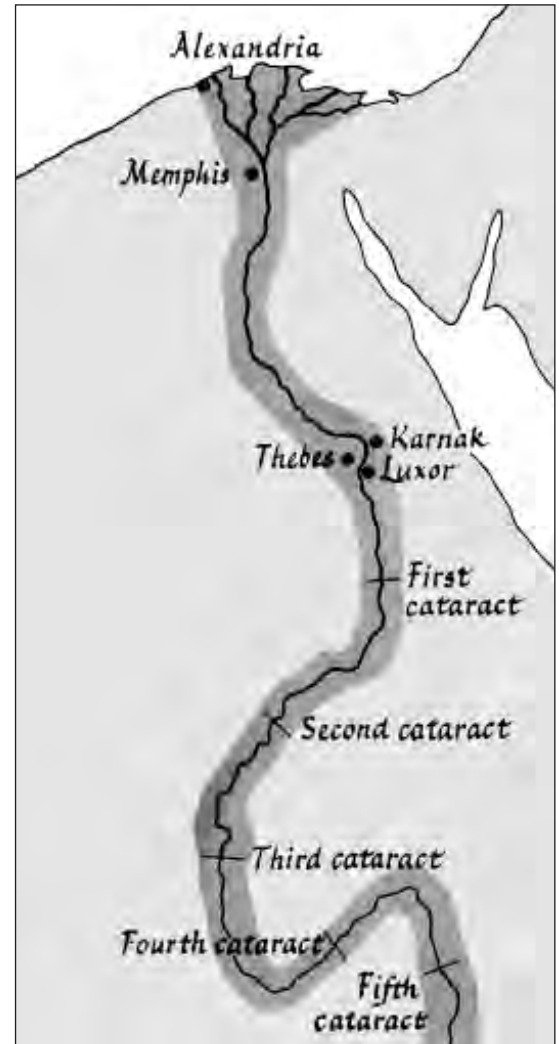
In our story, Phormio, Barbillus' steward, orders the slaves to collect spiders' webs to put on Barbillus' wound. Celsus, a medical writer in the first century A.D., gives a list of coagulants which includes cobwebs. In fact, the protein they contain not only causes blood to clot but also deters gangrene.

The astrologer, who also considered himself medically knowledgeable, tried to heal Barbillus by cutting up a mouse and placing the tiny pieces in Barbillus' wound. This remedy had come down from the Chaldean astrologers of Babylon. (The magic amulet which he gave Barbillus in Stage 19 came from the same source.) Barbillus' wound, however, became infected and eventually caused his death.

The astrologer was, in fact, correct in attributing his remedy to tradition. Pliny the Elder, who wrote a Latin encyclopedia called *Naturalis Historia*, praised the medicinal properties not only of cobwebs but also of mice. According to tradition, mice were lively and life-giving; a piece of mouse was a piece of life.

This faith in the revitalizing qualities of mice was particularly strong in Egypt. When the Nile receded after its flood-peak, mice were suddenly seen everywhere, as Pliny noted, jumping around in the mud. They were thought to have been created by the life-giving water of the Nile.

The desiccated body of an early Egyptian boy, buried in desert soil, preserved in his intestine the remains of his last medicine: "a skinned mouse, young, well-chewed, and mixed with vegetables."



Research traditions about the Nile. You will find some particularly vivid superstitions in a translation of Book 2 of *The Histories* of Herodotus, an ancient Greek historian. Compose a written or oral report on some of the superstitions which surround this legendary river.

Present active participles

A *Underline the present active participle in each sentence and draw an arrow to the noun or pronoun it modifies. Then translate each sentence.*

- 1 Rūfilla exiit lacrimāns.
- 2 Salvius cachinnāns prōcessit.
- 3 Clēmēns amīcum cōspexit accurrentem.
- 4 eōs vīdī tabernam incendētēs.

B *Circle the correct form of the present active participle to agree with the underlined noun. Then translate each sentence.*

- 1 militēs, prō templō (stāns, stantem, stantēs), turbam spectābant.
- 2 Galatēa, prope agmen (stāns, stantem, stantēs), iuvenēs assiduē castigābat.
- 3 Helena iuvenēs (spectāns, spectantem, spectantēs) ērubescēbat.
- 4 iuvenēs Helenam (spectāns, spectantem, spectantēs) avidē eī appropinquāvērunt.


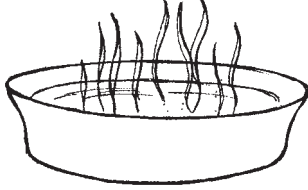
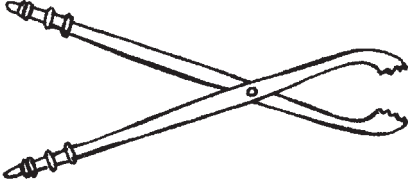
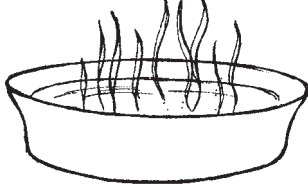

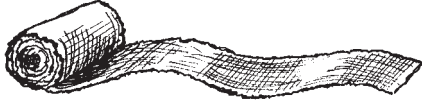
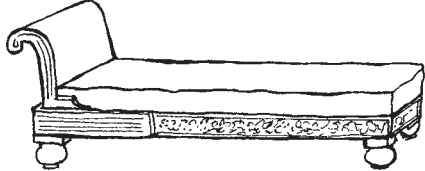
C *Complete the sentences by choosing the correct present active participle from the pool. Then translate each sentence.*

recitantem	clāmantēs	ferentēs
lacrimantēs	administrāns	quaerēns

- 1 servī ad cubiculum contendēbant, arāneās _____.
- 2 astrologus ancillās _____ vīdit, servōsque _____ audīvit.
- 3 astrologus ē cubiculō ruit, mūrem _____.
- 4 medicus astrologum versum magicum _____ audīvit.
- 5 Quīntus apud Barbillum diū manēbat, negōtium eius _____.

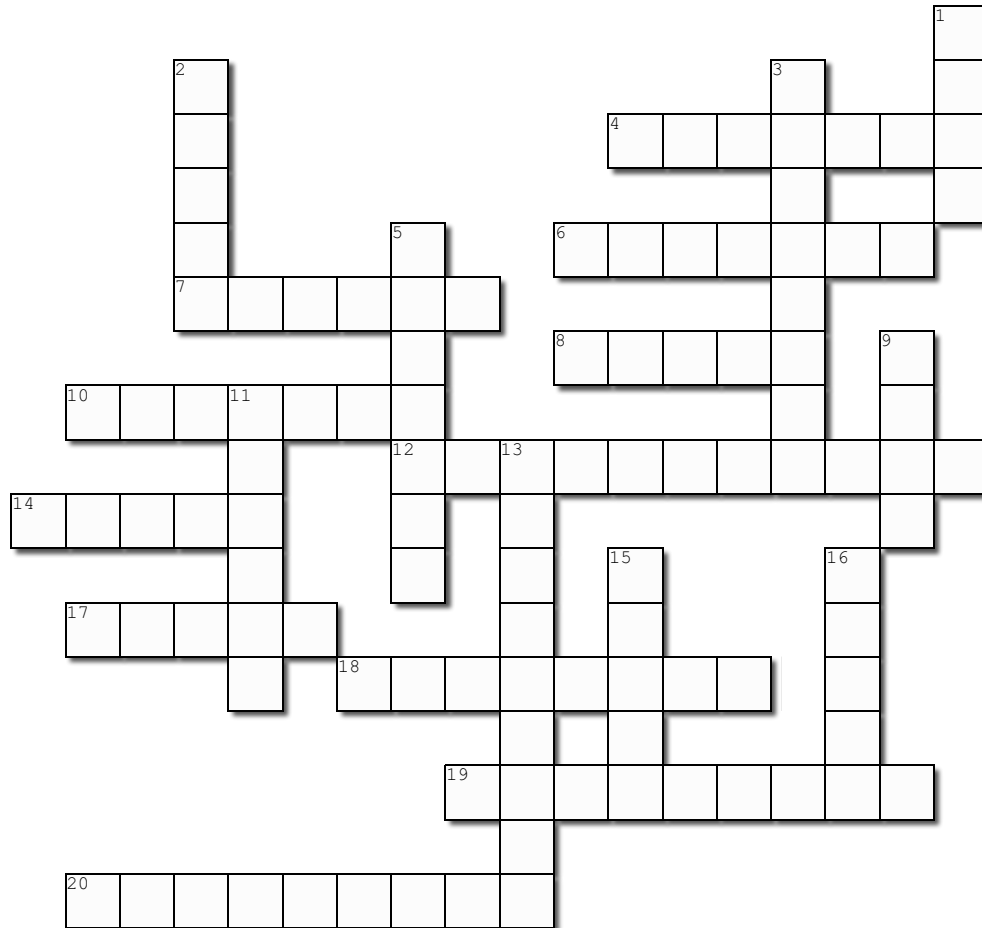
remedium medicī

*Pictured below are items the doctor used in treating Barbillus' wound. Referring to **Petrō**, page 136 in your textbook, describe what Petro did with each of them.*

Lines	Item	Use
7-8	1 	
14-15	2 	
15-16	3 	
17	4 	
17-18	5 	
18-19	6 	
21-22	7 	

CLC Stage 20 Vocabulary Review

Complete the crossword puzzle below



Created using the Crossword Maker on TheTeachersCorner.net

Across

- 4. at last, finally
- 6. wounds (this noun is in neuter gender)
- 7. seven
- 8. learned, clever (feminine, singular)
- 10. twenty
- 12. forty
- 14. like
- 17. eyes (nominative, plural)
- 18. very bad, worst (masculine, singular)
- 19. I persuade
- 20. to despair

Down

- 1. I go up to, approach
- 2. of the art (genitive singular)
- 3. I set free (perfect tense)
- 5. I left (perfect tense)
- 9. eight
- 11. I brought in/on (perfect tense)
- 13. to summon, send for
- 15. the house
- 16. of the moon (genitive singular)

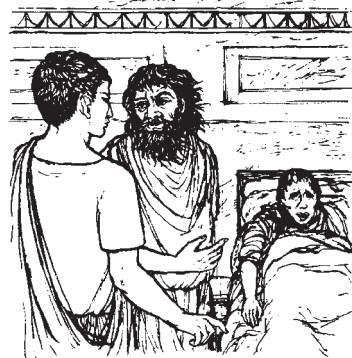
Writing your own present participles

The present participle is formed from the infinitive. Depending on the conjugation, the nominative singular of the present participle will end in *-āns*, *-ēns*, or *-iēns*. Complete the following table. One is done for you.

Infinitive	Present Active Participle		Translation of the Present Participle
	Nominative Singular	Genitive Singular	
1 portāre	<i>portāns</i>	<i>portantis</i>	(while) carrying
2 ambulāre			
3 rīdēre			
4 venīre			
5 mittere			
6 pugnāre			
7 dormīre			
8 sedēre			
9 vincere			
10 dēspērāre			
11 pervenīre			
12 temptāre			
13 persuādēre			



ancillae prope lectum stābant,
lacrīmāntēs.



Barbillus, in lectō recumbēns,
astrologum audīvit.

Stage 20 Practicing The Language (p. 142)

Complete each sentence with the correct form of the verb. Then translate the sentence.

a. Barbillus: Quīnte! mēcum ad vēnātiōnem _____! (venī, venīte)

b. Phormiō: servī! ad flūmen Nīlum _____! (prōcēde, prōcēdite)

c. astrologus: domine! _____ ē vīllā discēdere! (nōlī, nōlīte)

d. Quīntus: amīce! nōlī, astrologō _____! (crēde, crēdite)

e. Phormiō: servī! ad mediam palūdem cautē _____! (nāvigā, nāvigāte)

f. Barbillus: Aethiopes! hastās _____! (ēmite, ēmittite)

g. Quīntus: servī! _____ hippopotamum vexāre! (nōlī, nōlīte)

h. Barbillus: Quinte! vulnerātus sum. mē _____! (servā, servāte)

Remote Learning Packet

NB: Please keep all work produced this week. Details regarding how to turn in this work will be forthcoming.

April 20 - 24, 2020

Course: Literature/Composition

Teacher(s): Mr. Binder

Weekly Plan:

Monday, April 20

- Read and annotate Act 4, Sc. 1 & 2 of *Julius Caesar*
- Continue to memorize and work on the memorization of Brutus' Soliloquy (Act. 2, Sc. 1, lines 10-36).
There will be a memorization quiz on this on Friday.
- Study your Act 3 vocabulary. There will be a quiz on them on Friday.

Tuesday, April 21

- Use yesterday's reading and annotations to help you complete the Act 4, Sc. 1&2 of *Julius Caesar*
- Continue to memorize and work on the memorization of Brutus' Soliloquy (Act. 2, Sc. 1, lines 10-36).
There will be a memorization quiz on this on Friday.
- Study your Act 3 vocabulary. There will be a quiz on them on Friday.

Wednesday, April 22

- Read and annotate Act 4, Sc. 3 of *Julius Caesar*
- Answer today's reading questions
- Continue to memorize and work on the memorization of Brutus' Soliloquy (Act. 2, Sc. 1, lines 10-36).
There will be a memorization quiz on this on Friday.
- Study your Act 3 vocabulary. There will be a quiz on them on Friday.

Thursday, April 23

- Use yesterday's reading and annotations to help you complete the Act 4, Sc. 3 of *Julius Caesar*
- Continue to memorize and work on the memorization of Brutus' Soliloquy (Act. 2, Sc. 1, lines 10-36).
There will be a memorization quiz on this on Friday.
- Study your Act 3 vocabulary. There will be a quiz on them on Friday.

Friday, April 24

- Review for today's quizzes on Brutus' Soliloquy and Act 3 vocabulary.
- Take memorization quiz on Brutus' Soliloquy
- Take Act 3 vocabulary quiz

Statement of Academic Honesty

I affirm that the work completed from the packet is mine and that I completed it independently.

Student Signature

Parent Signature

Monday, April 20

Carefully read and annotate Act 4, Scene 1 and 2 of *Julius Caesar*.

Tuesday, April 21

At the end of this week's lesson instructions you will find the *Julius Caesar* Act 4, Sc. 1 and 2 notes/study guide. You may either print the study guide and fill it out or you may copy the study guide down on loose leaf paper and write down your answers. Make flash cards with the vocabulary words and begin studying them next week. Please note that you do not need to copy down the quotes in the study guide. You can simply write quote 1 and then who said it etc.

Wednesday, April 22

Carefully read and annotate Act 4, Scene 3 of *Julius Caesar*. Answer the following questions:

1. In Act 4, Scene 3, why is Cassius angry with Brutus?
2. Why is Brutus upset with Cassius?
3. What secret is Brutus hiding which makes him uncharacteristically impatient with Cassius' choleric temperament?
4. Why does Cassius believe that they should wait at Sardis for the armies of Mark Antony and Octavius to come to them? What reasons does he give?
5. Why does Brutus think they should march to Philippi immediately and attack Antony and Octavius? What reasons does he give?
6. Whose plan do they decide to go with.

Thursday, April 23

At the end of this week's lesson instructions you will find the *Julius Caesar* Act 4, Sc. 3 notes/study guide. You may either print the study guide and fill it out or you may copy the study guide down on loose leaf paper and write down your answers. Make flash cards with the vocabulary words and begin studying them next week. Please note that you do not need to copy down the quotes in the study guide. You can simply write quote 1 and then who said it etc.

Friday, April 24

Take time and study for today's quizzes. When you feel ready, begin.

First put away all notes, books etc. and write down Brutus' Soliloquy from memory on a blank sheet of paper.

Second, fill out the vocabulary quiz for Act 3 of *Julius Caesar* which you will find at the end of this packet.

NB: Parents please sign both quizzes to bear witness that your student showed academic honesty while taking these quizzes.

Julius Caesar Act 4, Scene 1&2 Notes & Study Guide:

Please write notes on the characters and settings below in your own words. You may include some brief quotes but don't just copy passages from the book.

Characters:

Mark Antony: _____

Octavius: _____

Lepidus: _____

Brutus: _____

Lucilius: _____

Cassius: _____

Pindarus: _____

Settings:

Caesar's House: _____

Sardis: _____

There are definitions provided for you for the vocabulary words below. Write the line number where the word is found beside it. In your book, underline the line(s) where the word is found and highlight the vocabulary word.

Vocabulary:

proscription: the act of proscribing or dooming to death; among the Romans, the public offer of a reward for the head of a political enemy. Under the 2nd triumvirate many of the best Romans fell by proscription (including Cicero)

covert: private, secret, hidden

bayed: surrounded, encompassed, enclosed – line number ____

salutation: the act of saluting; a greeting; the act of paying respect or reverence by customary words or actions - line number ____

wrangle: to dispute angrily; to quarrel peevishly and noisily; to brawl – line number ____

Quotes: In the quotes below identify who is speaking or what is

being described.

“This is a slight, unmeritable man, meet to be sent on errands. Is it fit, the threefold world divided, he should stand one of the three to share it?”

(Who is speaking here? Who is he speaking to? Who is he speaking about?)

“Let us do so, for we are at the stake
And bayed about with many enemies,
And some that smile have in their hearts, I fear,
Millions of mischiefs.”

(Who is speaking here?)

“Most noble brother, you have done me wrong.”

(Who is speaking here?)

“Judge me, you gods! Wrong I mine enemies?

And if not so, how should I wrong a brother?”

(Who is speaking here?)

Julius Caesar Act 4, Scene 3 Notes & Study Guide:

Please write notes on the characters and settings below in your own words. You may include some brief quotes but don't just copy passages from the book.

Characters:

Brutus: _____

Cassius: _____

Lucius Pella: _____

Poet: _____

Messala: _____

Titinius: _____

Lucius: _____

Varro:

Claudius:

The Ghost of Caesar:

Lucilius:

People, Places and Things:

Brutus' tent:

Sardis:

Philippi:

Olympus:

Plutos mine:

Cynic:

There are definitions provided for you for the vocabulary words below. Write the line number where the word is found beside it. In your book, underline the line(s) where the word is found and highlight the vocabulary word.

Vocabulary:

choleric: bad-tempered; irritable; easily moved to unreasonable or excessive anger; influenced by or predominating in the humor called cholera

vile: morally despicable; unacceptable; (archaic use: of little worth or value)

infirmities: any weakness whether in body, mind, or soul

humor: a mood or state of mind (historical: each of the four fluids of the body [blood/sanguine; phlegm/phlegmatic; yellow bile/cholera; and black bile/melancholy] that were thought to determine a person's physical and mental qualities by the relative proportions in which they were present)

apparition: a ghost or ghostlike image of a person; the appearance of something remarkable or unexpected

Quotes: In the quotes below identify who is speaking or what is being described.

“That you have wronged me doth appear in this: you have condemned and noted Lucius Pella for taking bribes here of the Sardians, wherein my letters, praying on his side because I knew the man, was slighted off.” (Who is speaking here?)

