

**7th Grade
Lesson Plan
Packet**

4/6/2020-4/10/2020

Remote Learning Packet

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

April 6, 2020 - April 10, 2020

Course: Texas History

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

Mrs. Hunt natalie.hunt@greatheartsirving.org

Weekly Plan:

Monday, April 6

Check answers to Chapter 13 Section Assessment Questions

Tuesday, April 7

Read ch. 14 section 1

Section 1 Assessment questions

Wednesday, April 8

Read ch. 14 section 2

Section 2 Assessment questions

Thursday, April 9

Reach ch. 14 section 3 and take notes

Section 3 Assessment Question

Friday, April 10

(no classes)

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 6

1. Check your answers to each of the Section Assessment questions using the key found at the end of this packet. Your answers should cover the same main ideas as the answers in the key.
2. Make corrections with a colored pen.

Tuesday, April 7

1. Read Chapter 14 Section 1
2. Add your heading and the title below to your notes: (Note: You do not need to use separate sheets of paper for your Chapter 14 notes).

Chapter 14.1: The End of the Open Range in Texas (pg. 330-334)

3. Write out your responses to Assessment Questions 1, 2, 5, and 6 on page 334. Write at least one complete sentence for each question.

Wednesday, April 8

1. Read Chapter 14 Section 2.
2. Add your heading and the title below to your notes:

Chapter 14.2: Railroads, Ranches and Farms (pg. 336-339)

3. Write out your responses to Assessment Questions 1, 2, 6, 7, and 8 on page 339. Write at least one complete sentence for each question.

Thursday, April 9

1. Read Chapter 14 Section 3.
2. Add your heading and the title below to your notes:

Chapter 14.3: From Family Farms to Commercial Farming (pg. 340-344)

3. Write out your responses to questions 1, 2, 5-7 on page 344. Write at least one complete sentence for each question.

Answer Key -- Chapter 13

13.1

2. (a) agreement between the US government and several Indian tribes in which the Indians agreed to move to reservations in exchange for food and supplies; (b) led US troops against Indians in Texas from 1871-1875; (c) decisive conflict of the Red River War; (d) Apache chief who led raids against Texans in the late 1870s
3. Indians were more familiar with the land, they were good riders, and they fought effectively on horseback
4. The army no longer simply defended the frontier; now it tried to remove all Indians from the region.
5. The killing of the buffalo destroyed the Indians' food supply and damaged their way of life.
6. The Battle of Adobe Walls, in which Indians attacked some hunters, led to the Red River War.
7. The white victory in the Frontier Wars forced Native Americans to move to reservations; many died in battle or later from hunger and disease.
8. Many Indians rejected the treaty because they did not want to move to reservations and give up their traditional way of life.

13.2

2. (a) An IL cattle buyer who established the Great Western Trail to Abilene, Kansas; (b) a famous TX cattleman who helped establish the Goodnight-Loving cattle train in West Texas; (c) large cattle ranch in the Panhandle, acquired by Chicago investors in exchange for constructing a state capitol in Austin.
3. The Spanish first brought cattle to Texas.
4. Before railroads, cattle drives were the only way to bring herds to market.
5. Life for cowboys on cattle drives consisted of hard work and long hours in a generally dry, dusty, and sometimes dangerous environment.
6. The Civil War increased the nation's demand for beef; untended longhorns had multiplied during the war, giving Texas an abundant supply to meet the increased demand after the war.
7. As cattle ranching became more profitable, ranchers began enclosing their land, which led to the end of both the open range and cattle drives.

13.3

2. (a) The lack of timber made it necessary for settlers to build houses of sod; (b) invented barbed wire; (c) governor of Texas in the 1880s who called a special session of the legislature to end the fence-cutting wars.
3. Anglo and Tejano ranchers and farmers moved to West Texas after the Civil War
4. They faced drought, lack of timber for building houses, grasshoppers, rattlesnakes, blizzards, and isolation.
5. Cut off from grasslands and water supplies by the fences, landless cattle owners and cowboys were being put out of business.
6. The open lands that seemed ripe for opportunity attracted settlers to West Texas
7. Fences enabled ranchers to control water supplies, grasslands, and the breeding of stock.

13.4

2. (a) major in the Texas Rangers in the 1840s; established Ranger traditions of toughness and bravery; (b) branch of the Texas Rangers created in 1874 to fight Indians and deal with lawlessness; (c) Ranger captain who led the Special Forces from 1874-1876, using violence to bring order to the Nueces Strip
3. The Rangers tracked enemy movements, scouted land to determine routes for the army, provided mules, fought Mexican guerrillas, and protected army supply lines.
4. The Rangers had a reputation for being fierce and ruthless fighters with a record of success even against great odds.
5. Lawlessness was on the rise; Indians still raided frontier settlements; and Mexican bandits attacked Texas settlements.
6. They protected settlers from attacks, fought Indians and outlaws, and retrieved lost or stolen cattle.
7. The frontier was a violent place and the Rangers believed that force was the most effective way to defeat outlaws and others who threatened the settlements.
8. They were skilled horsemen, expert marksmen, and trackers.

Remote Learning Packet

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April 6-10, 2020

Course: 7 Latin IB

Teacher(s): Ms. Baptiste deborah.baptiste@greatheartsirving.org

Mr. Bascom john.bascom@greatheartsirving.org

Supplementary materials: https://www.na5.cambridgescp.com/sites/www.cambridgescp.com/files/legacy_root_files/na5e/dic/dicna2.html

Weekly Plan:

Monday, April 6

- Read **Venatio II** on page 125 of Cambridge Latin Course, Unit 2
- Complete worksheet

Tuesday, April 7

- Introduction/Review of the Vocative Case
- Complete **Vocative and Imperative Snakes** Worksheet

Wednesday, April 8

- Read **Io Human Cow** Worksheet
- Answer questions which follow

Thursday, April 9

- Review vocabulary on page 132.
- Complete the vocabulary exercise.

Friday, April 10

- No School!

Statement of Academic Honesty

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Monday, April 6

Read the second part of the Venatio reading on page 125, complete the VERUM/FALSUM worksheet. If the statement is false, correct the false statement.

E.g.,

8. **FALSUM** Barbillus and four slaves fell down into the water. (*There were only three slaves . . .*)

Tuesday, April 7

About the Language 3: The vocative case

There is a **sixth** case. It is called THE **VOCATIVE CASE**.

Look at the word **vocative**. It was the words **vocat**, which means “he/she calls.”

We use the vocative case when we are **calling out** to someone or speaking directly to a person.

Students, look at the following sentences: (I’m using the vocative voice in my instruction.)

Aristō! quam stultus es!	<i>Aristo! How stupid you are!</i>
quid accidit, Barbille?	<i>What happened, Barbillus?</i>
contendite, amīci!	<i>Hurry, friends!</i>
cūr rīdētis, cīvēs?	<i>Why are you laughing, citizens?</i>

The words in **boldface** are in the *vocative case*.

The vocative case has the same form/ending as the nominative **with one exception**: *The vocative SINGULAR of words in the second declension.*

These would be limited to nouns like **servus** and **Salvius**, nouns that end in **-us** and **-ius**.