(Who is speaking here?)

“Remember March; the ides of March remember.

Did not great Julius bleed for justice sake?

What villain touched his body that did stab and not for justice?

What shall one of us that struck the foremost man of all the world

But for supporting robbers, shall we now

Contaminate our fingers with base bribes

And sell the mighty space of our large honors

For so much trash as may be grasped thus?

I had rather be a dog and bay the moon

Than such a Roman.”

(Who is speaking here?)

“Sheathe your dagger.

Be angry when you will, dishonor shall be humor

O Cassius, you are yoked with a lamb

That carries anger as the flint bears fire,

Who, much enforced, shows a hasty spark

And straight is cold again.”

(Who is speaking here?)

Julius Caesar: Act 3 Vocabulary Quiz

Match vocabulary words in the word bank with the definitions below.

Word Bank: enfranchisement, havoc, Sirrah, vouchsafe, puissant, legacy, compel, vanquished, marred, orator

1. _____ : allow; grant in a condescending manner
2. _____ : thoroughly defeated
3. _____ : the war cry that meant show no mercy
4. _____ : an inheritance i.e. an amount of money or property left in a will
5. _____ : liberation from the bondage of slavery
6. _____ : a public speaker, especially one who is eloquent or skilled
7. _____ : a term of address to a male of inferior social status
8. _____ : powerful
9. _____ : disfigured, damaged or spoiled, made imperfect or less attractive
10. _____ : to force or oblige someone to do something

Statement of Academic Honesty

I affirm that the answers on this quiz are mine and that I completed the quiz independently and without notes etc.

Student Signature

Parent Signature

Remote Learning Packet

NB: Please keep all work produced this week. Details regarding how to turn in this work will be forthcoming.

April 20 - 24, 2020

Course: Pre-Algebra

Teacher(s): Mrs. Frank leslie.frank@greatheartsirving.org

Mrs. Voltin mary.voltin@greatheartsirving.org

Weekly Plan:

Monday, April 20

- Addition Speed Test
- Lesson 10.5 Similar Triangles

Tuesday, April 21

- Subtraction Speed Test
- Lesson 10.5 Similar Triangles

Wednesday, April 22

- Multiplication Speed Test
- Lesson 10.6 Special Right Triangles

Thursday, April 23

- Division Speed Test
- Lesson 10.6 Special Right Triangles

Friday, April 24

- Roots Speed Test
- Chapter 10 Review and Test

Statement of Academic Honesty

I affirm that the work completed from the packet is mine and that I completed it independently.

I affirm that, to the best of my knowledge, my child completed this work independently

Student Signature

Parent Signature

Monday, April 20

1. Your speed test for the day will be the addition speed test. Time yourself, and write the time it took you to complete the entire test at the top of the page. After you have finished the test, use the answer key to check for accuracy. Write your score at the top of the page.
2. Read lesson 10-5, Similar Triangles, on pages 368-370. Read it once. Go back and read it again and work the example problems. Work the **Class Exercises** on page 370, #1-9, all. For extra help, go to:
<https://www.khanacademy.org/math/geometry/hs-geo-similarity/hs-geo-triangle-similarity-intro/v/similar-triangle-basics>

Please do not look at your answer key each day until you have worked every problem!

Tuesday, April 21

1. Your speed test for the day will be subtraction.
2. Review lesson 10-5. For more help in solving similar triangle problems, go to:
<https://www.khanacademy.org/math/geometry/hs-geo-similarity/hs-geo-solving-similar-triangles/v/similarity-example-problems>
Your homework assignment for today is HW 10.5, pp. 371-372, **Written Exercises**, #2-20, evens.

Wednesday, April 22

1. Your speed test for the day will be multiplication.
2. Read lesson 10-6, on pages 373-374. Read it once. Go back and read it again and work the example problems. Do the **Class Exercises** at the top of page 375, 1-12, all. For extra help, please look at the following links:

<https://www.khanacademy.org/math/geometry/hs-geo-trig/hs-geo-special-right-triangles/v/45-45-90-triangles>

<https://www.khanacademy.org/math/geometry/hs-geo-trig/hs-geo-special-right-triangles/v/intro-to-30-60-90-triangles>

Note: Do not get the **Class Exercises** assigned today confused with the **Written Exercises** assigned **tomorrow**. They look alike!

Thursday, April 23

1. Your speed test for the day will be division.
2. Review lesson 10-6. Review the videos from yesterday's assignment.

Your homework assignment for today is HW 10.6, pp. 375-376, **Written Exercises**, #2-20, evens **AND** pp. 376-377, **Problems**, #2-8, evens. You may use a calculator or the square root chart on page 528 in your book to find square roots.

Friday, April 24

1. Your speed test for the day will be square roots. **You only have to complete the first column of the speed test!**
2. Extra Practice: Chapter 10, pp. 520-521, #4-16, mod 4, #48-72, mod 4, plus #66.
3. **AFTER** you complete extra practice, check your work with the provided answer key.
4. Chapter 10 Test, page 391, #1-4, 8-15, all.

$$\begin{array}{r} 2 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ +4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ +9 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ +2 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ +8 \\ \hline \end{array}$$

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$$\begin{array}{r} 9 \\ +4 \\ \hline \end{array}$$

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$$\begin{array}{r} 8 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ +6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ +5 \\ \hline \end{array}$$

5	12	11	9	16
<u>- 2</u>	<u>- 4</u>	<u>- 9</u>	<u>- 7</u>	<u>- 8</u>

10	14	14	14	8
<u>- 6</u>	<u>- 5</u>	<u>- 7</u>	<u>- 6</u>	<u>- 3</u>

15	11	12	7	15
<u>- 7</u>	<u>- 4</u>	<u>- 7</u>	<u>- 2</u>	<u>- 6</u>

12	6	10	7	10
<u>- 9</u>	<u>- 3</u>	<u>- 3</u>	<u>- 4</u>	<u>- 8</u>

9	13	6	13	9
<u>- 4</u>	<u>- 7</u>	<u>- 2</u>	<u>- 9</u>	<u>- 3</u>

12	17	10	8	18
<u>- 6</u>	<u>- 9</u>	<u>- 5</u>	<u>- 6</u>	<u>- 9</u>

16	8	11	11	13
<u>- 9</u>	<u>- 4</u>	<u>- 3</u>	<u>- 6</u>	<u>- 5</u>

$$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$$

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$$\begin{array}{r} 8 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$$

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$$\begin{array}{r} 6 \\ \div 3 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \\ \div 4 \\ \hline \end{array}$$

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$$\begin{array}{r} 14 \\ \div 2 \\ \hline \end{array}$$

$$\begin{array}{r} 64 \\ \div 8 \\ \hline \end{array}$$

$$\begin{array}{r} 24 \\ \div 6 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ \div 5 \\ \hline \end{array}$$

$$\begin{array}{r} 49 \\ \div 7 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ \div 8 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ \div 5 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ \div 8 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ \div 7 \\ \hline \end{array}$$

$$\begin{array}{r} 35 \\ \div 7 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \div 5 \\ \hline \end{array}$$

$$\begin{array}{r} 54 \\ \div 6 \\ \hline \end{array}$$

$$\begin{array}{r} 27 \\ \div 9 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \div 3 \\ \hline \end{array}$$

$$\begin{array}{r} 21 \\ \div 3 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \div 4 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ \div 2 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ \div 4 \\ \hline \end{array}$$

$$\begin{array}{r} 42 \\ \div 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \div 2 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ \div 4 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ \div 3 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ \div 6 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ \div 9 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ \div 5 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \div 2 \\ \hline \end{array}$$

$$\begin{array}{r} 81 \\ \div 9 \\ \hline \end{array}$$

$$\begin{array}{r} 63 \\ \div 9 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ \div 4 \\ \hline \end{array}$$

$$\begin{array}{r} 24 \\ \div 3 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ \div 6 \\ \hline \end{array}$$

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Name _____

Section _____

$$\sqrt[2]{36} =$$

$$\sqrt[3]{27} =$$

$$\sqrt[4]{81} =$$

$$\sqrt[5]{3125} =$$

$$\sqrt[2]{361} =$$

$$\sqrt[3]{1000} =$$

$$\sqrt[4]{625} =$$

$$\sqrt[5]{243} =$$

$$\sqrt[2]{64} =$$

$$\sqrt[3]{216} =$$

$$\sqrt[4]{256} =$$

$$\sqrt[5]{1024} =$$

$$\sqrt[2]{25} =$$

$$\sqrt[3]{8} =$$

$$\sqrt[4]{16} =$$

$$\sqrt[5]{32} =$$

$$\sqrt[2]{100} =$$

$$\sqrt[3]{729} =$$

$$\sqrt[2]{4} =$$

$$\sqrt[3]{64} =$$

$$\sqrt[2]{121} =$$

$$\sqrt[3]{512} =$$

$$\sqrt[2]{16} =$$

$$\sqrt[3]{343} =$$

$$\sqrt[2]{169} =$$

$$\sqrt[3]{125} =$$

$$\sqrt[2]{49} =$$

$$\sqrt[2]{289} =$$

$$\sqrt[2]{400} =$$

$$\sqrt[2]{9} =$$

$$\sqrt[2]{196} =$$

$$\sqrt[2]{324} =$$

$$\sqrt[2]{256} =$$

$$\sqrt[2]{225} =$$

$$\sqrt[2]{144} =$$

$$\begin{array}{r} 2 \\ +3 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 8 \\ +4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 2 \\ +9 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 7 \\ +2 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 8 \\ +8 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 4 \\ +6 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 9 \\ +5 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 7 \\ +7 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 6 \\ +8 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 3 \\ +5 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 7 \\ +8 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 4 \\ +7 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 5 \\ +7 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 2 \\ +5 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 9 \\ +6 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 3 \\ +9 \\ \hline 12 \end{array}$$

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$$\begin{array}{r} 8 \\ +2 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 5 \\ +4 \\ \hline 9 \end{array}$$

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$$\begin{array}{r} 9 \\ +4 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 6 \\ +3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 6 \\ +6 \\ \hline 12 \end{array}$$

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$$\begin{array}{r} 9 \\ +9 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 7 \\ +9 \\ \hline 16 \end{array}$$

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$$\begin{array}{r} 8 \\ +3 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 5 \\ +6 \\ \hline 11 \end{array}$$

$$\begin{array}{r} 8 \\ +5 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 5 \\ - 2 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 12 \\ - 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 11 \\ - 9 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 9 \\ - 7 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 16 \\ - 8 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 10 \\ - 6 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 14 \\ - 5 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 14 \\ - 7 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 14 \\ - 6 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 8 \\ - 3 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 15 \\ - 7 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 12 \\ - 7 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 7 \\ - 2 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 15 \\ - 6 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 6 \\ - 3 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 3 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 7 \\ - 4 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 10 \\ - 8 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 9 \\ - 4 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 13 \\ - 7 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 6 \\ - 2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 13 \\ - 9 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 9 \\ - 3 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 12 \\ - 6 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 17 \\ - 9 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 10 \\ - 5 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 8 \\ - 6 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 18 \\ - 9 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 16 \\ - 9 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 8 \\ - 4 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 11 \\ - 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 13 \\ - 5 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 2 \\ \times 3 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ \times 4 \\ \hline 32 \end{array}$$

$$\begin{array}{r} 2 \\ \times 9 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 7 \\ \times 2 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 8 \\ \times 8 \\ \hline 64 \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 9 \\ \times 5 \\ \hline 45 \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline 49 \end{array}$$

$$\begin{array}{r} 6 \\ \times 8 \\ \hline 48 \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 7 \\ \times 8 \\ \hline 56 \end{array}$$

$$\begin{array}{r} 4 \\ \times 7 \\ \hline 28 \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline 35 \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 9 \\ \times 6 \\ \hline 54 \end{array}$$

$$\begin{array}{r} 3 \\ \times 9 \\ \hline 27 \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 7 \\ \times 3 \\ \hline 21 \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 5 \\ \times 4 \\ \hline 20 \end{array}$$

$$\begin{array}{r} 6 \\ \times 7 \\ \hline 42 \end{array}$$

$$\begin{array}{r} 4 \\ \times 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 9 \\ \times 4 \\ \hline 36 \end{array}$$

$$\begin{array}{r} 6 \\ \times 3 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 6 \\ \times 6 \\ \hline 36 \end{array}$$

$$\begin{array}{r} 8 \\ \times 9 \\ \hline 72 \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline 25 \end{array}$$

$$\begin{array}{r} 6 \\ \times 2 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 9 \\ \times 9 \\ \hline 81 \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline 63 \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 8 \\ \times 3 \\ \hline 24 \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 8 \\ \times 5 \\ \hline 40 \end{array}$$

$$\begin{array}{r} 6 \\ \div 3 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 32 \\ \div 4 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 18 \\ \div 9 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 14 \\ \div 2 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 64 \\ \div 8 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 24 \\ \div 6 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 45 \\ \div 5 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 49 \\ \div 7 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 48 \\ \div 8 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 15 \\ \div 5 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 56 \\ \div 8 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 28 \\ \div 7 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 35 \\ \div 7 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 10 \\ \div 5 \\ \hline 2 \end{array}$$

$$\begin{array}{r} 54 \\ \div 6 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 27 \\ \div 9 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 9 \\ \div 3 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 21 \\ \div 3 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 12 \\ \div 4 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 16 \\ \div 2 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 20 \\ \div 4 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 42 \\ \div 7 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ \div 2 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 36 \\ \div 4 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 18 \\ \div 3 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 36 \\ \div 6 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 72 \\ \div 9 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 25 \\ \div 5 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 12 \\ \div 2 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 81 \\ \div 9 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 63 \\ \div 9 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 16 \\ \div 4 \\ \hline 4 \end{array}$$

$$\begin{array}{r} 24 \\ \div 3 \\ \hline 8 \end{array}$$

$$\begin{array}{r} 30 \\ \div 6 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 40 \\ \div 5 \\ \hline 8 \end{array}$$

Name _____

Section _____

$$\sqrt[2]{36} = 6$$

$$\sqrt[3]{27} = 3$$

$$\sqrt[4]{81} = 3$$

$$\sqrt[5]{3125} = 5$$

$$\sqrt{361} = 19$$

$$\sqrt[3]{1000} = 10$$

$$\sqrt[4]{625} = 5$$

$$\sqrt[5]{243} = 3$$

$$\sqrt{64} = 8$$

$$\sqrt[3]{216} = 6$$

$$\sqrt[4]{256} = 4$$

$$\sqrt[5]{1024} = 4$$

$$\sqrt{25} = 5$$

$$\sqrt[3]{8} = 2$$

$$\sqrt[4]{16} = 2$$

$$\sqrt[5]{32} = 2$$

$$\sqrt{100} = 10$$

$$\sqrt[3]{729} = 9$$

$$\sqrt{4} = 2$$

$$\sqrt[3]{64} = 4$$

$$\sqrt{121} = 11$$

$$\sqrt[3]{512} = 8$$

$$\sqrt{16} = 4$$

$$\sqrt[3]{343} = 7$$

$$\sqrt{169} = 13$$

$$\sqrt[3]{125} = 5$$

$$\sqrt{49} = 7$$

$$\sqrt{289} = 17$$

$$\sqrt{400} = 20$$

$$\sqrt{9} = 3$$

$$\sqrt{196} = 14$$

$$\sqrt{324} = 18$$

$$\sqrt{256} = 16$$

$$\sqrt{225} = 15$$

$$\sqrt{144} = 12$$

4/20

Monday, 10.5, Class Exercises, pg. 320, 1-9

$$1. \begin{array}{l} \angle O \cong \angle I \\ \angle G \cong \angle T \\ \angle L \cong \angle R \end{array}$$

$$2. \begin{array}{l} \overline{OG} \cong \overline{IT} \\ \overline{OL} \cong \overline{IR} \\ \overline{LG} \cong \overline{RT} \end{array}$$

$$3. \frac{OL}{IR} = \frac{OG}{IT}$$

$$4. \frac{LG}{RT} = \frac{GO}{TI}$$

5. True

6. True

7. True because all 3 \angle 's have the same measure.

8. False. \overline{BA} & \overline{DE} are not corresponding sides.

9. True.

Tuesday, 4/21, 10:5, pp. 371-372, WE, #2-20, evens

$$2. \frac{BA}{\boxed{QP}} = \frac{CB}{RQ}$$

$$10. \frac{AB}{AD} = \frac{1}{2} \text{ same ratio!}$$

$$4. \frac{AC}{PR} = \frac{?}{6} = \frac{20}{12} = \frac{BC}{QP} \text{ Big } \triangle$$

$$12. \text{ Small } \frac{18 \div 6}{24 \div 6} = \frac{3}{4} \text{ ratio}$$

$$\frac{X}{6} = \frac{20}{12} \text{ Cross-multiply}$$

$$\text{Small } \frac{3}{4} = \frac{15}{X} \text{ Cross multiply}$$

$$12X = 20 \cdot 6$$

$$3X = 4 \cdot 15$$

$$12X = 120$$

$$3X = 60$$

$$\frac{12}{12} \quad \frac{12}{12}$$

$$\frac{3}{3} \quad \frac{60}{3}$$

$$\boxed{X = 10}$$

$$\boxed{X = 20}$$

$$6. \frac{AE}{AC} = \frac{?}{24} = \frac{14}{7} = \frac{DE}{BC} \text{ Big } \triangle$$

$$\text{Small } \frac{3}{4} = \frac{y}{4}$$

$$\frac{X}{24} = \frac{14}{7} \leftarrow \text{You can reduce}$$

$$\boxed{y = 3!}$$

$$\frac{X}{24} = \frac{2}{1} \leftarrow \text{Ratio}$$

$$14. \text{ Small } \frac{13 \div 13}{26 \div 13} = \frac{1}{2} \text{ ratio}$$

$$X = 2 \cdot 24 = \boxed{48}$$

$$\text{Small } \frac{1}{2} = \frac{X}{10}$$

8. We do not know the length of the corresponding side to AD which is AB. Instead, use the pythagorean theorem:

$$\frac{2X}{2} = \frac{10}{2}$$

$$\boxed{X = 5}$$

$$a^2 + b^2 = c^2$$

$$AB^2 + DE^2 = AD^2$$

$$48^2 + 14^2 = AD^2$$

$$2304 + 196 = 2500$$

$$AD^2 = 2500$$

$$\boxed{AD = 50}$$

$$\text{Small } \frac{1}{2} = \frac{12}{y}$$

$$\boxed{y = 2 \cdot 12 = 24}$$

Tuesday (continued)

$$16. \begin{array}{l} \text{Small } \Delta \quad 25 \div 5 = 5 \text{ ratio} \\ \text{Large } \Delta \quad 45 \div 5 = 9 \end{array}$$

$$\frac{\text{Small}}{\text{Large}} = \frac{5}{9} = \frac{20}{y} \quad \begin{array}{l} \text{Cross} \\ \text{multiply} \end{array}$$

$$5y = 9 \cdot 20$$

$$5y = 180$$

$$y = 36$$

$$\frac{\text{Small}}{\text{Large}} = \frac{5}{9} = \frac{10}{x}$$

$$5x = 9 \cdot 10$$

$$5x = 90$$

$$x = 18$$

$$18. \begin{array}{l} \text{Small } \Delta \quad 3 \text{ Ratio!} \\ \text{Large } \Delta \quad 10 \end{array}$$

$$\frac{3}{10} = \frac{1.8}{h} \quad \begin{array}{l} \text{Small} \\ \text{Large} \end{array}$$

$$3h = 1.8 \cdot 10$$

$$3h = 18$$

$$\frac{3}{3} = \frac{3}{3}$$

$$h = 6 \text{ meters}$$

$$20. \begin{array}{l} \text{small } \Delta = 15 \div 5 = \frac{3}{5} \text{ ratio} \\ \text{large } \Delta = 25 \div 5 = 5 \end{array}$$

$$\frac{\text{small}}{\text{large}} = \frac{3}{5} = \frac{21}{x}$$

$$3x = 5 \cdot 21$$

$$3x = 105$$

$$\frac{3}{3} = \frac{3}{3}$$

$$x = 35 \text{ meters}$$

Wednesday, 4/22, 10-6, page 375, 1-12, all class Exercises

$$1. \frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

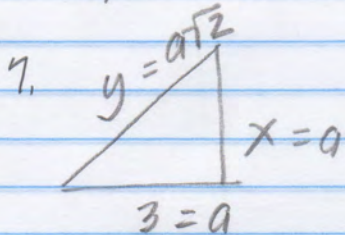
$$2. \frac{2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{3}$$

$$3. \frac{2}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{2\sqrt{2}}{2} = \sqrt{2}$$

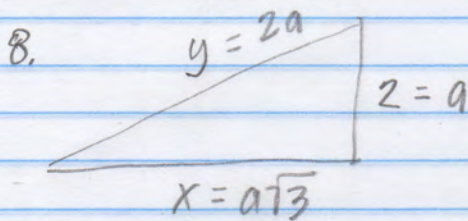
$$4. \frac{6}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{6\sqrt{2}}{2} = 3\sqrt{2}$$

$$5. \frac{1}{\sqrt{x}} \cdot \frac{\sqrt{x}}{\sqrt{x}} = \frac{\sqrt{x}}{x}$$

$$6. \frac{x}{\sqrt{x}} \cdot \frac{\sqrt{x}}{\sqrt{x}} = \frac{x\sqrt{x}}{x} = \sqrt{x}$$

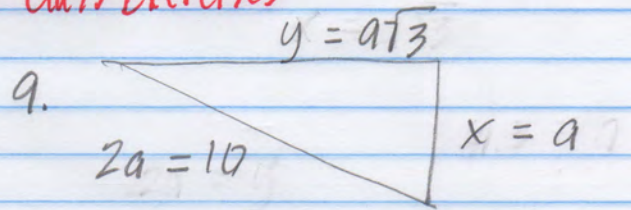


$$\boxed{x = a = 3} \quad \boxed{y = a\sqrt{2} = 3\sqrt{2}}$$



$$\boxed{x = a\sqrt{3} = 2\sqrt{3}} \quad z = a$$

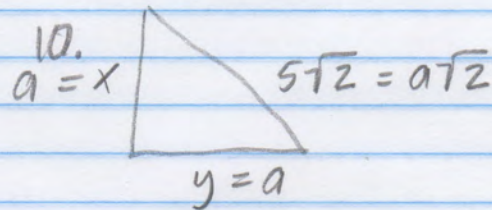
$$y = 2a = 2 \cdot 2 = \boxed{4}$$



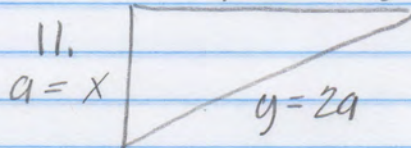
$$\frac{2a = 10}{2} \quad \frac{10}{2} = a = 5$$

$$\boxed{x = a = 5}$$

$$\boxed{y = a\sqrt{3} = 5\sqrt{3}}$$

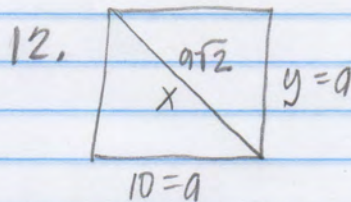


$$\begin{aligned} 5\sqrt{2} = a\sqrt{2} & \quad x = a = \boxed{5} \\ a = 5 & \quad y = a = \boxed{5} \\ \hline 4\sqrt{3} = a\sqrt{3} & \end{aligned}$$



$$4\sqrt{3} = a\sqrt{3} \quad x = a = \boxed{4}$$

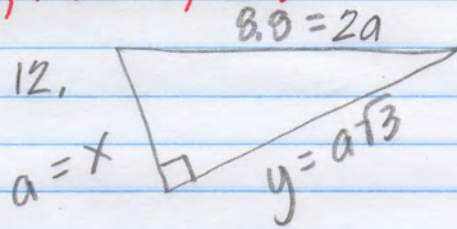
$$4 = a \quad y = 2a = 2 \cdot 4 = \boxed{8}$$



$$y = a = \boxed{10} \quad x = a\sqrt{2} = \boxed{10\sqrt{2}}$$

THURSDAY, 4.23, HW 10.6, pp. 375-376, WE, # 20-20, evens

$$2. \frac{12}{\sqrt{13}} \cdot \frac{\sqrt{13}}{\sqrt{13}} = \frac{12\sqrt{13}}{13}$$

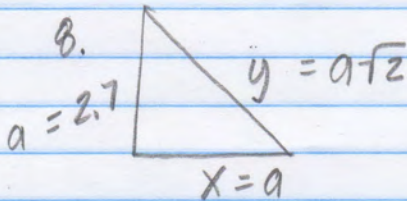


$$\frac{2a}{2} = \frac{8.8}{2} \quad a = x = \boxed{4.4}$$

$$y = a\sqrt{3} = (4.4)(1.732) = \boxed{7.6}$$

$$4. \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

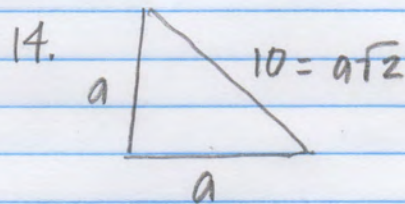
$$6. \frac{3x}{\sqrt{x}} \cdot \frac{\sqrt{x}}{\sqrt{x}} = \frac{3x\sqrt{x}}{x} = \boxed{3\sqrt{x}}$$



$$x = a = \boxed{2.7}$$

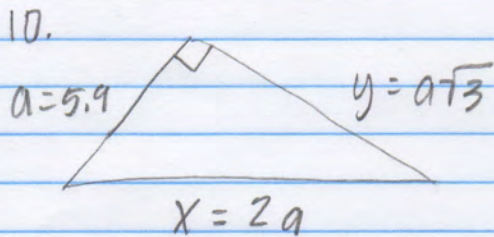
$$y = a\sqrt{2} = (2.7)(1.414) = 3.8178$$

$$\boxed{y = 3.8}$$



$$\frac{10}{\sqrt{2}} = \frac{a\sqrt{2}}{\sqrt{2}}$$

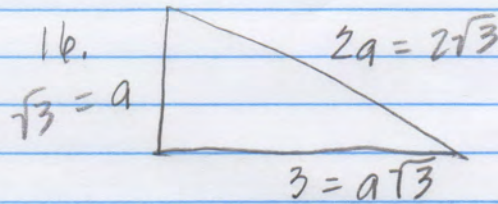
$$a = \frac{10}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{10\sqrt{2}}{2} = \boxed{5\sqrt{2}}$$



$$x = 2a = 2 \cdot 5.9 = \boxed{11.8}$$

$$y = a\sqrt{3} = (5.9)(1.732) = 10.2188$$

$$\boxed{y = 10.2}$$



$$\frac{3}{\sqrt{3}} = \frac{a\sqrt{3}}{\sqrt{3}}$$

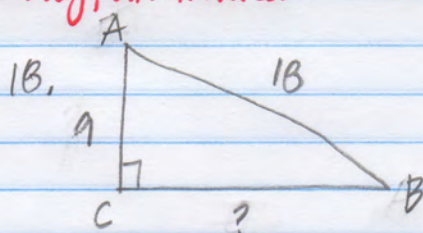
$$a = \frac{3}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{3\sqrt{3}}{3}$$

$$\boxed{a = \sqrt{3}}$$

$$\boxed{2a = 2\sqrt{3}}$$

4/23

Thursday, continued:



$$a^2 + b^2 = c^2$$

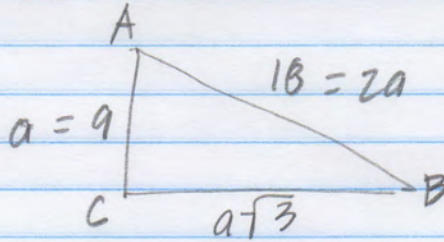
$$a^2 + 9^2 = 18^2$$

$$a^2 + 81 = 324$$

$$\begin{array}{r} -81 \quad -81 \\ \hline a^2 = 243 \end{array}$$

$$a = 15.6$$

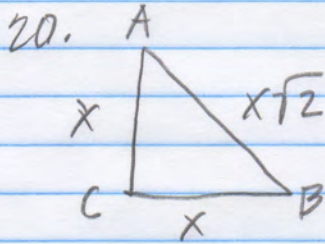
$$BC = 15.6$$



Since $18 = 2 \cdot 9$, we also know this is a 30-60-90 Δ

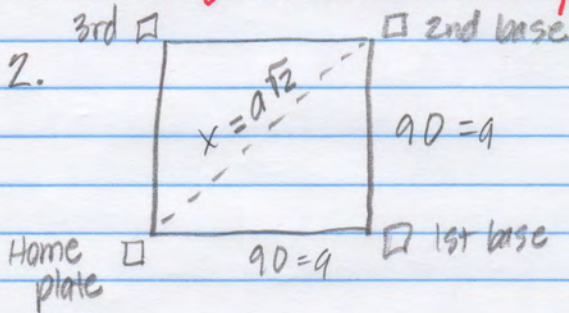
$$a = 9 \quad BC = a\sqrt{3} = 9\sqrt{3} = 15.6$$

Solve with the pythagorean theorem or 30/60/90



$$AB = x\sqrt{2} = 1.4x$$

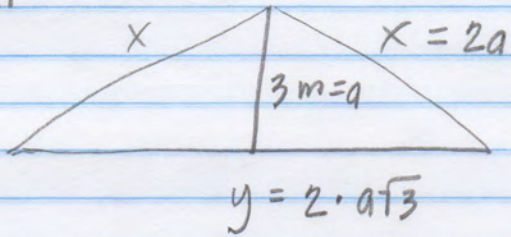
Still Thursday: Problems 10.6 pp. 376-377, #2-8, evens



$$x = a\sqrt{2} = 90\sqrt{2} = 127.3 \text{ ft}$$

Thursday, 4/23, Problems, Continued:

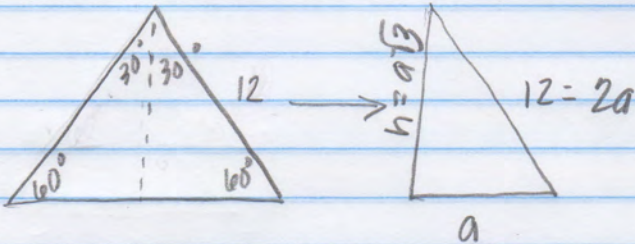
4.



$$x = 2a = 2 \cdot 3 = \boxed{6 \text{ meters}}$$

$$y = 2 \cdot a \sqrt{3} = 2 \cdot 3 \sqrt{3} = 6\sqrt{3} = \boxed{10.4 \text{ m}}$$

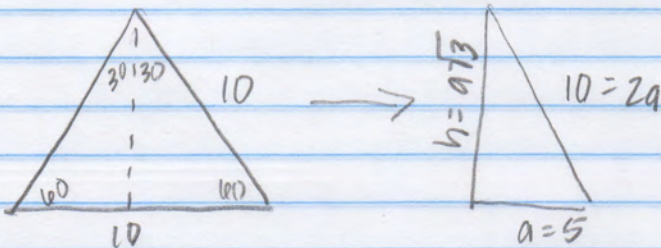
6.



$$\frac{12}{2} = \frac{2a}{2} \quad \boxed{a = 6}$$

$$h = a\sqrt{3} = 6\sqrt{3} = \boxed{10.4 \text{ cm}}$$

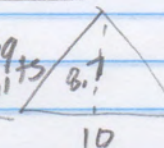
8.



$$\frac{10}{2} = \frac{2a}{2}$$

$$a = 5$$

$$h = a\sqrt{3} = 5\sqrt{3} = \boxed{8.7 \text{ units}}$$

$$A = \frac{b \cdot h}{2} = \frac{10(8.7)}{2} = \boxed{43.5 \text{ sq units}}$$


FRIDAY, Extra Practice, Chap. 10

4. $\sqrt{10}$ $3 \cdot 3 = 9$
 $4 \cdot 4 = 16$

$$\sqrt{9} < \sqrt{10} < \sqrt{16}$$

$$\boxed{3 < \sqrt{10} < 4}$$

8. $-\sqrt{12}$ $3 \cdot 3 = 9$
 $4 \cdot 4 = 16$

$$-\sqrt{16} < -\sqrt{12} < -\sqrt{9}$$

$$\boxed{-4 < -\sqrt{12} < -3}$$

12. $\sqrt{19}$ $4 \cdot 4 = 16$
 $5 \cdot 5 = 25$

$$\sqrt{16} < \sqrt{19} < \sqrt{25}$$

$$\boxed{4 < \sqrt{19} < 5}$$

16. $\sqrt{64} = \boxed{8}$

48. 8, 15, 17

$$8^2 + 15^2 \quad \bigcirc \quad 17^2$$

$$64 + 225 \quad 289$$

$$289 = 289$$

$$\boxed{\text{Yes}}$$

52. 7, 9, 12

$$7^2 + 9^2 \quad \bigcirc \quad 12^2$$

$$49 + 81 \quad 144$$

$$130 \neq 144$$

$$\boxed{\text{No}}$$

56. $a = 3$ $b = ?$ $c = 5$

$$a^2 + b^2 = c^2$$

$$3^2 + b^2 = 5^2$$

$$9 + b^2 = 25$$

$$-9 \quad -9$$

$$b^2 = 16 \quad \boxed{b = 4}$$

60. $a = 6$ $b = ?$ $c = 10$

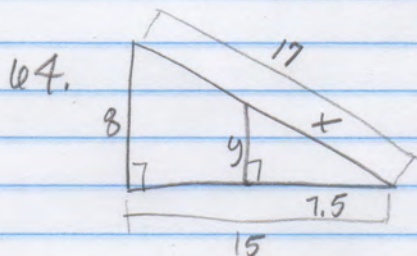
$$a^2 + b^2 = c^2$$

$$6^2 + b^2 = 10^2$$

$$36 + b^2 = 100$$

$$-36 \quad -36$$

$$b^2 = 64 \quad \boxed{b = 8}$$



Small Δ $\frac{7.5}{15} = \frac{1}{2}$ ratio
 Big Δ

Small $\frac{1}{2} = \frac{x}{17}$
 Large $\frac{y}{15} = \frac{1}{2}$

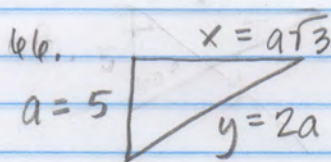
Small $\frac{y}{15} = \frac{1}{2}$

$$\frac{2x}{2} = \frac{17}{2}$$

$$\frac{2y}{2} = \frac{15}{2}$$

$$x = 8.5$$

$$\boxed{y = 7.5}$$

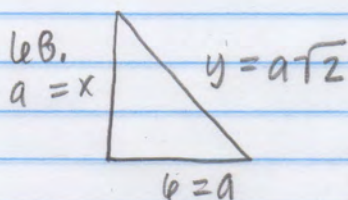


$$x = a\sqrt{3}$$

$$\boxed{x = 5\sqrt{3}}$$

$$y = 2a$$

$$y = 2 \cdot 5 = \boxed{10}$$



$$x = a = \boxed{6}$$

$$y = a\sqrt{2} = \boxed{6\sqrt{2}}$$

72. $\frac{7}{14} \cdot \frac{14}{14} = \frac{7 \cdot 14}{4} = \frac{7 \cdot 2}{4} = \frac{14}{4} = \frac{7}{2}$ or $3\frac{1}{2}$

Remote Learning Packet - Week 4

NB: Please keep all work produced this week. Details regarding how to turn in this work will be forthcoming.

April 20-24, 2020

Course: Music

Teacher(s): Mr. Zuno leonardo.zunofernandez@greatheartsirving.org

Weekly Plan:

Monday, April 20

- 15 minutes of reading - Read through the [Week 3 reading on J.S. Bach, Preludes and Fugues, and Baroque Dances](#).
- Check your work: Also, please go through the [Week 3 melodies \(with answers\)](#) and check your work for accuracy. If you have any questions, please let me know so I can explain or clarify.

Tuesday, April 21

- Continue reading: [Week 4 reading on J.S. Bach, Preludes and Fugues, and Baroque Dances](#) for 10 minutes
- Summarize: Write a summary for 5 minutes (instructions below)

Wednesday, April 22

- Listen to [WRR 101.1](#) (on the radio or through online streaming) for 12 minutes and follow the next step.
- Please fill in the attached listening guide. Refer to a list of terminology provided, in order to use these terms accurately. Use terms that you did not use last week. If you need further clarity on any of these terms, please research them further and be ready to ask questions during our optional office hour.

Thursday, April 23

- Please answer the questions about [J.S. Bach Fugue in C with added text](#). You will need information from this [music theory guide](#) as well as from the Week 3 reading.

Friday, April 24

- Complete any work this week you have not completed.
- For 15 minutes, watch and listen to my friend, Thomas Schwan's [performance of the J.S. Bach Preludes and Fugues](#), and please write a review using terminology from the listening guide. Use at least 5 new terms this week in 5 different sentences (one new term per sentence). *If you have limited (or no) internet connectivity, you may substitute this by listening to 15 minutes of WRR 101.1 FM radio music and write a review about it instead using the same review guidelines.*

Statement of Academic Honesty

I affirm that the work completed from the packet is mine and that I completed it independently.

I affirm that, to the best of my knowledge, my child completed this work independently

Student Signature

Parent Signature

Details for each assignment:

Monday, April 20

- 10 minutes of reading - Read through the [Week 4 reading on J.S. Bach, Preludes and Fugues, and Baroque Dances](#).
- 5 minutes of summarizing - Answer the following questions:
 - What are some things that J.S. Bach did to impress the Margrave of Brandenburg? What kinds of combinations of instruments did Bach use in the *Brandenburg Concertos*?
 - Please explain what is a *cadenza*.
 - What is a *solo* and a *ritornello*?
- Check your work: Also, please go through the [Week 3 melodies \(with answers\)](#) and check your work for accuracy. If you have any questions, please let me know so I can explain or clarify.