NOMINATIVE	vs.	VOCATIVE in the second declension:
Servus labōrat.		cūr labōrās, serve?
<i>The slave works.</i>	-us----->-e	<i>Why do you work, slave?</i>
amīcus galdium habet.		dā mihi gladium, amīce!
<i>The friend has a sword.</i>		<i>Give me the sword, friend?</i>
Salvius est irātus.	-ius----->ī	quid accidit, Salvī?
filius currit.		cūr curris, fīlī?
<i>The son runs.</i>		<i>Why do you run, son?</i>

Please notice that nouns in the vocative case are separated from the rest of the sentence with a comma or commas in both English and Latin sentences.

Your assignment: Complete the **Vocative and Imperative Snakes** worksheet by circling the correct form of the word required to translate the sentence. You may wish to double-check your noun endings on pp. 154-155 of last week's handouts. (Part One: About the Language)

Wednesday, April 8

1. Read the story **Io, Human Cow** and answer the questions based on it.

Thursday, April 9

1. Review the vocabulary list on page 132. Remember, knowing a vocabulary word includes knowing

- a) the principal parts, the conjugation number, and the meaning(s) of verbs
- b) the declension number, gender, and meaning of nouns

2. Complete the vocabulary review matching worksheet **independently**, then check your answers against the vocabulary list.

I. Read **Venatio II** on page 125 indicate whether the following statements are **VERUM** (*true*) or **FALSUM** (*False*). If the statement is **FALSUM**, write a correction underneath.

1. _____ When Phormio led Barbillus and Quintus to the river, they found boats moored there.

2. _____ They cautiously sailed to the marsh because of rocks which were hidden under the water.

3. _____ When Barbillus gave the signal, Phormio threw the dead goats into the water.

4. _____ When crocodiles caught sight of the goats, they headed straight for them.

5. _____ Barbillus and Quintus began to attack the crocodiles with spears.

6. _____ Lines 8-9 state that “The courage of the crocodiles was greater than the skill of of the Ethiopians.”

7. _____ The noise of the hunt caused a hippopotamus to overturn Barbillus’ boat.

8. _____ Barbillus and four slaves fell down into the water.

9. _____ When Quintus’ boat reached the men in the water, crocodiles had already surrounded them.

10. _____ Although they were able to drag Barbillus out of the water, they found him wounded.

11. _____ Barbillus' shoulder had been bitten by a crocodile.

12. _____ His wound was not serious.

Stage 19 Vocative and Imperative Snakes

Translate each English sentence into Latin by **circling the correct Latin words**.

- | | | | |
|---|----------------|---------|-----------|
| 1. Messenger, announce the parade! | nūntiō, | pompam | nuntiant! |
| | nūntiī, | pompae | nūntiā! |
| | nūntī, | pompa | nūntiat! |
| | nūntius, | pompās | nūntiāte! |
| 2. Slaves, save the spot! | servī, | locō | servāre! |
| | serve | locus | servā! |
| | servus | locum | servant! |
| | servīs | locī | servāte! |
| 3. Quintus, come! | Quīntus, | venī! | |
| | Quīntum, | venīte! | |
| | Quīntō, | venit! | |
| | Quīnte, | venīre! | |
| 3. Spectators, make way! | spectātōrēs, | cēdere! | |
| | spectātōribus, | cēde! | |
| | spectātōre, | cēdite! | |
| | spectātōrī, | cēdunt! | |

4. Husband, move away this crowd!	marītus,	hunc	turbam	ēmovent!
	marīte,	hōc	turba	ēmovēte!
	marītus,	hunc	turbam	ēmovent!
	marītum,	hanc	turbās	ēmovēre!

5. Helena, don't hurry!	Helena,	festīnāre	nōlō!
	Helenam,	festīnā	nōluī!
	Helenaē,	festīnāte	nōlō!

6. Egyptians, don't push us!	Aegyptius,	nōs	trūdere	nōlō!
	Aegyptiōs,	nōbīs	trūdunt	nōlī!
	Aegyptium,		trūde	nōlīte!
	Aegyptiī,		trūdere	nōlle!

7. Girls, throw the flowers!	puella,	flōribus	iaciō!
	puellās,	flōrēs	iace!
	puellīs,	flōrem	iaciunt!
	puellae,	flōre	iacite!

Read the story below, and then write the answers to the questions that follow.

Iō, vacca hūmānā

Io was a Greek nymph who attracted the attention of Jupiter, king of the gods. Because his wife Juno was jealous, Jupiter tried to protect Io by turning her into a cow.

Iuppiter Iō, nympham pulcherrimam, in figūram vaccae niveae vertit. Iō igitur infēlix erat quod in terrā recumbēbat et grāmen frūmentumque dūrum cōnsūmēbat. ubi vix ē terrā surrēxit, aquam ē flūmine sordidō bibēbat.

olim Iō, postquam patrem Inachum forte cōspexit, Inachō appropinquāvit et eī osculum dare temptāvit.

Iō vacca, ubi manūs pedēsque inspiciere temptāvit, unguilās nigrās vīdit. Iō vacca, ubi stolam nitidam inspiciere temptāvit, villōs niveōs vīdit. “ō mē miseram!” sēcum cōgitābat; ubi tamen “ō mē miseram!” dīcere temptāvit, cum magnō gemitū mū ... mūgīvit.

“babae! quid agis, vacca?” exclāmāvit pater. “tū es animal valdē molestum! abī, coniunge tē cum cēterīs vaccīs, quae in agrō sunt!”

subitō Iō trīstissimē mūgīvit et, postquam crūs dextrum sustulit et lentē dēmīsit, unguilam in pulverem firmē impressit et lentē scribere coepit:

Let deinde difficulter cōnfēcit: O

“ō mē miserum!” lacrimāvit pater. “tū es Iō, filia mea, et, quamquam in corpore vaccae habitās, mihi cārissima es.”

But Io's reunion with her father was brief. Jealous Juno sent a gadfly which kept buzzing and biting Io, slowly driving her away from Greece, across land and sea, to Egypt. There, by the banks of the Nile, Io sank down weary, and Jupiter, out of pity, restored her to human shape. The local Egyptians, because they mistook Io for Isis, worshiped her like a goddess.

Io: Io *Io (Greek nom. & acc.)*

Inachum: Inachus *Inachus*

nympham: nympa *nymph*

crūs: crūs *leg*

figūram: figūra *shape*

dēmīsit: dēmittere *lower, let down*

grāmen: gramen *grass*

pulverem: pulvis *dust*

ungulās: unguila *hoof*

firmē *firmly*

nigrās: niger *black*

impressit: imprimere *press*

villōs: villī *shaggy hairs*

difficulter *with difficulty*

mūgīvit; mūgire *moo*

corpore: corpus *body*

Io, the human cow (continued) *Answer the following questions based on the previous reading.*

1 How did the cow Io pass her time?

2 What did she see when she tried to look at her hands and feet? at her gleaming dress?

3 What happened when she tried to complain?

4 What did she do when she caught sight of her father?

5 How did her father react at first?

6 What did Io do then?

7 How did her father react this second time?

8 Why do you think the Egyptians mistook Io for Isis?

Stage 19 Vocabulary Review

After reviewing the vocabulary list on page 132, Match the Latin words with the correct English definition from the 22 listed below **from memory**. You may check your answers after you have completed the exercise.