Tuesday, April 21

- Continue reading: [Week 3 reading on J.S. Bach, Preludes and Fugues, and Baroque Dances](#) for 10 minutes
- Summarize: Write a summary for 5 minutes, answering these questions:
 - What is a *fugue* and what does the term mean? Why do you think this term became popular for this type of composition of imitative polyphony?
 - What is a fugal *subject*? Why is the subject extremely important in a fugue?
 - How is the subject presented in all of the different voices?

Wednesday, April 22

- Listen to [WRR 101.1](#) (on the radio or through online streaming) for 12 minutes and follow the next step.
- Please fill in the attached listening guide. Refer to a list of terminology provided, in order to use these terms accurately. Use terms that you did not use last week. If you need further clarity on any of these terms, please research them further and be ready to ask questions during our optional office hour.

Thursday, April 23

- Please answer the questions about [J.S. Bach Fugue in C with added text](#).
- Using this [music theory guide](#) as well as from the Week 3 reading (the section on fugues), please answer the following questions on the score provided:
 - What is the first voice to introduce the subject? (Behold, a king...)
 - What is the first voice to introduce the next statement of the subject? In which measure does this occur?
 - Which voice introduces the subject next? In which measure does this occur? Finally, which voice introduces the last statement of the subject?
 - At each of these entrances, please write different dynamic symbols (provided on the music theory guide). Make sure to use variety in dynamics and to build up the volume as the number of voices increases.
 - For every appearance of the word "King," please add an accent mark on those notes. Also, add staccato markings to each note in "Behold a" and "reign in."
 - Add crescendo and decrescendo signs to lead into louder or softer dynamic levels.

Friday, April 24

- Complete any work this week you have not completed.
- For 15 minutes, watch and listen to my friend, Thomas Schwan's [performance of the J.S. Bach Preludes and Fugues](#), and please write a review using terminology from the listening guide. Use at least 5 new terms this week in 5 different sentences (one new term per sentence). *If you have limited (or no) internet connectivity, you may substitute this by listening to 15 minutes of WRR 101.1 FM radio music and write a review about it instead using the same review guidelines.*

*A note about the concert review: For obvious reasons, you are no longer required to attend a concert. Instead of doing that, you will gather information from your listening log and your notes from the readings I provide. You will take many notes over the next few weeks, so it is important that you keep these organized. Your final project will include listening to a concert with a variety of classical music, and you will write a paper about it. You will be expected to use the terminology provided in the weekly handouts. More details to come.

If you already turned in your concert review, you will still be expected to do all of these assignments, and your final project will be somewhat reduced.

the beginning; the fact that the lively second ritornello has nothing whatsoever to do with the official ritornello, namely the fanfare; and the way the solo violin keeps darting around and changing the kind of virtuoso material it plays throughout the movement.

However, order is asserted when the third ritornello takes the original fanfare as its point of departure (in the minor mode). And the final ritornello returns to its origins almost literally, as in the first movement.

JOHANN SEBASTIAN BACH

Brandenburg Concerto No. 5, for Flute, Violin, Harpsichord, and Orchestra (before 1721)



A concerto grosso is a concerto for a group of several solo instruments (rather than just a single one) and orchestra. In 1721 Johann Sebastian Bach sent a beautiful manuscript containing six of these works to the margrave of Brandenburg, a minor nobleman with a paper title—the duchy of Brandenburg had recently been merged into the kingdom of Prussia, Europe’s fastest-growing state. We do not know why this music was sent (if Bach was job-hunting, he was unsuccessful) or if it was ever performed in Brandenburg.

To impress the margrave, presumably, Bach sent pieces with six different combinations of instruments, combinations that in some cases were never used before or after. Taken as a group, the *Brandenburg* Concertos present an unsurpassed anthology of dazzling tone colors and imaginative treatments of the concerto contrast between soloists and orchestra.

Brandenburg Concerto No. 5 features as its solo group a flute, violin, and harpsichord. The orchestra is the basic Baroque string orchestra (see page 113). The harpsichordist of the solo group doubles as the player of the orchestra’s continuo chords, and the solo violin leads the orchestra during the ritornellos.

First Movement (Allegro) In ritornello form, the first movement of *Brandenburg* Concerto No. 5 opens with a loud, bright, solid-sounding orchestral ritornello. We have seen this music before, as an example of a typical Baroque melody—intricate, wide-ranging, and saturated with sequences (see page 114). The brackets show the three segments of the ritornello, **a**, **b**, and **c**, that recur in the movement:

Once the ritornello ends with a solid cadence, the three solo instruments enter with rapid imitative polyphony. They dominate the rest of the movement. They introduce new motives and new patterns of figuration, take over some motives from the ritornello, and toss all these musical ideas back and forth between them. Every so often, the orchestra breaks in again, always with clear

“I Shall

1. set the boys a shining example of an honest, retiring manner of life, serve the School industriously, and instruct the boys conscientiously
2. Bring the music in both the principal Churches of this town [Leipzig] into a good state, to the best of my ability
3. Show to the Honorable and Most Wise Town Council all proper respect and obedience.”

Bach's contract at Leipzig, 1723—the first three of fourteen stipulations

fragments of the ritornello, in various keys. All this makes an effect very, very different from Vivaldi's Violin Concerto in G, not only because of the sheer length of the movement but also because of the richness of the counterpoint and the harmony.

During a particularly striking solo section in the minor mode (the first section printed in red on Listening Chart 5), the soloists abandon their motivic style and play music with even richer harmonies and intriguing, special textures. After this, you may be able to hear that all the remaining solos are closely related to solos heard before the minor-mode section—all, that is, except the very last. Here (the second red-printed section on the Listening Chart) the harpsichord gradually outpaces the violin and the flute, until finally it seizes the stage and plays a lengthy virtuoso passage, while the other instruments wait silently.

An improvised or improvisatory solo passage of this kind within a larger piece is called a cadenza. Cadenzas are a feature of concertos in all eras; the biggest cadenza always comes near the end of the first movement, as in *Brandenburg* Concerto No. 5.

In this cadenza, the harpsichord breaks out of the regular eighth-note rhythms that have dominated this long movement. Its swirling, unexpectedly powerful patterns prepare gradually but inexorably for the final entrance of the orchestra. This is an instance of Bach's masterful ability to ratchet up harmonic tension and expectancy.

Finally the whole ritornello is played, exactly as at the beginning; after nine minutes of rich and complex music, we hear it again as a complete and solid entity, not in fragments.

FLUTE

VIOLIN

etc.



This painting is thought to depict a viola da gamba player of Bach's time named C. F. Abel and his musician sons. It is a symbolic picture: The kindly, soberly dressed father is holding his continuo instrument (the viol) as a support for the upper lines of the boys, who wear the frothy costumes of a later era. One of them would become a major composer.

LISTENING CHART 5

Bach, *Brandenburg* Concerto No. 5,
first movement

Ritornello form. 9 min., 44 sec.

1
5

0:00 **Ritornello** (a, b, and c) Complete ritornello is played by the orchestra, **forte**: bright and emphatic.

0:20 **Solo** Harpsichord, flute, and violin in a contrapuntal texture. Includes faster rhythms; the soloists play new themes and also play some of the motives from the ritornello.



0:44 **Ritornello** (a only) Orchestra, **f**

0:49 **Solo** Similar material to that of the first solo

1:09 **Ritornello** (b) Orchestra, **f**

1:15 **Solo** Similar solo material

1:36 **Ritornello** (b) Orchestra, **f**; minor mode

1:41 **Solo** Similar solo material at first, then fast harpsichord runs are introduced.

2
6

2:23 **Ritornello** (b) Orchestra, **f**

0:06 2:29 **Solo** This solo leads directly into the central solo.

0:31 2:54 **Central solo** Quiet flute and violin dialogue (accompanied by the orchestra, **p**) is largely in the minor mode. The music is less motivic, and the harmonies change less rapidly than before.



0:55 3:19 Detached notes in cello, flute, and violin; sequence

1:34 3:52 Long high notes prepare for the return of the ritornello.

3
7

4:06 **Ritornello** (a) Orchestra, **f**

0:04 4:10 **Solo**

0:48 4:54 **Ritornello** (a and b) Orchestra, **f**; this ritornello section feels especially solid because it is longer than the others and in the tonic key.

1:00 5:05 **Solo**

1:27 5:34 **Ritornello** (b) Orchestra, **f**

1:33 5:40 **Solo** Fast harpsichord run leads into the cadenza.

4
8

6:18 **Harpsichord cadenza** *Section 1*: a lengthy passage developing motives from the solo sections

1:46 8:05 *Section 2*: very fast and brilliant

2:11 8:30 *Section 3*: long preparation for the anticipated return of the ritornello

5
9

9:14 **Ritornello** (a, b, and c) Orchestra, **f**, plays the complete ritornello.

► Access Interactive Listening Chart 5 at bedfordstmartins.com/listen

Second Movement (Affettuoso) After the forceful first movement, a change is needed: something quieter, slower, and more emotional (*affettuoso* means just that, emotional). As often in concertos, this slow movement is in the minor mode, contrasting with the first and last, which are in the major.

Baroque composers had a simple way of reducing volume: They could omit many or even all of the orchestra instruments. So here Bach employs only the three solo instruments—flute, violin, and harpsichord—plus the orchestra cello playing the continuo bass.

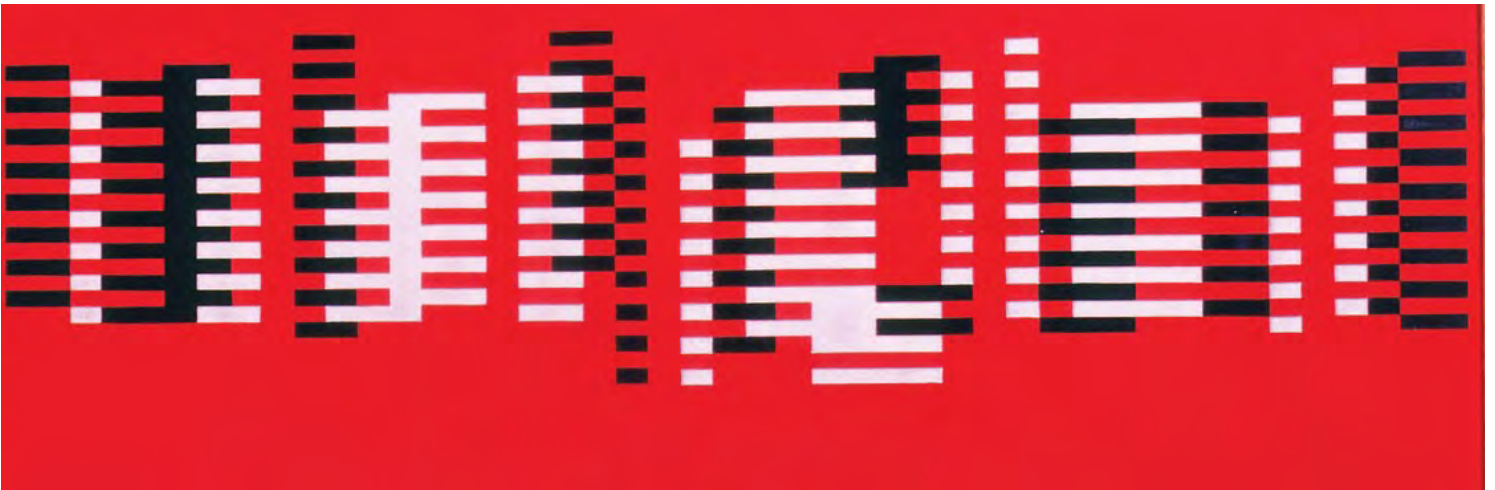
Third Movement (Allegro) The full orchestra returns in the last movement, which, however, begins with a lengthy passage for the three soloists in imitative, or fugal style (see the next section of this chapter). The lively compound meter with its triple component—*one* two three *four* five six—provides a welcome contrast to the duple meter of the two earlier movements.

2 Fugue

Fugue is one of the most impressive and characteristic achievements of Baroque music, indeed of Baroque culture altogether. In broad, general terms, fugue can be thought of as systematized imitative polyphony (see page 34). Composers of the Middle Ages first glimpsed imitative polyphony, and Renaissance composers developed it; Baroque composers, living in an age of science, systematized it. The thorough, methodical quality that we pointed to in Baroque music is nowhere more evident than in fugue.

A **fugue** is a polyphonic composition for a fixed number of instrumental lines or voices—usually three or four—built on a single principal theme. This theme, called the fugue **subject**, appears again and again in each of the instrumental or vocal lines.

The term *fugue* itself comes from the Latin word *fuga*, which means “running away”; imagine the fugue subject being chased from one line to another. Listening to a fugue, we follow that chase. The subject stays the same, but it takes on endless new shadings as it turns corners and surrounds itself with different melodic and rhythmic ideas.

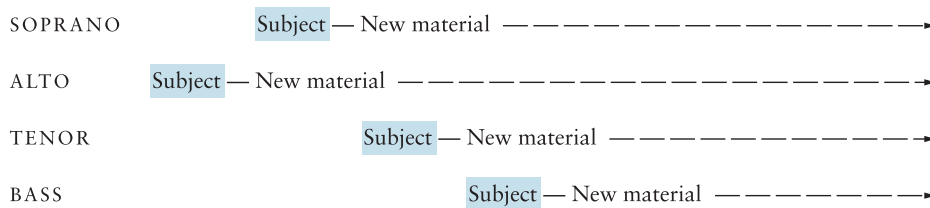


Fugue by Josef Albers. One can almost see the exposition and the subsequent subject entries.

Fugal Exposition

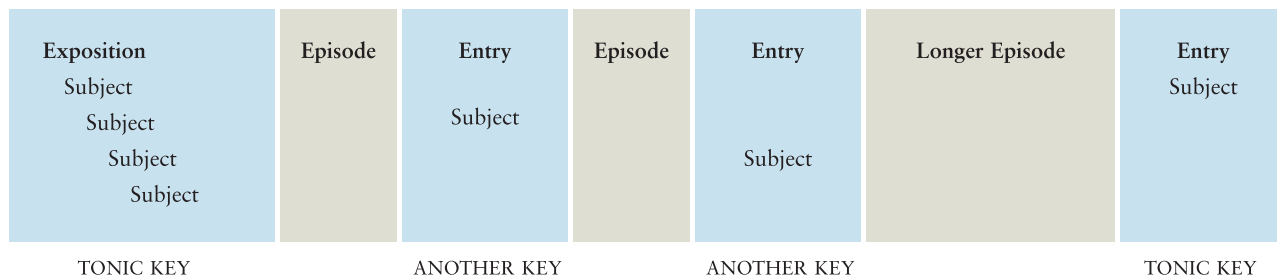
A fugue begins with an **exposition** in which all the voices present the subject in an orderly, standardized way. (The contrapuntal lines in fugues are referred to as *voices*, even when the fugue is written for instruments. We will refer to the four lines in our Bach fugue for keyboard as the *soprano*, *alto*, *tenor*, and *bass*.)

First, the subject is announced in the most prominent fashion possible: It enters in a single voice without any accompaniment, while the other voices wait. Any voice can begin, and any order of entry for the other voices is possible; in the first diagram below, we follow the order of the example on our recording (alto, then higher up for the soprano, then below the alto for the tenor, and finally, lowest of all, the bass). After leading off, voice 1 continues with new material of its own while the subject enters in voice 2. Next, the subject arrives in voice 3—with 1 and 2 continuing in counterpoint with it (and with each other), using more new material, and so on. This section of a fugue, the exposition, is over when all the voices have stated the subject.



After the exposition, the subject enters at intervals; usually it is spaced out by passages of other music. It may come at the top of the texture (in the soprano), the bottom (bass), or half hidden away in the middle; see the diagram below. Some of these later **subject entries** come in different keys. Although the modulations to these other keys may not be very obvious, without them the music would be dull and stodgy.

The passages of music separating the later subject entries are called **episodes**. They provide a contrast to the subject entries. This is true even though their motives are often derived from the subject; in such cases, the episodes present not the subject in full but fragments of it, and so they stand apart from subject entries. After the exposition, the form of a fugue falls into an alternating pattern: Episodes of various lengths come between subject entries in various voices and in various keys. Here is a diagram of a typical short fugue:



Fugal Devices

Many specialized techniques can enter into the imitative polyphony of fugues, and the art of composing them has been so often analyzed and taught in the wake of Bach that a whole terminology has grown up. In addition to *exposition*, *subject*, and *episode*, there is the **countersubject**, a kind of second

subject that fits together in counterpoint with the first, shadowing it in all its appearances after the beginning.

Composers may lengthen or shorten all the notes in the subject, making it twice as slow or twice as fast. They might turn the melody of the subject upside down, *inverting* its every interval (so that where the original subject went up a step, the **inversion** will go down, and so forth). Very often they shorten the space between subject entries from what was heard in the exposition, so that the entries follow one another faster and are stacked almost on top of each other. This technique is called **stretto** (the Italian word for “narrow”). All these possibilities and more are basic to the ingenious contrapuntal art of the fugue.

JOHANN SEBASTIAN BACH

Prelude and Fugue No. 1 in C Major, from *The Well-Tempered Clavier*, Book 1 (1722)



The *Well-Tempered Clavier* is a kind of encyclopedia of fugue composition, in which the greatest master of the genre tried out almost every technique and style available to it. It falls into two books, the first gathered together in 1722, the second twenty-two years later. Each book presents, systematically, a fugue in every key and in both major and minor modes: 12 keys × 2 modes × 2 books—that’s 48 fugues in all. Each fugue is preceded by an introductory piece, or **prelude**, in the same key and mode (forty-eight more pieces!).

Some of the fugues give the impression of stern regimentation, some are airy and serene; some echo counterpoint from a century before, others sound like up-to-date dances; some even seem to aim for comic effect. Bach was unsurpassed in the expressive variety he could milk from fugal techniques.

Clavier (or *Klavier*) is today the German word for piano. In Bach’s time it referred to a variety of keyboard instruments, including the harpsichord and the very earliest pianos (but not including the church organ). The term *well-tempered* refers to a particular way of tuning the keyboard, among the several employed in the eighteenth century. The *Well-Tempered Clavier* was probably played in Bach’s time on various instruments, but most often on harpsichord. Our prelude and fugue are played on piano by a modern master of Bach interpretation, Glenn Gould (see page 134).

“The bearer, *Monsieur J. C. Dorn*, student of music, has requested the undersigned to give him a testimonial as to his knowledge in *musicis*. . . . As his years increase it may well be expected that with his good native talent he will develop into a quite able musician.”

Joh. Seb. Bach (a tough grader)

6
10

Prelude Like the fugues, the preludes in the *Well-Tempered Clavier* display a wide variety of moods, from gentle and lyrical to aggressive and showy, and they explore many musical textures (though usually not the imitative polyphony that features in the fugues to follow). Each prelude tends to occupy itself in an almost obsessive manner with a single musical gesture, repeating it over and over across shifting harmonies. The preludes are, in their different way, systematic like the fugues that follow.

The most famous of them—and also one of the easiest for the novice pianist to work through—is the first, in C major. Its basic gesture is an upward-moving **arpeggio**—that is, a chord “broken” so that its pitches are played in quick succession rather than simultaneously. The wonder of this simple prelude is the rich array of chords Bach devised for it. We feel at its end as if we have taken a harmonic journey, ranging away from our starting point, exploring some rather rocky pathways (that is, dissonant harmonies), and finally—satisfyingly—arriving back home.

Glenn Gould (1932–1982)

The Canadian pianist Glenn Gould is remembered for making Bach, and especially his keyboard works, widely popular from the 1950s on. At that time the preferred medium was the harpsichord, which had been revived so that Bach could be played on his own instrument; audiences were specialized, to say the least, and pianists didn't play much Bach. Significantly, Gould's first great success was a best-selling three-LP recording of one of Bach's encyclopedic works, the *Goldberg Variations*. In a stroke he created a uniquely modern Bach sound by imitating the harpsichord on the piano, joining the crisp, even attack of the older instrument with the potent dynamic range of the newer one.

Thus his playing of Bach's Prelude No. 1 in C sounds less like chords made by a swishing harp than a hollow series of pings; yet the dynamics fall and rise, rise and fall so purposefully that this simple piece produces an almost majestic effect. Notice how carefully *p* and *f* moments are coordinated with the harmonies spelled out by the chords. In the fugue, Gould is in his element—every entry is loud and clear!

Like many performers, old and new, classical and popular, Gould derived some of his fame from his eccentricities. At concerts he had to have the piano bench very low and the temperature in the hall very high. On our recording you will hear weird little noises behind the music; even the top recording engineers couldn't filter out Gould's constant humming or yelping when he played.



Gould was also a popular broadcaster, promoting his pet ideas. For example, he thought that concerts were outmoded and the future of music lay with recordings. He was wrong, but it worked for him; for nearly twenty years at the end of his life, he concentrated on building up an extraordinary archive of recordings but played no concerts at all.

7 *Fugue* Perhaps because this fugue takes pride of place in the *Well-Tempered Clavier*, Bach crafts it with extraordinary economy and single-mindedness. There are no episodes here, and there is no countersubject to speak of. There are only incessant entries of the subject—twenty-four in all. (Was Bach, who loved number games, referring to the number of fugues in the whole of Book 1?) Many of them overlap in stretto fashion.

The subject is introduced in a spacious exposition—soprano, tenor, and bass follow the alto at even time intervals. The subject moves stepwise up the scale in even rhythms at first, only to reverse course with a quick twist downward. Listen carefully for this twist; it will help you pick out the many subject entries to come. (The whole subject is shown in Listening Chart 6.)

After the exposition, however, all bets are off, fugally speaking. Instead of the more usual episodes alternating with orderly entries of the subject, this fugue is all about stretto. The first stretto comes as soon as the exposition is complete, with two voices overlapping, and from then on entries begin to pile up.

But an overall order underlies all these strettos. The fugue comes, exactly at its midpoint, to a strong cadence on a key different from our starting key, and in the minor mode. This articulates but does not stop the action, as the stretto entries of the subject begin again immediately, back in the home key.

LISTENING CHART 6

Bach, *The Well-Tempered Clavier*, Book 1, Fugue 1 in C Major

1 min., 55 sec.



0:00	Exposition	<i>Fugue subject in:</i>
0:00		A (alto)
0:06		S (soprano)
0:12		T (tenor)
0:18		B (bass)
0:24	First stretto ,	S and T
0:32	Subject entry: A	
0:38	More stretto entries: B, A, T	
0:51	CADENCE	minor mode
0:52	Quickest voice entries yet in stretto : A, T, B, S	
1:01	More stretto : S, A, T, B	
1:33	CADENCE	major mode, home key; but three more entries follow quickly in stretto : T, A, S



▶ Access Interactive Listening Chart 6 at bedfordstmartins.com/listen

Indeed, as if to counterbalance the clarity of the cadence, the entries here come faster than anywhere else in the fugue—eight of them in quick succession. At one moment four entries all overlap, the last beginning before the first has finished.

After this frenzy of entries, even a big cadence back in the home key takes a moment to sink in, as three more entries of the subject quickly follow it. The energy of all this finally comes to rest in the soprano voice, which at the very end floats beautifully up to the highest pitch we have heard.

3 Baroque Dances

We have sampled Italian and German music of the Baroque era, and turn now to the French tradition. All Europe associated France with dance music. Paris was a center for ballet, which has always been a particularly strong feature of French opera—and French opera of the Baroque era was particularly grand and spectacular. An admirer writes of the great opera composer Jean-Philippe Rameau: “As a composer of dances, he bewilders comparison.”

The Dance Suite

Many different dance types existed in the Baroque era. What distinguished them were features originally associated with the dance steps—a certain meter, a distinctive tempo, and some rhythmic attributes. The **minuet**, for example, is a simple dance in triple time at a moderate tempo. The slower **sarabande** is a little more intricate; also in triple time, it has an accent on the second beat of the measure, as well as the normal accent on the first.



Concerts began late in the Baroque era. They were sometimes given in parks, where music accompanied gossip, flirtation, and food.

The custom all over Europe was to group a collection of miscellaneous dances together in a genre called the **suite**. Which dances occurred in a suite was not subject to any general rule, nor was there any specified order. But all the dances in a suite kept to the same key, and the last of them was always fast—frequently a **gigue**, a dance in compound meter that may have been derived from the Irish jig. Otherwise there was no standard overall structure to a suite.

Composers also wrote a great many dances and dance suites for the lute or the harpsichord. These are *stylized* dances, pieces written in the style and form of dance music but intended for listening rather than dancing, for mental rather than physical pleasure. Compared with music written for the actual dance floor, stylized ones naturally allowed for more musical elaboration and refinement, while still retaining some of the typical features of the various dances.

Baroque Dance Form

A Baroque dance has two sections, **a** and **b**. Each ends with a strong cadence coming to a complete stop, after which the section is immediately repeated. Both sections tend to include the same motives, cadences, and other such musical details, and this makes for a sense of symmetry between them, even though **b** is nearly always longer than **a**. Hence Baroque dance form is diagrammed **a a b b**, abbreviated as |: **a** :||: **b** :| where the signs |: and :| indicate that everything between them is to be repeated. This form is also called binary form.

1.

 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3-4
 Do' Ti La Sol La Sol Fa Mi — Re Mi Fa Mi Fa Sol La Ti Do' —

2.

 1 2 3 1 2 3 1-2 3 1-2-3
 Do Re Do Ti, Do Re Mi Fa — Mi Re Do —

3.

 1 2 3 1-2 3 1 2 3 1-2-3
 Do Re Mi Re Do — Ti, La, Sol, La, Ti, Do —

4.

 1 2 3 4 1 2 3-4 1 2 3 4 1 2 3-4
 Do Ti, Do Re Mi Mi Fa Mi Re — Mi Re Do Ti, La, Ti, Do Re Do —

5.

 1 2 3 4 1 2 3-4 1 2 3 4 1 2 3-4
 Do Do Re Mi Mi Fa Sol La Sol Fa Mi — Fa Fa Mi Re Do Re Mi Re Do —

6.

 1 2 1 2 1 2 1 2
 Do Re Mi Fa Sol La Sol Fa Mi Re Do

7.

 1 2 3 4 1 2 3-4 1 2 3 4 1-2-3-4
 Do Do Ti, Do Re Do Ti, La, Sol, Fa, Sol, La, Sol, La, Ti, Do —

8.

 1 2 3 1 2 3 1 2 3 1-2-3
 Do Re Mi Re Mi Fa Sol La Sol Fa Mi Re Do —

Elements of Music

Pitch

Dynamics

Tempo

Timbre

Texture

Form

Tonality

Instruments

Rhythm

Metre

Describe how THREE of the elements of music have been used in this piece.

1.

2.

3.

What is the style of this piece? _____

Explain your choice.

Elements of Music

- The elements of music are combined to make a piece complete.
- It is the way that the elements are combined that gives a song/piece from various styles and genres their distinctive sound.
- The following table gives ways in which the different elements may be described.

Elements	Definition	How it can be described
Melody	The organisation of the notes.	Ascending, descending, treble, bass, repetitive wide/small range, stepwise, based on a scale, based on a triad, has sequences.
Rhythm	The arrangement of the relative lengths and shortness's of notes.	Long, short syncopated, repetitive, accented, regular, irregular, dotted, even, polyrhythmic
Meter	The reoccurring patter of accents or stress in the music. This is indicated by a time signature	Simple, Compound, Complex, duple, triple, quadruple
Harmony	The use of chords – usually to support a melody	Small/large number of chords, repetitive pattern, 12 bar blues, ice cream progression
Structure/ Form	The plan of a piece	Through composed, Binary (A.B.) Ternary (A.B.A) Rondo (A.B.A.C.A) Theme and variations, Verse/chorus, strophic form, introduction, phrase, section, coda
Texture	Refers to how many layers or voices are in a piece	Monophonic – one part. Also applies to doubling parts at an octave. (Thin) Homophonic – many – notes moving as part of a chord. Polyphonic – many. Many parts moving and stopping independently of each other (thick)
Timbre	Each instrument/voice has its own distinctive tone colour	Warm, bright, dull, metal, brilliant,
Tempo/ speed	The speed of the music	Fast slow, moderate, changing, speeds up, slows down, rallentando, accelerando
Dynamics/ Volume	The loudness or softness of the music	From very, very, soft through to very, very, loud, crescendo, diminuendo
Performing Media	Who or what is performing the music	Stings, winds, brass, percussion, keyboards, electronic. Voices – male, female
Tonality/ Modality	Its tone/key centre	Major, minor, modal, atonal

Quick-Start Music Theory Guide

L. Escobar

Choir

This is the Music Staff

Key Signature: \sharp (one sharp)
Time Signature: $\frac{4}{4}$ (Four beats per measure, Quarter Note = 1 beat)
Bar Line: ONE MEASURE
Double Bar Line: ONE MEASURE
Final Bar Line: Final Bar Line

Most Common Note Lengths

whole note: 1-2-3-4
half notes: 1-2, 3-4
quarter notes: 1, 2, 3, 4
eighth notes (can be connected, or individual): 1 + 2 + 3 + 4 +
"and"

Rests = silence

whole rest: 1-2-3-4
half rest: 1-2, 3-4
quarter rest: 1, 2, 3, 4
eighth rest: 1 + 2 + 3 + 4 +

Ties add the length of notes together.

Dots add half of the length to the note.

Diagram showing a note tied to the next measure and a dotted note.

Notes on Lines

Treble Clef OR G Clef
E G B D F

Notes in Spaces

F A C E

The higher a note is, the higher it is sung.

Bass Clef OR F Clef
G B D F A
A C E G

Ledger Lines: notes below the staff.
Accent = stronger attack: notes with >.
Staccato = shorter length: notes with a dot above.

Dynamic = volume

p *mp* *mf* *f* *p* *f* *p*
piano = soft forte = loud
Crescendo = gradually increase volume Decrescendo = gradually decrease volume

Bach, Fugue I, from The Well-Tempered Clavier I
(1685-1750) Textual Setting by Peter Kalkavage (Isaiah 32:1)

1

S

A

T

B

Be - hold a king shall reign in

2

S

A

T

B

Be - hold a

right - eous - ness a king shall

3

S

A

T

B

king shall reign in right - eous -

reign, shall reign, shall

4

- ness; a king shall reign a king shall
 reign, a king shall reign shall
 Be - hold a king shall reign in

5

reign in right - eous - ness, a king
 reign
 right - eous - ness, right - eous
 Be - hold a

6

a king shall reign.
 Be - hold, a king a king shall reign.
 - ness, a king, a king shall reign.

king shall reign in right - eous - ness.

Remote Learning Packet

NB: Please keep all work produced this week. Details regarding how to turn in this work will be forthcoming.

April 20 - 24, 2020

Course: Physical Education

Teacher(s): James.Bascom@GreatHeartsIrving.org

John.Bascom@GreatHeartsIrving.org

Joseph.Turner@GreatHeartsIrving.org

Weekly Plan:

Monday, April 20

General Mobility Routine

Tuesday, April 21

Workout

Wednesday, April 22

General Mobility Routine

Thursday, April 23

Workout

Friday, April 24

General Mobility Routine

Statement of Academic Honesty

I affirm that the work completed from the packet is mine and that I completed it independently.

I affirm that, to the best of my knowledge, my child completed this work independently

Student Signature

Parent Signature

Monday, April 20

General Mobility Routine (15-20 minutes)

Complete Part I and record how long it took you. Also, record whether or not you were able to complete all of the exercises. If you had trouble with any specific exercises make note of these. Part II of the workout is not mandatory but is encouraged.

Note: no equipment is required for this workout and only a minimum of space. If space is a challenge make modifications as necessary.

PART I:

1. Warmup by running for 2 minutes.
2. Then begin in a resting squat for 30s
3. Bear crawl forwards about 5 feet then straight back.
4. Step back into a pushup position
5. Perform 5 pushups
6. Downdog for 30s
7. Updog for 30s
8. Return to a pushup position
9. Perform 5 pushups

10. Stand up & perform 20 jumping jacks, 10 squats, 10 lunges, and 5 burpees
11. Return to a resting squat for 30 seconds
12. While in resting squat, perform 2 shoulder screws forwards, then 2 backwards, both sides
13. Bear Crawl sideways about 5 feet then return straight back
14. Step back into a pushup position
15. Step your right foot up directly outside your right hand
16. Then reach straight up toward the sky with your right hand & hold for 30s
17. Return to pushup position
18. Step your left foot up directly outside your left hand
19. Then reach straight up toward the sky with your left hand & hold for 30s

20. Return to pushup position
21. 5 pushups
22. Step your feet up to your hands and return to a resting squat
23. Remaining in the squat, grab your left ankle with your right hand and reach straight up toward the sky with your left hand & hold for 30s
24. Remaining in the squat, grab your right ankle with your left hand and reach straight up toward the sky with your right hand & hold for 30s

25. Hands down behind you Crab Walk forwards about 5 feet then straight back
26. Stand up & perform 20 jumping jacks, 10 squats, 10 lunges, and 5 burpees
27. Perform 3 slow Jefferson Curls
28. Rolling Bear Crawl x1 revolution one direction
29. Back Bridge for about 10-15 seconds
30. Rolling Bear Crawl x1 revolution in the opposite direction
31. Find a low hanging branch, pullup bar, ledge, rings, etc. to hang from for as long as you can hold

PART II:

1. Get into a plank
2. Alternate touching opposite elbow and knee for a total of 10 touches
3. Gorilla Hop x2 to the right
4. Gorilla Hop x 2 back to the left
5. Stand and perform 10 steam engine squats (fingers locked behind your head, every time you stand up from a squat touch opposite knee/elbow)
6. Hurdler's walk x6 steps forward
7. Hurdler's walk x6 steps backward
8. Frog Hop x2 forwards
9. Frog Hop x2 backwards

10. Get into a long lunge position
11. Keeping front foot flat on the ground, without touching the back knee to the ground, and trying to keep torso straight up and down slowly lower hips toward the ground. Hold for 15 seconds
12. Switch legs and repeat (hold for 15 seconds)
13. 3 slow Jefferson Curls
14. Rolling Bear Crawl x1 revolution one direction
15. Back Bridge for about 10-15 seconds
16. Rolling Bear Crawl x1 revolution in the opposite direction
17. Find a low hanging branch, pullup bar, ledge, rings, etc. to hang from for as long as you can hold

Tuesday, April 21

Warmup:

1. 3 minute warmup jog
2. 10 jumping back, 5 squats, 1 pushup x3

Workout:

The workout today will focus on full body strength training. You are going to choose your own degree of intensity by choosing the tier that you perform. “Tier 1” will be the easiest option and “Tier 4” will be the hardest option.

5 Squats, 2 Pushups

Bear crawl forward 5 meters

3 Lunges per leg

Bear crawl back (backwards)

3 Burpees

Crab walk forward 5 meters

Hold a high plank for 15 seconds

Crab walk back (backwards)

Repeat for 10 minutes.

Tier 1: Perform as stated above.

For tier 2: multiply quantities by 2 (from 5 to 10 squats, from 2 to 4 pushups etc.). Crawl distances don't change at any tier.

For tier 3: multiply quantities by 3.

For tier 4: multiply quantities by 4.

Cool down with a 1 minute light jog.

Wednesday, April 22

Repeat *General Mobility Routine (15-20 minutes)*

Thursday, April 23

Workout: Choose Your Own Adventure Run (What fun!) - You are going to develop your own workout by choosing from the sets of options below. In each case “Tier 1” will be the easiest option and “Tier 4” will be the hardest option.

Option 1: This will be how long you will run.

Tier 1: 8 minutes
Tier 2: 10 minutes
Tier 3: 12 minutes
Tier 4: 14 minutes

Option 2: This will determine the pace(s) at which you will run

Tier 1: Steady state - Don't worry about how fast you're running just don't walk.

Tier 2: 30 Seconds elevated intensity / 1 minute recovery pace - For this tier you will simply increase your effort for a short time then try to recover while still jogging.

Tier 3: 20 second sprint / 1 minute recovery pace - Similar to Tier 2, but the high intensity interval is max effort.

Tier 4: Max effort - Whatever duration you choose, try to run as far as possible during that period of time. Consider recording your performance. We will probably repeat this workout and you may want to be able to compare your results. NO WALKING!

Option 3: This will be a wildcard challenge.

Tier 1: No added challenge

Tier 2: If you chose Tier 1 or 2 from Option 2, try to only breathe through your nose during your recovery phase.

Tier 3: Add weight - You could do this a lot of ways. Hold something in your hands, wear a backpack or a weighted vest if you have one.

Tier 4: Hold a mouthful of water for the duration of your run. Don't swallow it and don't spit it out until the end of the run.

Cooldown:

2 minute brisk walk

4 minutes static stretching major lower body muscles (quads, hamstrings, glutes, calves). Hold each stretch for roughly 30 seconds

Friday, April 24

Repeat *General Mobility Routine (15-20 minutes)*

Optional workout:

The workout below is **not** required. You could try to perform it on any day in addition to your daily routine. This workout will most likely take around 30 minutes.

Feel free to modify according to your ability by decreasing or increasing reps or sets. Rests between sets should be between 30s to 1 minute according to fatigue.