Numbers in
this box

amō, amāre, amāvī			1	danger
cārus, cāra, cārum			2	look after
cōgitō, cōgitāre, cōgitāvī			3	I thank, give thanks
comparō, comparāre, comparāvī			4	flow
cōnficio, cōnficere, cōnfēcī			5	think, consider
cūro, cūrāre, cūrāvī			6	love, like
fluō, fluere, flūxī			7	in the morning
forte			8	demand, ask for
grātiās agō			9	place
hasta, hastae, f.			10	finish
illūc			11	journey
iter, itineris, n			12	dear
locus, locī, m.			13	voice
mane			14	live
nōvī			15	by chance
periculum, periculī, n.			16	so many
plūrimī			17	spear
poscō, poscere, poposcī			18	there, to that place
tot			19	obtain
vexō, vexāre, vexāvī			20	hardly, scarcely
vīvō, vīvere, vixī			21	very many
vix			22	I knew
vōx, vōcis, f.			23	annoy

Remote Learning Packet

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

April 6 - April 10, 2020

Course: 7 Literature & Composition

Teacher(s): Mr. Binder jared.binder@greatheartsirving.org

Weekly Plan:

Monday, April 6

- Read Brutus' soliloquy and try to understand both Shakespeare's writing and Brutus' reasons why he believes Caesar must die.
- Ask others how they would translate Shakespeare's words.
- Make a list of Brutus' arguments.
- Continue memorizing Brutus' soliloquy found in Act2,Sc.1, lines 10-36 of Julius Caesar.

Tuesday, April 7

You will begin writing the 1st draft of your essay today. Whatever you do not finish on the checklist below will be homework tomorrow.

- Write your opening paragraph. Be sure to make a claim in it.
- Write the body of your essay. This should be 1-3 paragraphs in length.
- Write your concluding paragraph.
- Continue memorizing Brutus' soliloquy found in Act2,Sc.1, lines 10-36 of Julius Caesar.

Wednesday, April 8

- Finish the first draft of your essay. Make sure everything from yesterday's checklist is complete.
- Have a parent, sibling, or classmate read your 1st draft,edit it and make suggestions on how to improve it.
- Continue memorizing Brutus soliloquy found in Act2,Sc.1, lines 10-36 of Julius Caesar

Thursday, April 9

- Write your 2nd draft of the essay keeping in mind the feedback you got from the person who read and edited your 1st draft.
- Correct any spelling errors.
- Correct any grammar errors.
- Correct any punctuation and capitalization errors.
- Correct any run-on sentences and fix any sentence fragments.
- Continue memorizing Brutus soliloquy found in Act2,Sc.1, lines 10-36 of Julius Caesar

Friday, April 10

No School. No homework.

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

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

Monday, April 6

Refer back to the homework I gave you last Thursday. I asked you to look at Brutus' Soliloquy and write about which of his arguments you thought was the strongest and why and which was the weakest and why. Now I want you to consider all of Brutus' arguments found there. Brutus begins his soliloquy with the line, "It must be by his death....". Why must it be by his death? What are ALL the reasons given by Brutus? Before you consider whether you agree with him or not just try to understand what his reasons actually are. As you know, Shakespeare's writing isn't the easiest to understand. The first thing to do then is to make your best effort to figure out what is actually being said. Carefully read the soliloquy and try to puzzle out the meaning of the words. Then I encourage you to ask parents, friends, or classmates what they think Shakespeare is saying. Once you feel like you've got a better understanding of the text I want you to write down in your own words what you think Shakespeare is saying as it pertains to Brutus' arguments. I want to read over your "translations" of Shakespeare so hold on to them. Finally, make a list of all the reasons Brutus gives why Caesar must be assassinated. Example:" Brutus feels Caesar must be killed because..." or "Brutus gives the following reasons..." or "These are Brutus arguments why Caesar must be killed." Again this assignment is not about whether you agree with Brutus or not. It is about really trying to understand correctly what his arguments are.

Note: Some of you may struggle with this assignment. Because of this, I have written some thoughts and notes on the subject which you can find at the end of this learning packet. I do ask that you think about the assignment, talk to others about it, and write down your conclusions before you consult my notes.

Tuesday, April 7

Hopefully, yesterday you got a good understanding of the reasons why Brutus believes Caesar must be killed. Now is your chance to respond. Do you agree with Brutus' arguments? Do you disagree with them? Maybe you agree with some of his reasons but not all of them.

Today you will begin writing a 3-5 paragraph essay responding to his arguments. Below is your essay prompt.

Essay Prompt: Is Brutus right that it is necessary to kill Caesar in order to protect the people of Rome and the republic?

In your opening paragraph consider the question that Brutus has been thinking about. Is it necessary to kill Caesar? Mention Brutus' conclusion to this question: "It must be by his death." Brutus can see no other alternative. Then choose a position/take a side/make a claim. "In this essay I will examine the arguments given by Brutus and show why Brutus' was right/wrong to kill Julius Caesar."

In the body of your essay (1-3 paragraphs) explain the reasons Brutus gives why he believes it is necessary to kill Caesar. Try to make it clear to the reader what Brutus is actually arguing. Then make your own argument explaining why you think he is right or wrong. Think about how someone with an opposing viewpoint might challenge your reasoning. How would you respond to them?

You might agree with the conclusion that Brutus comes to but not with some of his arguments. If this is the case you should bring this up in your essay. Feel free to bring in arguments of your own and discuss

why you feel they would be a better argument than the one Brutus gives in a certain portion of his soliloquy.

If you disagree with Brutus discuss which of his arguments you think are his better ones but why they are ultimately wrong.

Finally, in your concluding paragraph come back to the original question. Must it be by his death? Briefly summarize why you think Brutus was right or wrong in his thinking and how this important question regarding Caesar should have been answered.

Wednesday, April

Yesterday, you began writing your essay. Today you should finish writing your first draft if you haven't already. When you finish writing it, think of one or two people you think could give you some helpful suggestions about how to improve your essay and how to correct it. Ask them to tell you if there are any parts of your essay that are unclear. Ask them if they found any of your arguments weak and unpersuasive and why. Ask them to mark any errors in spelling, grammar, punctuation or sentence structure (i.e. run on sentences or sentence fragments). Also ask them what they liked about your essay!

Thursday, April 9

Ok, it's the last day of this school week and the last chance to work on your essay. Today is the day to polish it and make it shine. Hopefully you got some helpful suggestions from your chosen editor(s) yesterday. Now is the time to really consider what to change or fix based on what they've said. Remember, though, you are the writer and you have the final say in what stays, what goes, what changes and what doesn't. Here are your objectives for today's writing. Make your essay as clear to the reader as you can. Make your arguments as strong, reasonable, and persuasive as you can. Clean up any mistakes such as spelling, grammar, punctuation, capitalization, and sentence structure. If you haven't typed your essay, make sure your handwriting is as nice and legible as you can make it. Whether you've typed or handwritten your essay make sure that it is clean, unwrinkled, has no doodles etc. Make it look respectable! Your name, date, class, grade and section should appear in the upper left hand corner of your essay.

Friday, April 10

No homework

Brutus' Soliloquy: Act 2, Scene1, lines 10-36

It must be by his death; and for my part,
I know no personal cause to spurn at him,
But for the general: he would be crown'd.
How that might change his nature, there's the
question.

It is the bright day that brings forth the adder,
And that craves wary walking. Crown him
- that!

And then, I grant, we put a sting in him
That at his will he may do danger with.
Th' abuse of greatness is, when it disjoins
Remorse from power; and to speak truth of
Caesar,

I have not known when his affections sway'd
More than his reason. But 'tis a common proof
That lowliness is young ambition's ladder,
Whereto the climber-upward turns his face;
But when he once attains the upmost round,
He then unto the ladder turns his back,
Looks in the clouds, scorning the base degrees
By which he did ascend. So Caesar may.
Then, lest he may, prevent. And since the
quarrel

Will bear no colour for the thing he is,
Fashion it thus - that what he is, augmented,
Would run to these and these extremities;
And therefore think him as a serpent's egg,
Which, hatch'd, would as his kind grow
mischievous,
And kill him in the shell.

It must be by his death: The arguments of Brutus for the assassination of Julius Caesar

(Mr. Binder's interpretation)

"It must be by his death." There is no other solution to this problem. Caesar must be assassinated.

"And for my part I know no personal cause to spurn at him, but for the general." Caesar has never done Brutus any wrong. He has no grudge against him. He is concerned about the general welfare, the common good of Rome.

"He would be crowned" Brutus believes Caesar wishes to be king therefore he is ambitious.

"How that might change his nature, there's the question." The crown will "change his nature" in some way. Brutus fears the crown will transform Caesar in a negative way and make him dangerous.

"Crown him that, and then I grant we put a sting in him that at his will he may do danger with." If Caesar is crowned he will become quite dangerous. He will have the power to do harm whenever he wants.

"The abuse of greatness is when it disjoins remorse from power." A ruler abuses his position/authority when he divorces mercy/compassion from the power that he wields. Brutus seems to indicate that this is often the case. The great forget the common good and wield their power without thinking about how it might affect others.

"And, to speak truth of Caesar, I have not known when his affections swayed more than his reason." This is an important admission by Brutus. In fairness to Caesar, he acknowledges that he has never seen Caesar act in this manner. On the contrary Caesar's reason always influences him more than his personal desires or emotions.

"But tis a common proof that lowliness is young ambition's ladder, whereto the climber-upward turns his face; but, when he once attains the upmost round, he then unto the ladder turns his back, looks in the clouds, scorning the base degrees by which he did ascend." Nevertheless ("but"), continues Brutus we very often see in history and through our own experiences ("tis a common proof") that once the great reach the heights of power they forget their humble origins and all the lowly steps that led them to the top. They turn their back on these things and perhaps even the people who helped them along the way and ("looks in the clouds") can see nothing but their own current greatness.

"So Caesar may." It is quite likely that Caesar will do exactly the same thing. More likely than not he will become corrupted by power just like these other rulers we know of.

"Then, lest he may, prevent." In order to keep this from happening we must stop Caesar from taking the crown. We can't take any chances.

“And since the quarrel will bear no color for the thing he is, fashion it thus: that what he is augmented, would run to these and these extremities.” Brutus makes another important admission here. Based on Caesar’s past and present character and behavior it does not make any sense to kill him. But Brutus returns to his previous concern that the crown might change Caesar’s nature. He argues that the crown will augment Caesar’s character. The crown will take Caesar’s vices and virtues etc. and increase or enlarge them until they become extreme. It is interesting that he does not say exactly what those extremities in Caesar would be. He just says, “these and these.”

“And therefore think him as a serpent’s egg, which, hatched, would, as his kind, grow mischievous, and kill him in the shell.” Brutus, based on his own arguments and line of reasoning, compares Caesar to a baby snake. Right now it seems harmless. It’s tiny and locked inside a shell. But it’s still a snake and when it hatches it will act according to its nature and cause harm. The danger and vice in Caesar right now are very small but the crown will change that. It will augment them and make him a very great danger indeed. Therefore, Caesar must be killed now before he grows stronger and before he has a chance to do harm as he surely will if he’s made king.

Remote Learning Packet

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April 6 - April 10, 2020

Course: Math

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

Mrs. Voltin mary.voltin@greatheartsirving.org

Weekly Plan:

Monday, April 6

- Addition Speed Test
- Chapter 3 Self-Test B

Tuesday, April 7

- Subtraction Speed Test
- Chapter 4 Self-Test A

Wednesday, April 8

- Multiplication Speed Test
- Chapter 4 Self-Test B

Thursday, April 9

- Division Speed Test
- Chapter 5 Self-Test A

Friday, April 10

- Good Friday
- Enjoy your day off!

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 6

This week, we will continue what we started last week, working on strengthening our basic math skills to prepare for the more difficult concepts that lie ahead during the 4th quarter. Start each day by taking the assigned speed test. Try to work as quickly and accurately as you can. **Time yourself**, and write your name, the date, and the time it took you to complete the test at the top of the page. **You do not need to stop after one minute like we do at school. Take as long as you need to finish the assigned speed test.** You will be taking one of these tests daily. The goal is to reduce the time it takes for you to take the test and increase your accuracy as well. **After completing the test**, grade it yourself with the provided answer key. This should take less than five minutes.

1. Your assigned speed test for today is addition.
2. Your second assignment is to complete Chapter 3 Self-Test B, found on page 97 of your book. If you're having difficulty remembering how to do the problems, **the lesson in which they were taught is posted in red brackets on the right side of the page.** Turn back to that lesson and review it for help. If you have reviewed the lesson and still don't understand, continue on to the next problem, until you have tried to work each one. Use lined loose-leaf paper and show all of your work. The provided answer key will give you an idea of how much work should be shown. Do not check the answer key until AFTER you have attempted each problem. **If you do the work on your own, especially without a calculator, your math skills will improve. If you don't, they won't!**

After completing the entire Self-Test, check your answers by reviewing the attached answer key. **It is IMPORTANT that you try each problem on your own first!** You will learn more this way, and that is of utmost importance. If you copy down the answers without trying the problems first, you will have more difficulty with new concepts. When looking at the answer key, put a piece of paper over the problems, and slide it down one line at a time. If you struggled with how to do a problem, see if just looking at the first step gives you enough help to complete the problem on your own. If not, slide the paper down one more line to see the next step. **Keep trying to do it on your own first!**

Important concepts for this self-test:

$(+)(+) = (+)$; $(+)(-) = (-)$; $(-)(-) = (+)$; $(+) \div (+) = (+)$; $(+) \div (-) = (-)$; $(-) \div (-) = (+)$

If you struggle with exponents, please review lesson 3-7 before trying to do questions #7-10.

Tuesday, April 7

1. Today's speed test is subtraction.
2. The second assignment is Chapter 4 Self-Test A from page 121. The same detailed instructions that were given in Monday's lesson plan apply to today's assignments. Remember that you must

have a common denominator before you add or subtract. Please review lesson 4-3 to see how to find the common denominator.

Wednesday, April 8

1. Today's speed test is multiplication.
2. The second assignment is Chapter 4 Self-Test B from page 135. The same detailed instructions that were given in Monday's lesson plan apply to today's assignments. Review lesson 4-7 before completing problems #13-20.