Workout:

3 sets of 20 squats

3 sets of 20 lunges

4 sets of 15 pushups

4 sets of 5 burpees

3 sets of 15 crunches

3 sets of 15 leg raises

3 sets of 1 minute high plank (pushup position)

4 sets of 10 jump lunges

4 sets of 10 jump squats

Remote Learning Packet

NB: Please keep all work produced this week. Details regarding how to turn in this work will be forthcoming.

April 20 - 24, 2020

Course: 7 Science

Teacher(s): Miss Weisse natalie.weisse@greatheartsirving.org

Mrs. Voltin mary.voltin@greatheartsirving.org

Weekly Plan:

Monday, April 20

- Poem
- Attempt to fill out all anatomies.
- Review all anatomies

Tuesday, April 21

- Poem
- Introduction to Disease
- Field Notebook Entry — Description of a Disease

Wednesday, April 22

- Poem
- Introduction to the Immune System
- Immune System Terms

Thursday, April 23

- Poem
- Read Chapter 14 Section 1
- Complete “Sharpen Your Skills” Activity
- Complete Chapter 14 Section 1 Questions

Friday, April 24

- Poem
- Review All Notes From the Week
- Read Article “Smallest Thing”
- Answer Questions on the Article “Smallest Thing”

Statement of Academic Honesty

I affirm that the work completed from the packet is mine and that I completed it independently.

I affirm that, to the best of my knowledge, my child completed this work independently

Student Signature

Parent Signature

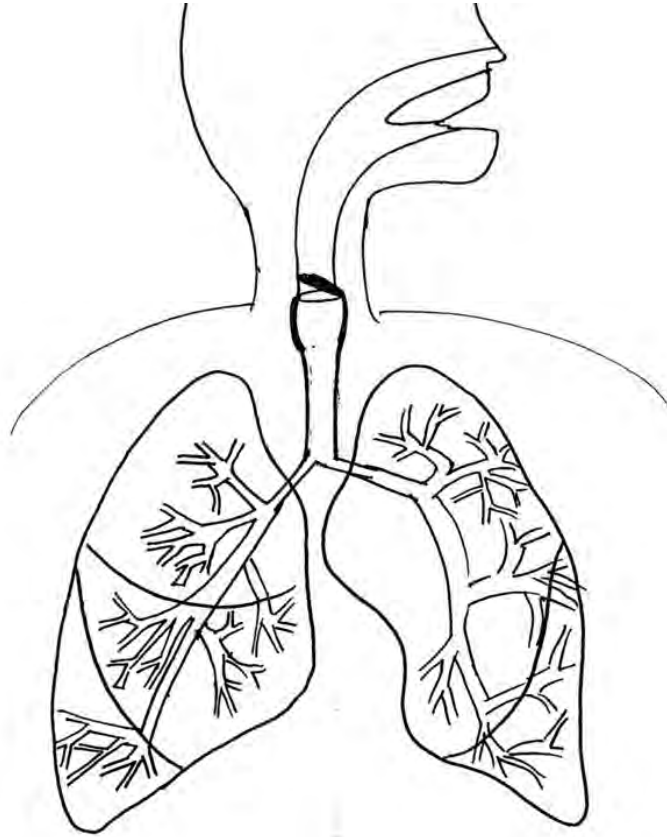
Monday, April 20

- We are returning to Goethe's *The Metamorphosis of Plants* Poem! You can find the poem at the end of the packet.
 - ◆ Attempt to recite as much of the poem as we already know.
 - ◆ Learn 2-3 more lines by repeating each line to yourself over and over again.
- Attempt to fill out all anatomies (and as many etymologies as you can remember).
- Check your anatomy answers. Filled in anatomies can be found at the end of the packet before the poem.
 - ◆ How many did you get right?
 - ◆ Use the blank anatomies to quiz yourself again on anatomies you did not do well on.

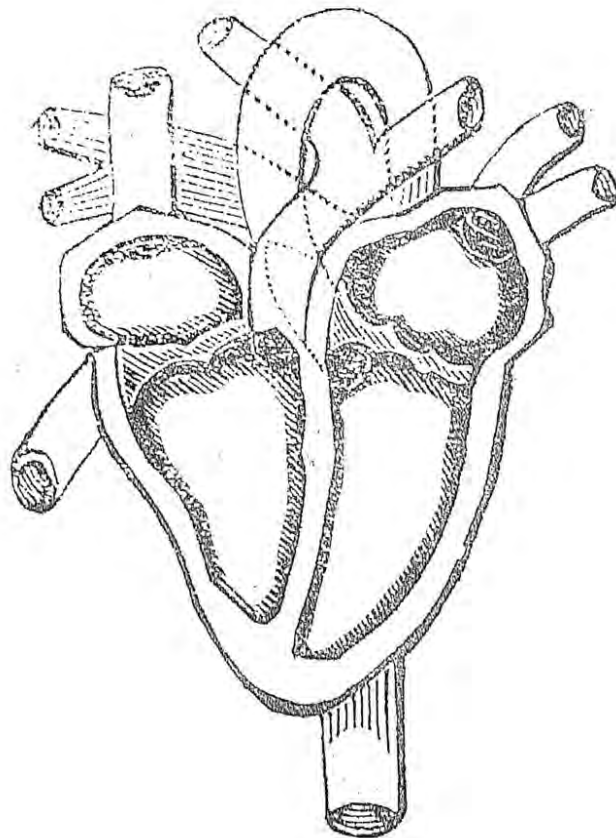
Skeletal Anatomy (20 parts)



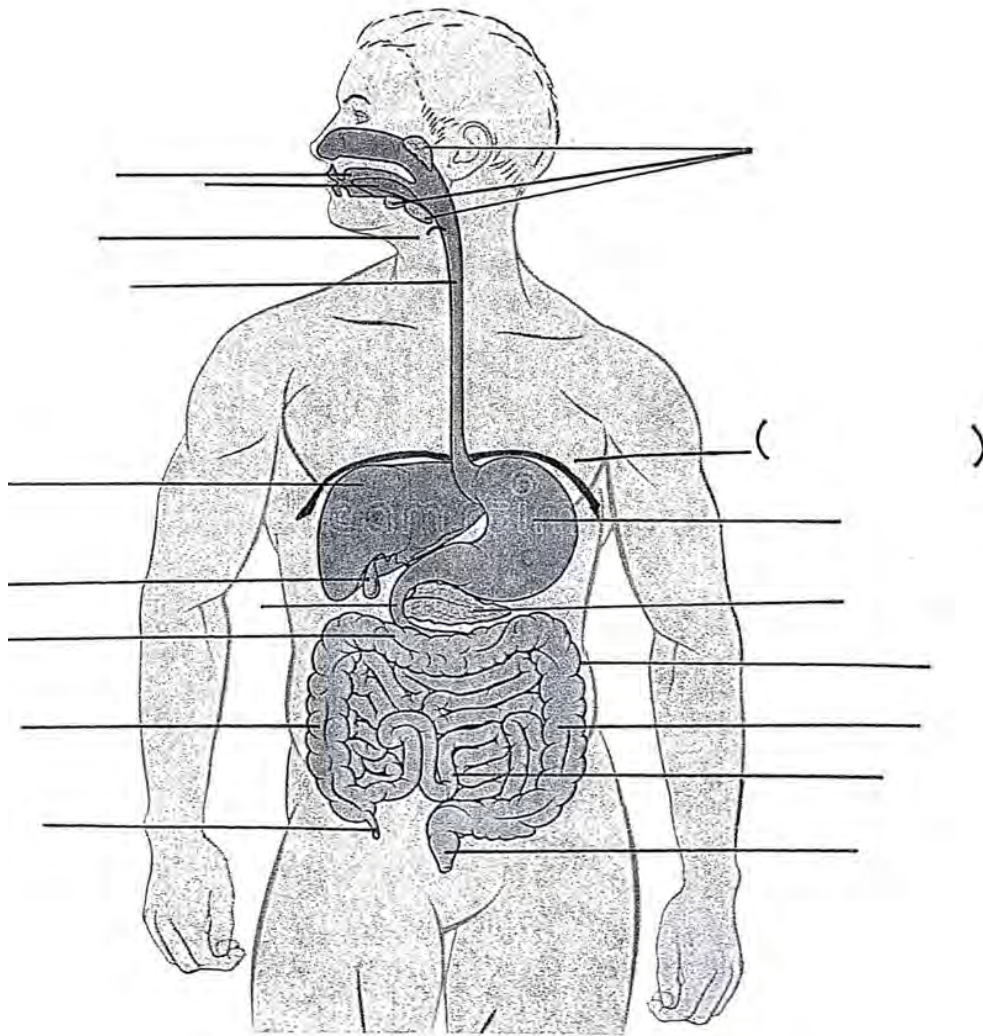
Respiratory Anatomy (20 parts)



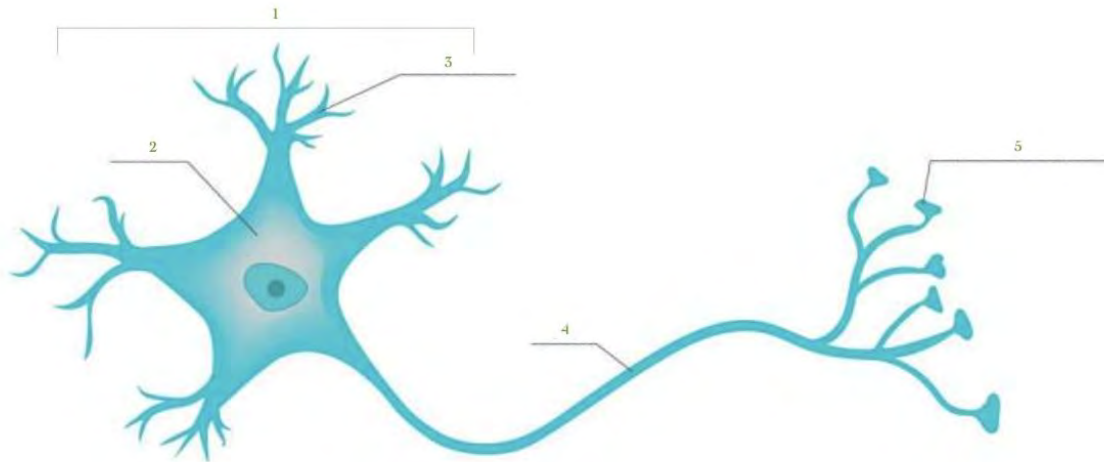
Heart Anatomy (15 parts)



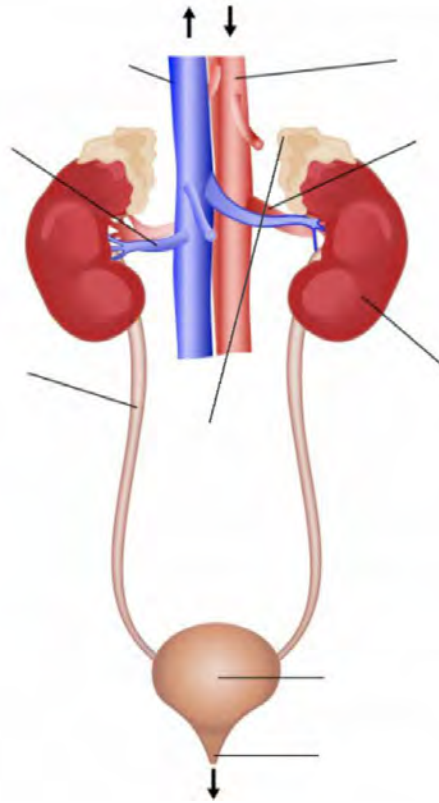
Digestive System Anatomy (18 parts)



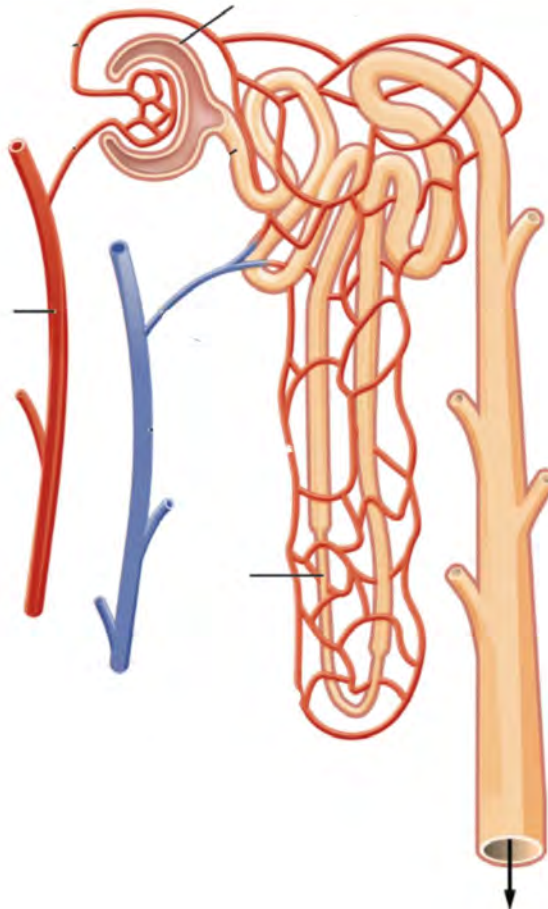
Neuron Anatomy (5 parts)



Excretory System Anatomy (9 parts)



Nephron Anatomy (9 parts)



Tuesday, April 21

- Continue learning Goethe's *The Metamorphosis of Plants* Poem!
 - ◆ Practice reciting the lines you studied yesterday.
 - ◆ Learn 2-3 more lines by repeating each line to yourself over and over again.
 - ◆ Add the new lines to the lines you learned yesterday. Make sure you can recite them together.
- Read and take notes from *The Teacher Notes* below on the *Introduction to Disease*
- Create a Field Notebook Entry Description of Disease

TEACHER NOTES

An Introduction to DISEASE

"It might not be easy to articulate what a disease is, but we like to think we would at least all know when we saw one." - NIH Website

SIDE NOTE!

The NIH (National Institute of Health) is our nation's medical research agency. Their purpose is to know everything there is to know in the medical field and lead the nation and world in medical discoveries.

I hope the quote above makes you a little uneasy. If the NIH can't say what a disease is, how are we supposed to be able to? We will try anyways...

What is a disease like? How can we categorize it?

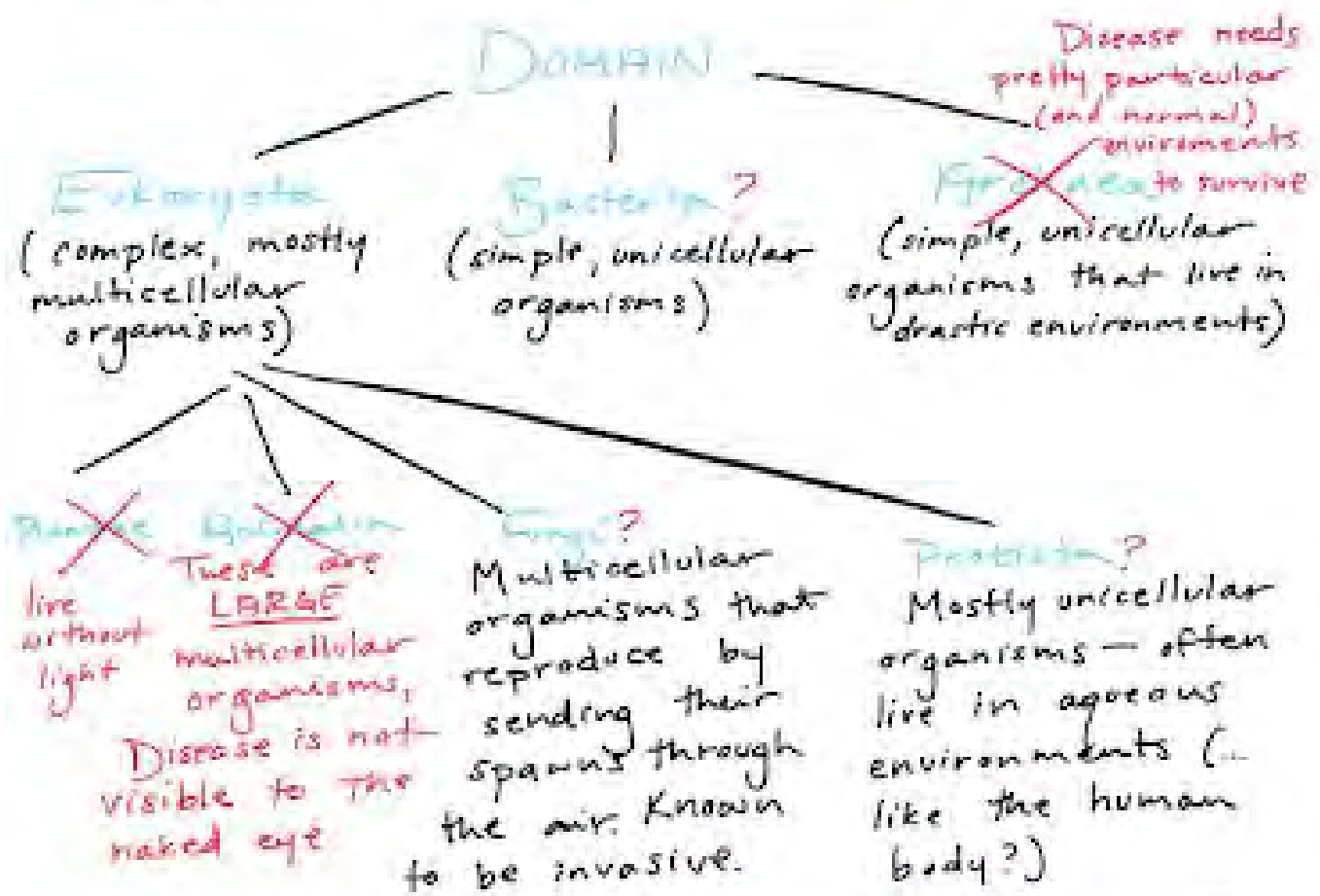
Well, if you think back to AUGUST (maybe September) you will remember we know two schemes of categorization — The Porphyrean Tree and The Linnaean Taxonomy.

Where in the Porphyrean Tree (the classification of ALL substances) do you think DISEASE belongs?



The Porphyrean Tree breaks down at living vs. non-living — where does disease belong? Even working backwards, although we know disease is no human and therefore not rational — does disease seem to fit into the category of Animal? Let's check the Linnaean Taxonomy to find out!

It is first important to remember that the Linnaean Taxonomy only includes living substances. Using the Porphyrian Tree we hadn't 100% decided disease is living, but we're going to make that assumption as we look at the Linnaean Taxonomy.



In reviewing the Linnaean Taxonomy, I think we can rule out animal, but now we have more questions —

- Is disease living?
- Is disease bacteria (simple & unicellular)?
- Is disease Fungus (complex & multicellular)?
- Is disease Protista (complex & unicellular)?

We have made progress! But, like the NIH, we have not yet been able to articulate what disease is. We'll give it one more try today, using ARISTOTLE'S 10 CATEGORIES.

1. SUBSTANCE - name it
2. Quantity - how much?
3. Quality - what kind?
4. Place - where?
5. Possession - what does it have?
6. Position - how/where are its parts?
7. Passion - what is being done to it?
8. Relation - how does it compare?
9. Action - what does it do?
10. Time - when does it do what it's doing or is something done to it?

Read the next direction in the lesson plan to know what to do with the 10 Categories.

Wednesday, April 22

- Review the lines of the MoP Poem you memorized on Monday and Tuesday.
 - ◆ *Be sure to add a few lines before the lines you memorized so you are practicing the transition to the new lines as well.*
- Read and take notes from *The Teacher Notes* below on *What Causes Disease*
- Create a Foldable for the following Immune System Terms. See directions at the end of today's *Teacher Notes*.
 - ◆ Infectious Disease
 - ◆ Pathogen
 - ◆ Microorganism
 - ◆ Virus

TEACHER NOTES

What Causes Disease?

Yesterday we spent some time trying to say exactly what disease is. Before turning to the 10 Categories we were left with 4 Questions:

- Is disease living?
- Is disease bacteria (simple & unicellular)?
- Is disease fungus (complex & multicellular)?
- Is disease protista (complex & unicellular)?

The answer is YES! to all of these!
Well, we're actually saying it incorrectly,
DISEASE IS CAUSED BY ALL THESE THINGS.

DISEASE, or more specifically, INFECTIOUS DISEASE is caused by microorganisms (very small organisms) like bacteria, fungus, protists, and viruses. Viruses are distinct from bacteria, fungus, and protists because viruses are not living.

These four things that cause infectious diseases are called PATHOGENS.

These diseases are called infectious because the pathogens can move from one organism to another organism.

Here are some ways pathogens (and therefore infectious diseases) spread:

→ exchange of body fluids

- sharing drinks
- blood

- sneezing or coughing

→ bug bites and animal bites

→ contact with contaminated objects

- this includes shaking hands with someone with an infectious disease

→ rotting foods - especially meats

Here are some ways to PREVENT infectious disease from spreading:

→ Wash your hands! Especially if you are sick or are around sick people.

→ Be wary of public objects

- water fountains
- restrooms
- door handles
- student desks...

→ Get enough sleep at night

- this keeps your immune system strong to fight invading pathogens

→ Eat a nutritious diet

- this helps your body maintain homeostasis

→ Vaccines

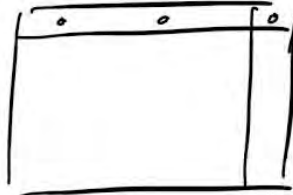
- provide your body with antibodies to fight foreign pathogens... we'll talk more about this next week

Immune System Terms

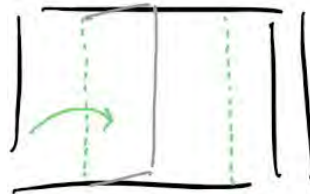
1. PATHOGENS are living and non-living organisms that can enter the body to attack cells, causing sickness (bacteria, protista, fungi, and viruses)
2. INFECTIOUS DISEASES are diseases that can pass from one organism to another caused by pathogens.
3. MICROORGANISMS are very small organisms (small enough you need a microscope to see them). Three important microorganisms are bacteria, protista, and fungi — the microorganisms can also be classified as PATHOGENS.
4. VIRUSES are also pathogens but they are NOT living. Viruses are simply a strand of DNA or RNA that can infect a cell causing sickness.

HOW TO MAKE YOUR FOLDABLE

Take a piece of paper and set it sideways.



Fold the sides into the center.



Draw (or cut) one line horizontally, halfway down each flap. Now you have four sections. Put the words on the outside and definitions on the inside.



Thursday, April 23

- Continue learning Goethe's *The Metamorphosis of Plants* Poem!
 - ◆ Practice reciting the lines you studied Monday and Tuesday.
 - ◆ Learn 2-3 more lines by repeating each line to yourself over and over again.
 - ◆ Add the new lines to the lines you learned earlier this week. Make sure you can recite them together.
- Read Chapter 14 Section 1
 - ◆ As you read, think about the definitions you already learned this week to help make sense of the material.
- Complete the "Sharpen Your Skills" Activity on the left side of page 458.
 - ◆ Use a new sheet of paper with a full heading. At the top of the page write "Chapter 14 Section 1"
 - ◆ Underneath of the big title at the top of the page, write the title "Sharpen Your Skills"
- Complete Chapter 14 Section 1 Questions
 - ◆ Your answers to these questions will go on the same page as the "Sharpen Your Skills" activity. Under the work you've already done, or on the back of the sheet, write the title "Chapter 14.1 Questions".

Friday, April 24

- Review the lines of the MoP Poem you memorized this week.
 - ◆ *Be sure to add a few lines before the lines you memorized so you are practicing the transition to the new lines as well.*
- Review all *Teacher Notes* from the week
- Read the article "Smallest Thing" and answer the questions that follow the article.
 - ◆ Please include a full heading on your sheet of paper.

Smallest Things

MAKING SENSE OF THE RESEARCH

In order to answer this question, you need to know the definition of life. The challenge is that there is no universally accepted definition. That's why there are several possible answers.

Scientists generally agree that living things have certain characteristics that distinguish them from non-living things. Among them are: living things are composed of one or more cells; they metabolize (produce and use energy); they can grow; they can respond to external stimuli; they can adapt to their environment; and they can reproduce.

Obviously, a human, a plant, or even a bacterium can do all of these things, while a rock can't. But are viruses alive? They can certainly grow and reproduce, and they use genetic material found in other forms of life. They can adapt to their environment—for example, by developing resistance to certain drugs.

However, unlike bacteria, viruses lack the internal machinery that would allow them to metabolize and reproduce on their own. Instead, they hijack the host cell and use its metabolic processes to make more viruses. Outside of a host cell, a virus can't do anything at all; it's an inanimate bag of genetic material. So, although viruses have some characteristics of life when they're inside their hosts, they're not at all lifelike on their own. A step down even from viruses are viroids, which are just naked strands of genetic material—in other words, a virus without the bag. They're known only to cause diseases in plants, and they can be as small as 10 nanometers (20 times smaller than *Mycoplasma*).

What about *prions*? They're even smaller and simpler than viruses or viroids. They're misshapen strands of protein that can somehow cause neighboring proteins to bend out of shape themselves. Prions cause BSE (mad cow disease), and the human Creutzfeldt-Jakob disease, which has been linked to BSE. So, in a sense, they can reproduce, in that they can make more proteins like themselves. They're also made of a component of life (protein), they may adapt to their environment (for example, by jumping from cows to people), and by causing infections, they behave in a way that most inanimate objects can't.

Yet prions don't reproduce the way living things do, using genetic material; they're more like zombies in horror movies that turn their human victims into zombies as well. They're not made up of cells, and they don't have any kind of metabolism. Because they lack genetic material and a cellular structure, prions are less often grouped in with living things than viruses.

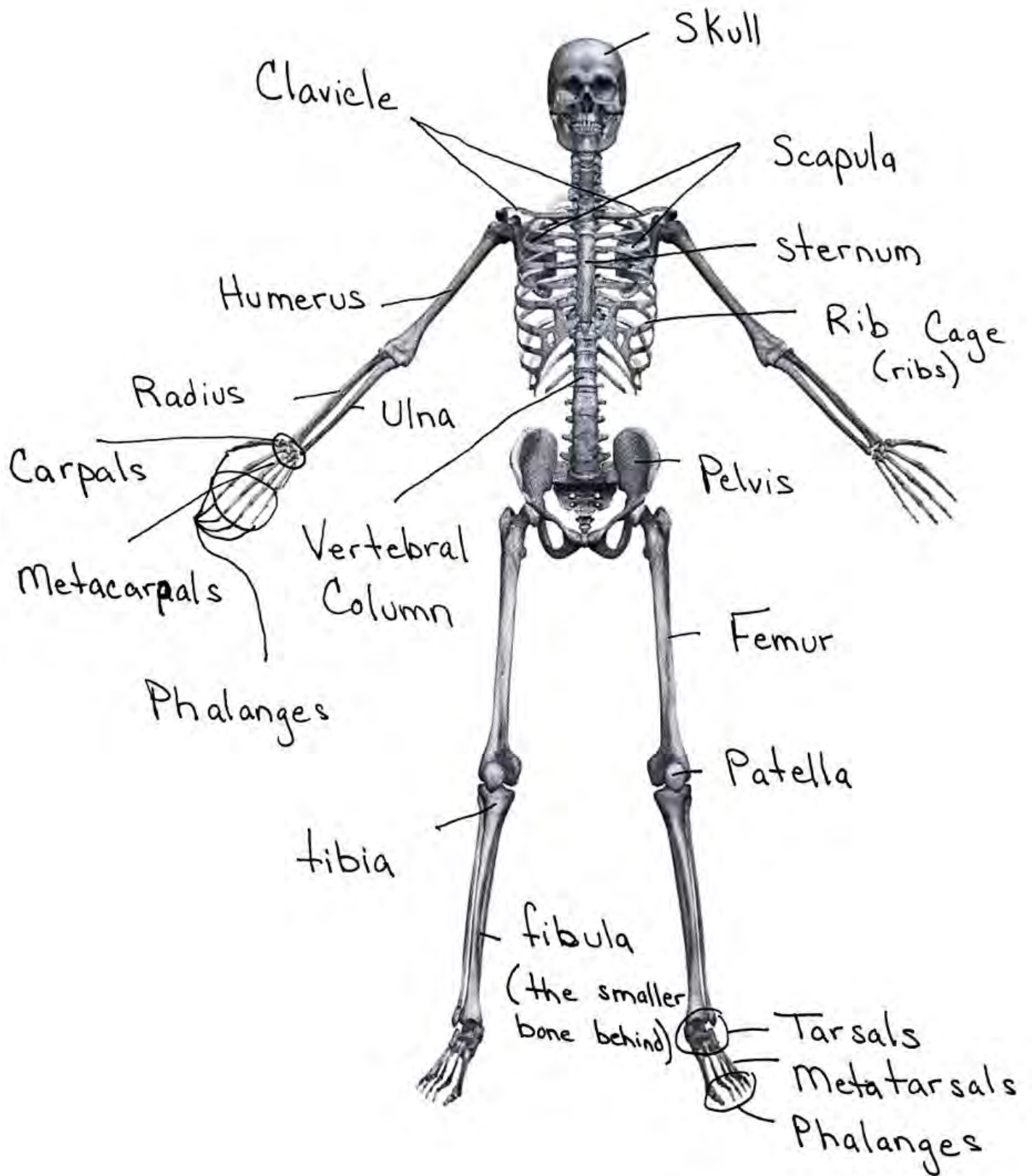
Some scientists classify viruses, viroids, and prions in a separate category, sometimes called "proto-life." This category covers anything that is not truly alive but not quite inanimate either. As time goes on, we may find still other kinds of proto-life that challenge our definition of life itself.

Questions:

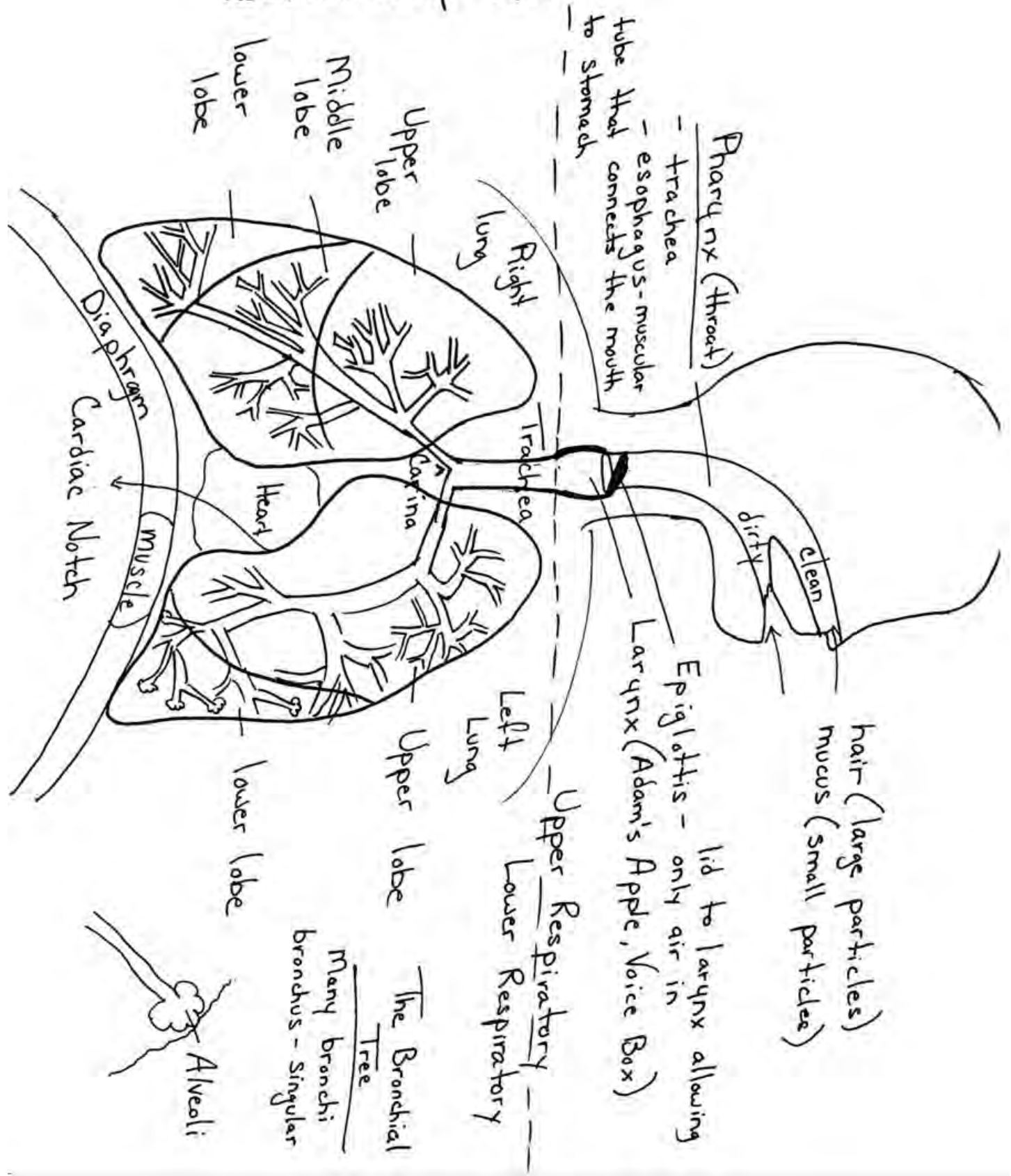
1. Why is asking "what is the smallest living thing" difficult to answer?
2. What is the case for viruses being alive? What is the case against classifying them as life forms?
3. What about prions?
4. Is it important for science to come up with a formal definition of life? Why or why not?

Adapted From <http://sciencenetlinks.com/science-news/science-updates/smallest-thing/>

Human Skeletal Anatomy



RESPIRATORY SYSTEM



Pharynx (throat)

- trachea

- esophagus - muscular tube that connects the mouth to stomach

hair (large particles)
mucus (small particles)

Epiglottis - only air in

Larynx (Adam's Apple, Voice Box)