Thursday, April 2

1. Today's speed test is division.
2. The second assignment is Chapter 5 Self-Test A from page 158. The same detailed instructions that were given in Monday's lesson plan apply to today's assignments. *When the book says to "use transformations" to solve an equation for a variable, that is the same as saying "use inverse operations" to solve an equation for a variable.*

Friday, April 3

1. Today is Good Friday, which is a Great Hearts holiday. Enjoy your day off!

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$\begin{array}{r} 7 \\ +3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ +4 \\ \hline \end{array}$$

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

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

$$\begin{array}{r} 6 \\ +7 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ +2 \\ \hline \end{array}$$

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

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

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

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

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

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

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

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

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

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

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

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

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>

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5	12	11	9	16
<u>- 2</u>	<u>- 4</u>	<u>- 9</u>	<u>- 7</u>	<u>- 8</u>
3	8	2	2	8
10	14	14	14	8
<u>- 6</u>	<u>- 5</u>	<u>- 7</u>	<u>- 6</u>	<u>- 3</u>
4	9	7	8	5
15	11	12	7	15
<u>- 7</u>	<u>- 4</u>	<u>- 7</u>	<u>- 2</u>	<u>- 6</u>
8	7	5	5	9
12	6	10	7	10
<u>- 9</u>	<u>- 3</u>	<u>- 3</u>	<u>- 4</u>	<u>- 8</u>
3	3	7	3	2
9	13	6	13	9
<u>- 4</u>	<u>- 7</u>	<u>- 2</u>	<u>- 9</u>	<u>- 3</u>
5	6	4	4	6
12	17	10	8	18
<u>- 6</u>	<u>- 9</u>	<u>- 5</u>	<u>- 6</u>	<u>- 9</u>
6	8	5	2	9
16	8	11	11	13
<u>- 9</u>	<u>- 4</u>	<u>- 3</u>	<u>- 6</u>	<u>- 5</u>
7	4	8	5	8

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Pre-Algebra Chapter 3 Self-Test B, pg. 97, Answer Key

$$1. 4.2(-11.3) = \begin{array}{r} 11.3 \\ \times 4.2 \\ \hline 226 \\ 4520 \\ + 7.46 \\ \hline \end{array}$$

-47.46

$$2. -6.7(20.4) = \begin{array}{r} 20.4 \\ \times 6.7 \\ \hline 1428 \\ 12240 \\ \hline 136.68 \end{array}$$

-136.68

$$3. 7.5(-4.2)(-12) = \begin{array}{r|l} 4.2 & 31.50 \\ \times 7.5 & \times 12 \\ \hline 210 & 6300 \\ 2940 & 31500 \\ \hline 31.50 & 378.00 \end{array}$$

378

$$4. 121 \div (-11) = \boxed{-11} \text{ (I have that one memorized... no scratchwork!)}$$

$$5. -68.2 \div 2.2 = \begin{array}{r} 31. \\ 2.2 \overline{) 68.2} \\ \underline{-660} \\ 22 \\ \underline{-22} \\ 0 \end{array}$$

-31

$$6. -0.56 \div (-0.07) = \begin{array}{r} 8. \\ 0.07 \overline{) 0.56} \\ \underline{-56} \\ 0 \end{array}$$

8

$$7. 4^{-2} = \frac{1}{4^2} = \frac{1}{4 \cdot 4} = \boxed{\frac{1}{16}}$$

$$8. (-6)^{-3} = \frac{1}{(-6)^3} = \frac{1}{(-6) \cdot (-6) \cdot (-6)} = \frac{1}{-216}$$

Multiplying 3 negatives gives you a negative

$$9. 7^5 \times 7^{-8} = 7^{5+(-8)} = 7^{-3} =$$

$$\frac{1}{7^3} = \frac{1}{7 \cdot 7 \cdot 7} = \boxed{\frac{1}{343}}$$

$$10. (-9)^{-2} \times (-9)^0 = (-9)^{-2+0} =$$

$$(-9)^{-2} = \frac{1}{(-9)^2} = \frac{1}{(-9) \cdot (-9)} =$$

Pre-Algebra Chapter 4, Self-Test A, pg. 121, Answer Key

1. $5 \times \frac{?}{8} = \frac{5}{8}$

$5 \times \frac{1}{8} = \frac{5}{8}$

2. $3 \times \frac{?}{3} = -1$

$3 \times \left(-\frac{1}{3}\right) = -1$

3. $7 \div 9 = \frac{7}{9}$

4. $-\frac{2}{3} = \frac{-2}{3} = \frac{2}{-3}$

5. $\frac{16 \div 8}{64 \div 8} = \frac{2 \div 2}{8 \div 2} = \frac{1}{4}$

You could work this one many different ways!

$\frac{16 \div 16}{64 \div 16} = \frac{1}{4}$

$\frac{16 \div 4}{64 \div 4} = \frac{4 \div 4}{16 \div 4} = \frac{1}{4}$

6. $-\frac{72 \div 3}{30 \div 3} = \frac{-24}{10}$

$3 \overline{) 72}$
 $\underline{-60}$
 12

$\frac{-24 \div 2}{10 \div 2} = \frac{-12}{5}$

$\frac{-12}{5} = -2 \frac{2}{5}$

$5 \overline{) -12}$
 $\underline{-10}$
 2

7. $\frac{32 \div 2}{42 \div 2} = \frac{16}{21}$

8. $\frac{-71}{48}$ 71 is a prime number!

$48 \overline{) 71}$
 $\underline{-48}$
 23

$-1 \frac{23}{48}$

9. $\frac{68 \div 4}{16 \div 4} = \frac{17}{4}$

$4 \overline{) 68}$
 $\underline{-40}$
 28

$4 \frac{1}{4}$

$4 \overline{) 17}$
 $\underline{-16}$
 1

10. $2 \frac{1}{5} + (2)(5) + 1$
 $10 + 1 = \frac{11}{5}$

11. $-3 \frac{2}{3} + (3)(3) + 2 = 9 + 2 = -\frac{11}{3}$

12. $6 \frac{4}{15} + (6)(15) + 4 = 90 + 4 = \frac{94}{15}$

$\frac{3}{15} \times 6 = \frac{18}{15}$

13. $1 \frac{7}{12} + (1)(12) + 7 = 12 + 7 = \frac{19}{12}$

14. $-8 \frac{5}{8} + (8)(8) + 5 = 64 + 5 = -\frac{69}{8}$

Pre-Algebra Chap 4 Self-Test A, pg. 121 Answer Key pg. 2

15. $\frac{7}{9}, \frac{7}{8}$

$$\frac{7}{9} \times \frac{8}{8} = \frac{56}{72}$$

$$\frac{7}{8} \times \frac{9}{9} = \frac{63}{72}$$

16. $-\frac{10}{49}, \frac{2}{21}$

$$49 = 7 \cdot 7 \quad \begin{matrix} 2 \\ 49 \\ \times 3 \\ \hline 147 \end{matrix}$$

$$21 = 3 \cdot 7$$

LCD = $7 \cdot 7 \cdot 3 = 147$

$$-\frac{10}{49} \cdot \frac{3}{3} = \frac{-30}{147}$$

$$\frac{2}{21} \cdot \frac{7}{7} = \frac{14}{147}$$

17. $\frac{3}{50}, \frac{6}{225}$

$$50 = 2 \cdot 5 \cdot 5$$

$$225 = 3 \cdot 3 \cdot 5 \cdot 5$$

LCD = $2 \cdot 3 \cdot 3 \cdot 5 \cdot 5 = 450!$

$$\frac{3}{50} \cdot \frac{9}{9} = \frac{27}{450} \quad \frac{6}{225} \cdot \frac{2}{2} = \frac{12}{450}$$

18. $-\frac{8}{15}, -\frac{1}{30}$

$$15 = 3 \cdot 5$$

LCD $\rightarrow 30 = 2 \cdot 3 \cdot 5$

$$-\frac{8}{15} \cdot \frac{2}{2} = \frac{-16}{30} \quad -\frac{1}{30}$$

19. $\frac{1}{3} + \frac{1}{4} =$

$$\frac{1}{3} \cdot \frac{4}{4} = \frac{4}{12}$$

$$+ \frac{1}{4} \cdot \frac{3}{3} = \frac{3}{12}$$

$$\frac{7}{12}$$

20. $\frac{1}{5} - \frac{1}{3}$

$$\frac{1}{5} \cdot \frac{3}{3} = \frac{3}{15}$$

$$- \frac{1}{3} \cdot \frac{5}{5} = \frac{5}{15}$$

$$\frac{-2}{15}$$

21. $\frac{2}{15} + \left(-\frac{5}{6}\right)$

$$15 = 3 \cdot 5$$

$$6 = 2 \cdot 3$$

LCD = 30

$$\frac{2}{15} \cdot \frac{2}{2} = \frac{4}{30}$$

$$+ \left(-\frac{5}{6}\right) \cdot \frac{5}{5} = \frac{-25}{30}$$

$$\frac{-21}{30} \div \frac{3}{3} = \frac{-7}{10}$$

22. $16\frac{5}{8} - \frac{3}{4} =$

$$\frac{3}{4} \cdot \frac{2}{2} = \frac{6}{8}$$

$$16\frac{5}{8} = 15\frac{13}{8}$$

$$-\frac{6}{8} = -\frac{6}{8}$$

$$15\frac{7}{8}$$

23. $17\frac{1}{3} \cdot \frac{3}{3} = 17\frac{3}{9}$

$$+ 5\frac{1}{9} \quad + 5\frac{1}{9}$$

$$22\frac{4}{9}$$

24. $-6\frac{3}{8} \cdot \frac{3}{3}$

$$+ 2\frac{1}{6} \cdot \frac{4}{4}$$

$$-6\frac{9}{24}$$

$$+ 2\frac{4}{24}$$

$$-4\frac{5}{24}$$

Remember Take the difference

Pre-Algebra Chapter 4, Self-Test B, pg. 135, Answer Key

$$1. \frac{3}{4} \times 5 =$$

$$\frac{3}{4} \times \frac{5}{1} = \frac{15}{4}$$

$$\boxed{3 \frac{3}{4}}$$

$$2. \frac{1}{8} \times \left(-\frac{1}{3}\right) = \boxed{-\frac{1}{24}}$$

$$3. \frac{28}{35} \times \frac{21}{14}$$

$$\frac{4}{5} \times \frac{3}{2} =$$

$$\frac{24}{5} \times \frac{3}{21} = \frac{6}{5} = \boxed{1 \frac{1}{5}}$$

$$4. 8 \frac{3}{4} \times \frac{3}{16} =$$

$$\frac{35}{4} \times \frac{3}{16} = \frac{105}{64}$$

$$\boxed{1 \frac{41}{64}}$$

$$5. -3 \frac{1}{8} \times \left(-4 \frac{4}{5}\right)$$

$$-\frac{25}{8} \times \left(-\frac{24}{5}\right) = \boxed{15}$$

$$6. -2 \frac{4}{7} \times 3 \frac{1}{6}$$

$$-\frac{18}{7} \times \frac{19}{6} = -\frac{57}{7}$$

$$\boxed{-8 \frac{1}{7}}$$

$$7. \frac{5}{8} \div \frac{10}{24} = \frac{5}{8} \div \frac{5}{12} = \text{invert \& multiply!}$$

$$\frac{15}{28} \times \frac{12}{5} = \frac{3}{2} = \boxed{1 \frac{1}{2}}$$

$$8. -\frac{11}{16} \div \frac{11}{8} = -\frac{11}{16} \times \frac{8}{11} = \boxed{-\frac{1}{2}}$$

$$9. -\frac{18}{5} \div \left(-\frac{9}{35}\right) =$$

$$\frac{216}{15} \times \frac{35}{9} = \boxed{14}$$

$$10. 1 \frac{1}{4} \div 25 = \frac{5}{4} \div \frac{25}{1} =$$

$$\frac{1}{5} \times \frac{1}{25} = \boxed{\frac{1}{20}}$$

$$11. 4 \frac{1}{3} \div \left(-\frac{26}{27}\right) = \frac{13}{3} \div \left(-\frac{26}{27}\right) =$$

$$\frac{13}{3} \times \left(-\frac{27}{26}\right) = -\frac{9}{2} = \boxed{-4 \frac{1}{2}}$$

Pre-Algebra Chapter 4, Self-Test B, pg. 135 Answer Key, pg. 2

12. $-4\frac{2}{7} \div (-2\frac{1}{14}) =$

$-\frac{30}{7} \div (-\frac{29}{14}) =$
 $-\frac{30}{7} \times (-\frac{14}{29}) = \frac{60}{29} = 2\frac{2}{29}$

17. $0.875 = \frac{875}{1000} \div \frac{125}{125} = \frac{7}{8}$

13. $\frac{5}{8}$

$.625$

$8 \overline{) 5.000}$
 -48
 20
 -16
 40

14. $\frac{2}{11}$

$.18$

$11 \overline{) 2.000}$
 -11
 90
 -88
 20

15. $-\frac{1}{80}$

-0.0125

$80 \overline{) 1.0000}$
 -80
 200
 -160
 400
 -400
 0

16. $\frac{7}{6}$

$1.1\bar{6}$

$6 \overline{) 7.000}$
 -6
 10
 -6
 40
 -36

18. $1.\bar{6}$

$n = 1.\bar{6}$ Multiply both sides by 10.

$10n = 16.\bar{6}$
 $- n = 1.\bar{6}$ Subtract
 $9n = 15$
 $\frac{9}{9} \frac{9}{9}$ Divide

$n = \frac{15}{9} \div \frac{3}{3} = \frac{5}{3} = 1\frac{2}{3}$

19. $-2.21\bar{3} = -2\frac{213}{1000}$

20. $0.2\bar{3}$

$n = 0.2\bar{3}$ Multiply both sides by 10

$10n = 2.\bar{3}$
 $- n = 0.2\bar{3}$ Subtract
 $9n = 2.1$
 $\frac{9}{9} \frac{9}{9}$ Divide

$n = \frac{2.1}{9} \times \frac{10}{10} = \frac{21}{90} = \frac{7}{30}$

Multiply by 10 & reduce

Pre-Algebra Chapter 5 Self-Test A, pg. 15B

$$\begin{array}{r} 1. \quad 35 + p = 47 \\ -35 \quad -35 \\ \hline 0 + p = 12 \end{array}$$

$$\boxed{p = 12}$$

$$\begin{array}{r} 2. \quad -6a = 48 \\ -6 \quad -6 \\ \hline a = -8 \end{array}$$

$$3. \quad 17 = 3x - 9 + 5x - 8$$

Combine like terms!