lid to larynx allowing

Upper Respiratory

Lower Respiratory

Right Lung

Upper lobe

Middle lobe

lower lobe

Left Lung

Upper lobe

lower lobe

The Bronchial Tree

Many bronchi

bronchus - singular

Alveoli

Diaphragm

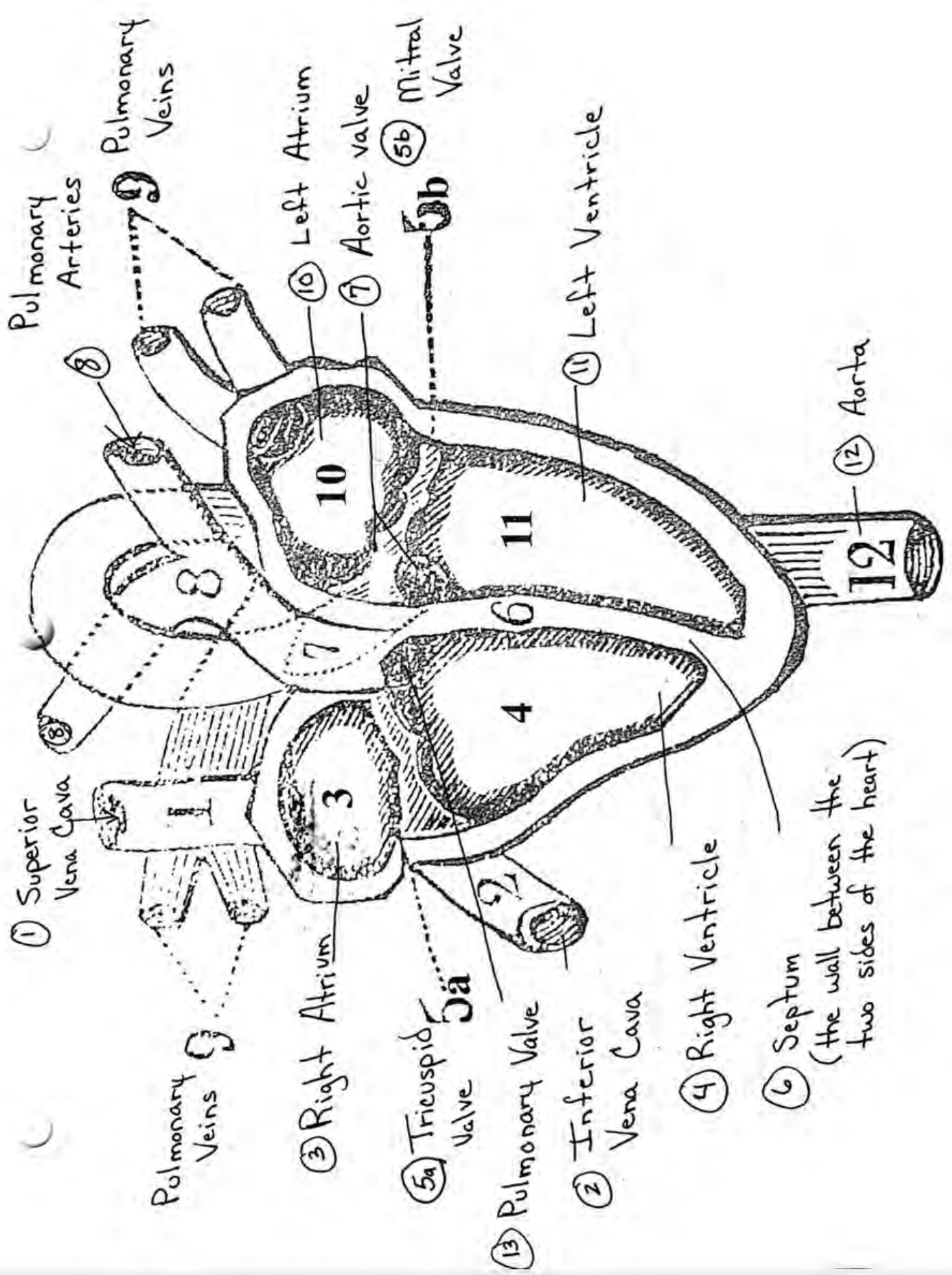
Cardiac Notch

muscle

Heart

Carina

Trachea



① Superior Vena Cava

Pulmonary Arteries

Pulmonary Veins

Pulmonary Veins

③ Right Atrium

⑩ Left Atrium

⑤a Tricuspid Valve

⑤b Mitral Valve

⑬ Pulmonary Valve

② Inferior Vena Cava

⑦ Aortic valve

⑪ Left Ventricle

④ Right Ventricle

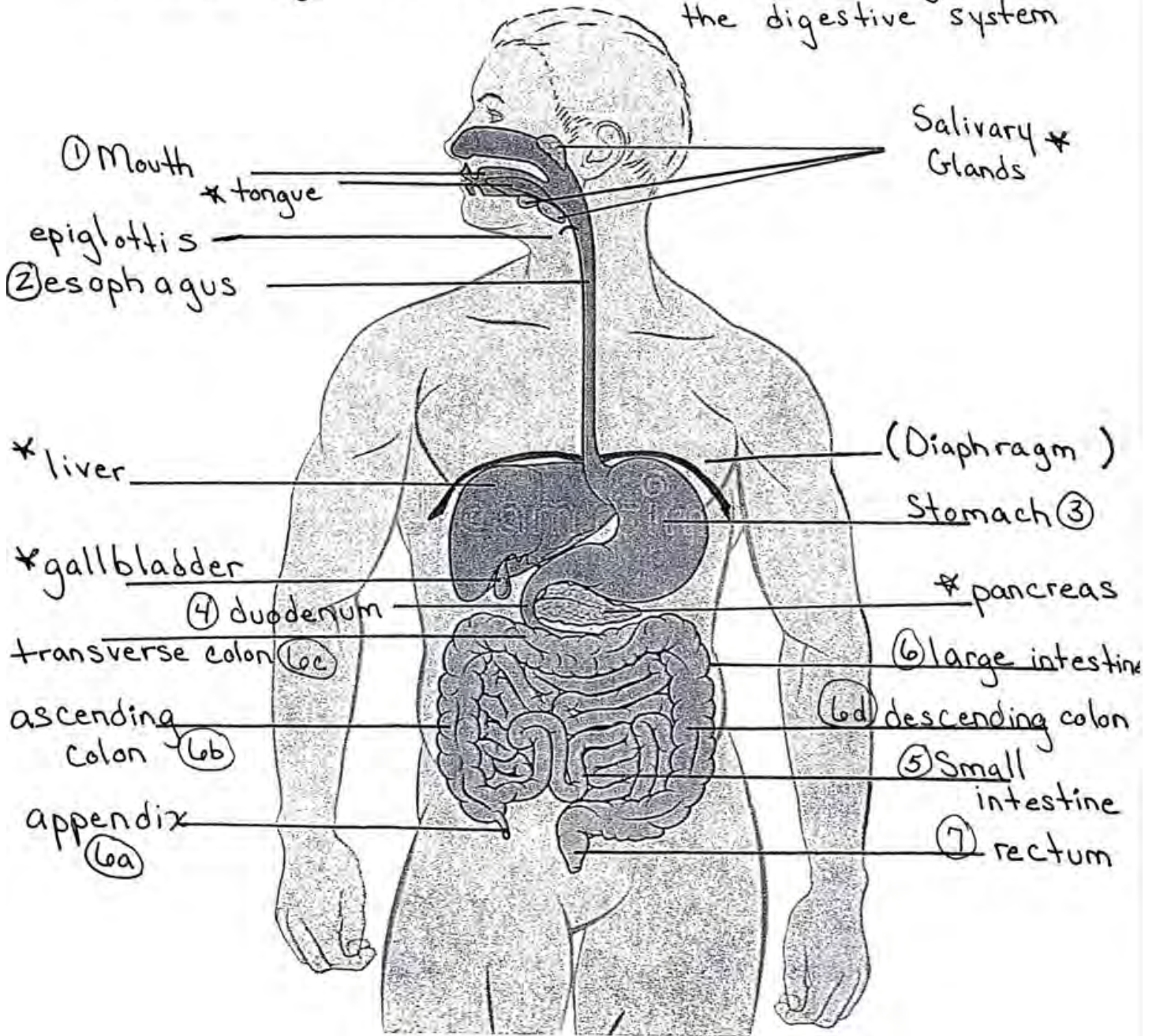
⑥ Septum
(the wall between the two sides of the heart)

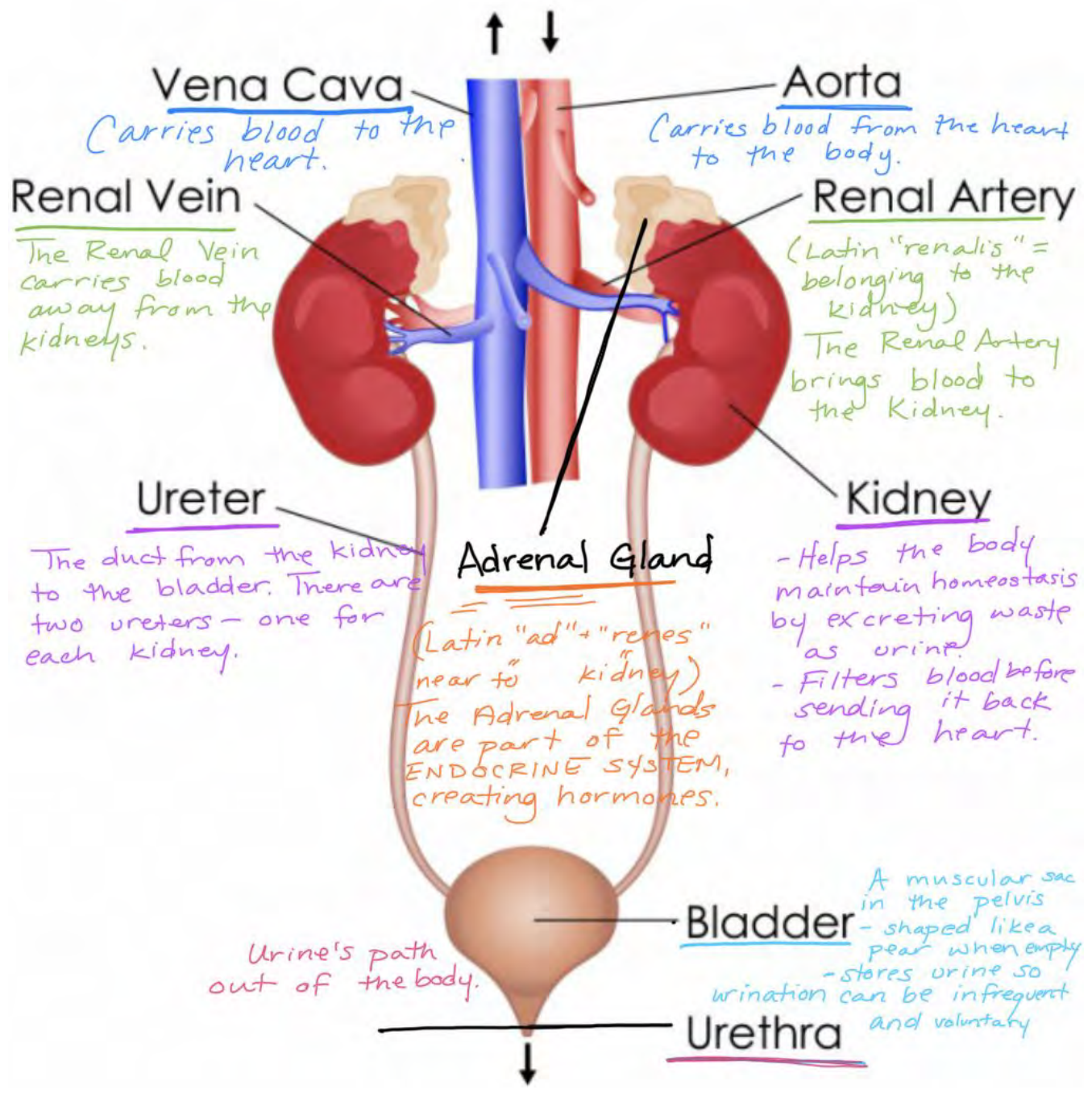
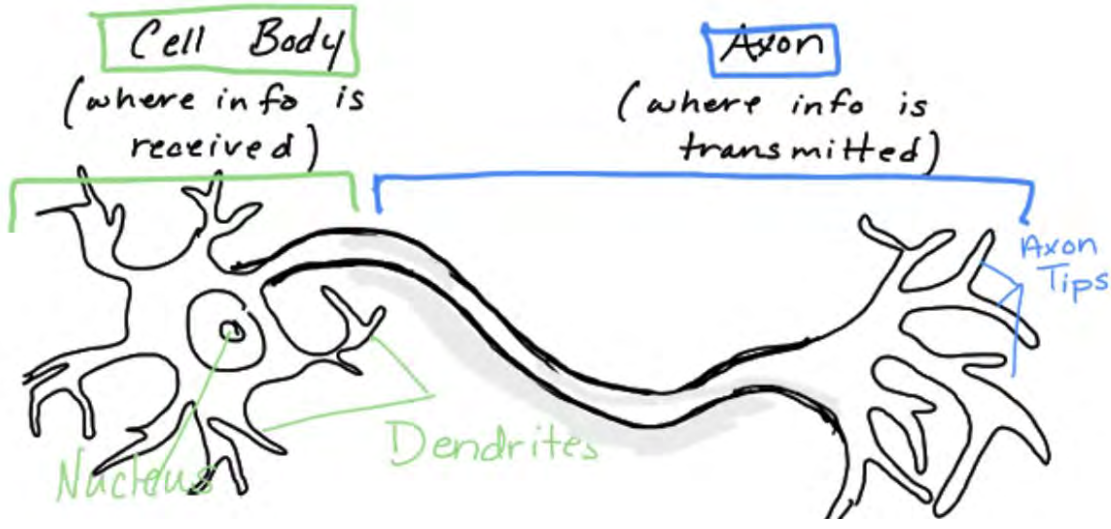
⑫ Aorta

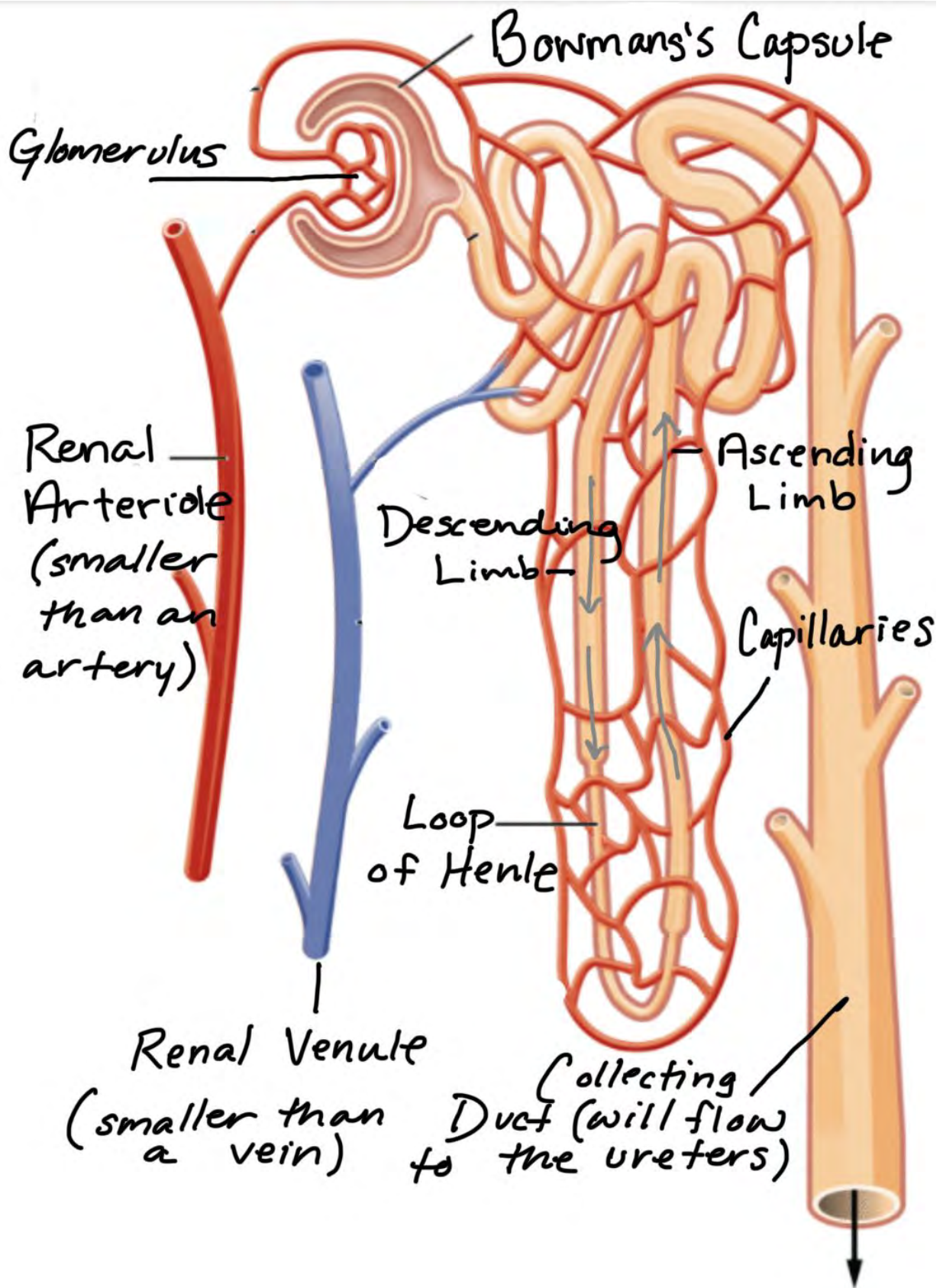
Digestive System Anatomy

#1-7 = the path of food through the body

* Solid organs - unlike all the other hollow organs of the digestive system







Johann Wolfgang von Goethe's
The Metamorphosis of Plants

*The rich profusion thee confounds, my love,
Of flowers, spread athwart the garden. Aye,
Name upon name assails thy ears, and each
More barbarous-sounding than the one before —
Like unto each the form, yet none alike;
And so the choir hints a secret law,
A sacred mystery. Ah, love could I vouchsafe
In sweet felicity a simple answer!
Gaze on them as they grow, see how the plant
Burgeons by stages into flower and fruit,
Bursts from the seed so soon as fertile earth
Sends it to life from her sweet bosom, and
Commends the unfolding of the delicate leaf
To the sacred goad of ever-moving light!
Asleep within the seed the power lies,
Foreshadowed pattern, folded in the shell,
Root, leaf, and germ, pale and half-formed.
The nub of tranquil life, kept safe and dry,
Swells upward, trusting to the gentle dew,
Soaring apace from out the enfolding night.
Artless the shape that first bursts into light —*

profusion — an abundance or large quantity of something

confounds — causes surprise or confusion in (someone), esp. by acting against their expectations

athwart — from side to side of; across

assails — makes a concerted or violent attack on

vouchsafe — to give or grant (something) to (someone) in a gracious or condescending manner; to reveal or disclose

felicity — the state of being happy, especially in a high degree; bliss

burgeons — to begin to grow or increase rapidly; flourish; to put forth young shoots

commends — to praise formally or officially

goad — a spiked stick used for driving cattle; a thing that stimulates someone into action

tranquil — free from disturbance; calm

apace — swiftly; quickly

The plant-child, like unto the human kind—
 Sends forth its rising shoot that gathers limb
 To limb, itself repeating, recreating,
 In infinite variety; 'tis plain
 To see, each leaf elaborates the last—
 Serrated margins, scalloped fingers, spikes
 That rested, webbed, within the nether organ—
 At length attaining preordained fulfillment.
 Oft the beholder marvels at the wealth
 Of shape and structure shown in *succulent* surface—
 The infinite freedom of the growing leaf.
 Yet nature *bids* a halt; her mighty hands,
 Gently directing even higher perfection,
 Narrow the vessels, moderate the sap;
 And soon the form exhibits subtle change.
 The spreading fringes quietly withdraw,
 Letting the leafless stalk rise up alone.
 More delicate the stem that carries now
 A wondrous growth. Enchanted is the eye.
 In careful number or in wild *profusion*
 Lesser leaf brethren circle here the core.
 The crowded guardian *chalice* clasps the stem,
 Soon to release the blazing topmost crown.
 So nature glories in her highest growth,

succulent— (of a plant) having thick fleshy leaves or stems adapted to storing water

bids— commands or orders; invites (someone to do something)

profusion— an abundance or large quantity of something

chalice— a large cup or goblet, typically used for drinking wine

Showing her endless forms in orderly array.
None but most marvel as the blossom stirs
Above the slender framework of its leaves.
Yet is this splendor but the heralding
Of new creation, as the many-hued petals
Now feel God's hand and swiftly shrink. Twin forms
Spring forth, most delicate, destined for union.
In intimacy they stand, the tender pairs,
Displayed about the consecrated altar,
While *Hymen* hovers above. A swooning scent
Pervades the air, its savor carrying life.
Deep in the bosom of the swelling fruit
A *germ* begins to burgeon here and there,
As nature welds her ring of ageless power,
Joining another cycle to the last,
Flinging the chain unto the end of time—
The whole reflected in each separate part.
Turn now thine eyes again, love, to the teeming
Profusion. See its bafflement dispelled.
Each plant thee heralds now the iron laws.
In rising voices hear the flowers declaim;
And, once deciphered, the eternal law
Opens to thee, no matter what the *guise*—
Slow caterpillar or quick butterfly,

heralding— acting as a sign that
(something) is about to happen

Hymen— the Greek god of
marriage

pervades— is present and
apparent throughout (something)

germ— a beginning, a seed

dispelled— is made to disappear,
is driven away

guise— an external form,
appearance, or manner of
presentation, typically concealing
the true nature of a thing

Let man himself the ordained image alter!
Ah, think thou also how from sweet acquaintance
The power of friendship grew within our hearts,
To ripen at long last to fruitful love!
Think how our tender sentiments, unfolding,
Took now this form, now that, in swift succession!
Rejoice the light of day! Love sanctified,
Strives for the highest fruit—to look at life
In the same light, that lovers may together
In harmony seek out the higher world!

sanctified — made sacred or holy