$$\boxed{17 = 8x - 17}$$

$$\begin{array}{r} 4. \quad 24 \div 3 = 5(m-9) \\ \hline 8 = 5m - 45 \end{array}$$

$$\begin{array}{r} 5. \quad x + 19 = 24 \\ -19 \quad -19 \\ \hline x = 5 \end{array}$$

subtract to isolate the variable

$$\begin{array}{r} 6. \quad 36 = y - 11 \\ +11 \quad +11 \\ \hline 47 = y \end{array}$$

add to isolate the variable

$$\begin{array}{r} 7. \quad a + 14 = -9 - 3 \\ a + 14 = -12 \\ -14 \quad -14 \\ \hline a = -26 \end{array}$$

Subtract to isolate the variable

$$\begin{array}{r} 8. \quad -8q = 56 \\ -8 \quad -8 \\ \hline q = -7 \end{array}$$

Divide to isolate the variable

$$9. \quad \frac{18m}{18} = 9(18)$$

multiple to isolate the variable

$$\boxed{m = 162}$$

$$10. \quad \frac{1}{4}d = 8(4)$$

multiple by the reciprocal

$$\boxed{d = 32}$$

$$\begin{array}{r} 11. \quad 27 = 2y - 13 \\ +13 \quad +13 \\ \hline 40 = 2y \\ \hline 20 = y \end{array}$$

add first then divide

$$\boxed{y = 20}$$

$$\begin{array}{r} 12. \quad -2(7 + 2b) = 52 \\ -14 \quad -4b \\ \hline -14 - 4b = 52 \\ +14 \quad +14 \\ \hline -4b = 66 \\ \hline 2b = -33 \\ \hline b = -16.5 \end{array}$$

divide first then subtract divide again

$$\boxed{b = -\frac{33}{2} \text{ or } -16\frac{1}{2}}$$

$$\begin{array}{r} 13. \quad 6n - 9 - 3n = n - 17 \\ 3n - 9 = n - 17 \\ -n \quad -n \\ \hline 2n - 9 = -17 \\ +9 \quad +9 \\ \hline 2n = -8 \\ \hline n = -4 \end{array}$$

Combine like terms on the same side
Get the variable on the same side
Get constants on the same side
Divide to isolate the variable

$$\boxed{n = -4}$$

Divide to isolate the variable

Remote Learning Packet

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

April 6-10, 2020

Course: Music

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

Weekly Plan:

Monday, April 6

- Read [Ch 2 - Pitch, Dynamics, and Tone Color](#) (pp. 12-18) for 10 minutes
- Summarize: Write a summary for 5 minutes (instructions below).
- Check your work: Also, please go through the [Week 1 answers](#) and check your work for accuracy. If you have any questions, please let me know so I can explain or clarify.

Tuesday, April 7

- Read: [Ch 2 - Pitch, Dynamics, and Tone Color](#) (pp. 18-24) for 10 minutes
- Summarize: Write a summary for 5 minutes (instructions below)

Wednesday, April 8

- Listen to WRR 101.1 for 12 minutes and follow the next step.
- Write a short paragraph on the music you heard on the radio (instructions below).

Thursday, April 9

- Please answer the questions about [For the Beauty of the Earth](#).
- Please answer the questions about [Morning Has Broken](#).

Friday, April 10

No school!

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 6

1) Read [Ch 2 - Pitch, Dynamics, and Tone Color](#) (pp. 12-18) for 10 minutes

Look for terms like: *frequency*, *pitch*, and *noise*, as well as *amplitude*, *forte*, *piano*, *mezzo*, *tone color*, and *timbre*.

2) Summarize: For 5 minutes, write a paragraph that summarizes what you learned or reviewed regarding this handout. Please keep summaries for these readings under one section of your notebook/binder, and make sure you write the title above each summary, so you can refer to these later for your final paper.

Be sure to include the following terms:

frequency, *pitch*, and *noise*, as well as *amplitude*, *forte*, *piano*, *mezzo*, *tone color*, and *timbre*. Make sure you understand the difference between each of these words. If you are not sure of their meaning after reading the text, do further research on these terms.

3) Check your work: Also, please go through the [Week 1 answers](#) and check your work for accuracy. If you have any questions, please let me know so I can explain or clarify.

Tuesday, April 7

1) Read: [Ch 2 - Pitch, Dynamics, and Tone Color](#) (pp. 18-24) for 10 minutes

2) Summarize: For 5 minutes, write a paragraph (different from yesterday's) that summarizes what you learned or reviewed regarding this handout. Please keep summaries for these readings under one section of your notebook/binder, and make sure you write the title above each summary, so you can refer to these later for your final paper. Be sure to include a brief summary on each family of instruments:

Strings, *woodwinds*, *brass*, and *percussion*. Also, please write about what an orchestra is and how it is formed.

Wednesday, April 8

1) Listen to WRR 101.1 for 12 minutes and follow the next step.

2) Write a short paragraph on the music you heard on the radio. The radio announcer will often name the piece and composer either before or after it is played on the radio. You have to listen attentively to make sure you catch that piece of information. *Please name the composer and the title of the piece and write a brief 2-3 sentence description of the music you heard: for example, what was the tempo like? Were the melodies beautiful? Were there many instruments playing, and if so, which ones? What was the overall feel of the piece?*

Please find a place where you can focus so you are really listening without distractions for 15 minutes.

We will call these summaries for listening your "*Listening Log*." Over the next few weeks, this listening log will continue to grow, and it will become the basis for your final paper.

-If you did the extra practice, please write 2-3 sentence description of what you practiced and how you practiced.

Thursday, April 9

1) Please write numbers for counting the melody (in both the Bass and Treble clefs) of [For the Beauty of the Earth](#). (I will provide an answer key at next week's packet.) Example: 1 2+ 3 4 = Quarter, 2 eights, quarter, quarter. And 1 2, 3-4 = quarter, quarter, half note.

Also, based on what you learned last week:

-What is the meter for this piece? (You learned about *meter* last week).

-What are the most common *rhythms* in this song?

2) Please do the same and answer the same questions for [Morning Has Broken](#).

*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. In a week or two, I will assign the final project, which 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.

CHAPTER 2

Pitch, Dynamics, and Tone Color

If you have taken a course in physics, you know that sound is produced by vibrations that occur when objects are struck, plucked, stroked, or agitated in some other way. These vibrations are transmitted through the air and picked up by our ears.

For the production of sound in general, almost anything will do — the single rusted hinge on a creaky door as well as the great air masses of a thunderstorm. For the production of musical sounds, the usual objects are taut strings and membranes and columns of air enclosed in pipes of various kinds. These produce relatively simple vibrations, which translate into clearly focused or, as we say, “musical” sounds. Often the membranes are alive: They are called vocal cords.

Sound-producing vibrations are very fast; the range of sound that can be heard extends from around 20 to 20,000 cycles per second. The vibrations are also very small. To be heard, they often need to be *amplified*, either electronically or with the aid of something physical that echoes or *resonates* along with the vibrating body. In a guitar or violin, the resonator is the hollow box that the strings are stretched across.

Musical sounds can be high or low, loud or soft, and can take on different qualities depending on the materials used to produce them. The musical terms for these aspects of sound are pitch, dynamics, and tone color.



Natural objects can serve as resonators for musical instruments. Gourds are a favorite on two continents, used in Latin American maracas and the kalimba, an African “finger piano.”

1 Pitch

The scientific term for the rate of sound vibration is **frequency**. On the level of perception, our ears respond differently to sounds of high and low frequencies, and to very fine gradations in between. Indeed, people speak about “high” and “low” sounds quite unselfconsciously, as though they know that the latter actually have a low frequency — relatively few cycles — and the former a high frequency.

The musical term for this quality of sound, which is recognized so instinctively, is **pitch**. Low pitches (low frequencies) result from *long* vibrating elements, high pitches from *short* ones—a trombone sounds lower than a flute.

Noises, with their complex, unfocused vibrations, do not have pitch. Your college chorus divides up high and low pitches among four different groups of voices: sopranos (high females), altos (low females), tenors (high males), and basses (low males).

The totality of musical sounds serves as a kind of quarry from which musicians of every age and every society carve the exact building blocks they want for their music. We hear this totality in the sliding scale of a siren, starting low and going higher and higher. But musicians never (or virtually never) use the full range of pitches. Instead they select a limited number of fixed pitches from the sound continuum. These pitches are calibrated scientifically (European-style orchestras these days tune to a pitch with a frequency of 440 cycles), given names (that pitch is labeled A), and collected in *scales*. Scales are discussed in Chapter 3.

2 Dynamics

In scientific terminology, *amplitude* is the level of strength of sound vibrations—more precisely, the amount of energy they contain and convey. As big guitar amplifiers attest, very small string vibrations can be amplified until the energy in the air transmitting them rattles the eardrums.

In musical terminology, the level of sound is called its **dynamics**. Musicians use subtle dynamic gradations from very soft to very loud, but they have never worked out a calibrated scale of dynamics, as they have for pitch. The terms



LISTENING EXERCISE 3

Pitch and Dynamics



12

High and low *pitch* and loud and soft *dynamics* are heard so instinctively that they hardly need illustration. Listen, however, to the vivid way they are deployed in one of the most famous of classical compositions, the “Unfinished” Symphony by Franz Schubert. Symphonies usually consist of four separate big segments, called movements; musicologists are still baffled as to why Schubert wrote two superb movements for this work and started but never finished the rest.

		PITCH	DYNAMIC
0:00	Quiet and mysterious	Low range	<i>pp</i>
0:15	Rustling sounds	Middle range	
0:22	Wind instruments	High	
0:35	Single sharp accent		<i>sf</i>
0:47	Gets louder	Higher instruments added	Long <i>crescendo</i> , leading to <i>f</i> , then <i>ff</i> , more accents
1:07	Sudden collapse		<i>piano</i> followed by <i>diminuendo</i>
1:15	New tune	First low, then high	(Marked <i>pp</i> by Schubert, but usually played <i>p</i> or <i>mp</i>)
1:52	Cuts off sharply; big sound		<i>ff</i> , more accents
	<i>(Similar pitch and dynamic effects for the rest of the excerpt)</i>		
3:07	Sinking passage	Individual pitches, lower and lower	
3:45	Ominous	Lowest pitch of all	<i>pp</i>

used are only approximate. Like the indications for tempo, the terms used for dynamics are in Italian.

The main categories are simply loud and soft, **forte** (pronounced fôr-teh) and **piano**, which may be qualified by expanding to “very loud” or “very soft” and by adding the Italian word for “medium,” **mezzo** (mét-so):

<i>pianissimo</i>	<i>piano</i>	<i>mezzo piano</i>	<i>mezzo forte</i>	<i>forte</i>	<i>fortissimo</i>
pp	p	mp	mf	f	ff
very soft	soft	medium soft	medium loud	loud	very loud

Changes in dynamics can be sudden (*subito*), or they can be gradual—a soft passage swells into a loud one (*crescendo*, “growing”), or a powerful blare fades into quietness (*decrescendo* or *diminuendo*, “diminishing”).

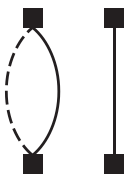
3 Tone Color

At whatever pitch, and whether loud or soft, musical sounds differ in their general *quality*, depending on the instruments or voices that produce them. **Tone color** and **timbre** (tám-br) are the terms for this quality.

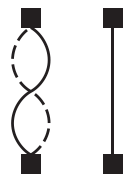
Tone color is produced in a more complex way (and a more astonishing way) than pitch and dynamics. Piano strings and other sound-producing bodies vibrate not only along their total length but also at the same time in half-lengths, quarters, eighths, and so on.

STRING VIBRATIONS

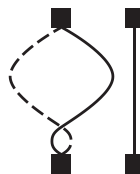
FULL-LENGTH:



HALF-LENGTH:



QUARTER-LENGTH AND THREE-QUARTER-LENGTH SIMULTANEOUSLY:



The diagrams above attempt to illustrate this. Musicians call these fractional vibrations **overtones**. They are much lower in amplitude than the main vibrations; for this reason, we hear overtones not as distinct pitches, but somehow as part of the string’s basic or fundamental pitch. The amount and exact mixture of overtones are what give a sound its characteristic tone color. A flute has few overtones. A trumpet has many.

Musicians make no attempt to tally or describe tone colors; about the best one can do is apply imprecise adjectives such as *bright*, *warm*, *ringing*, *hollow*, or *brassy*. Yet tone color is surely the most easily recognized of all musical elements. Even people who cannot identify instruments by name can distinguish between the smooth, rich sound of violins playing together; the bright sound of trumpets; and the woody croaking of a bassoon.

The most distinctive tone color of all, however, belongs to the first, most beautiful, and most universal of all the sources of music—the human voice.



The singing voice, the most beautiful and universal of all sources of music: Renée Fleming, star of the Metropolitan Opera in New York, excels in an unusually wide variety of roles and is often heard singing popular standards.

Musical Instruments

► To listen to demonstrations of individual instruments, click on Instruments of the Orchestra at bedfordstmartins.com/listen

Different voices and different instruments produce different tone colors, or timbres. Enormous numbers of devices have been invented for making music over the course of history and across the entire world, and the range of tone colors they can produce is almost endless.

This section will discuss and illustrate the instruments of Western music that make up the orchestra, and a few others. Later, in our Global Perspectives sections, we will meet some instruments from other musical traditions.

Musical instruments can be categorized into four groups: *stringed instruments* or *strings*, *woodwinds*, *brass*, and *percussion*. Musical sound, as we know, is caused by rapid vibrations. Each of the four groups of instruments produces sound vibrations in its own distinct way.

Stringed Instruments

Stringed instruments produce their sound by means of taut strings attached to a *sound box*, a hollow box containing a body of air that resonates (that is, vibrates along with the strings) to amplify the string sound.

The strings themselves can be played with a bow, as with the violin and other orchestral strings; the bow is strung tightly with horsehair, which is coated with a substance called rosin so that the bow grips the strings to produce continuous sound. With guitars and harps, the strings are plucked or strummed by the fingers or a small pick. Strings can be plucked on bowed instruments, too, for special effects. This is called pizzicato (pit-tzih-cáh-toe).

🎻 *The Violin and Its Family* The violin is often called the most beautiful instrument used in Western music. It is also one of the most versatile of instruments; its large range covers alto and soprano registers and many much higher pitches. As a solo instrument, it can play forcefully or delicately, and it excels in both brilliant and songlike music. Violinists also play chords by bowing two or more of the four strings at once, or nearly so.

As with a guitar, the player *stops* the (four) violin strings with a finger—that is, presses the strings against the neck of the violin—to shorten the string length and get different pitches (see the illustrations below). Unlike a guitar, a violin has no frets, so the player has to feel for the exact places to press.

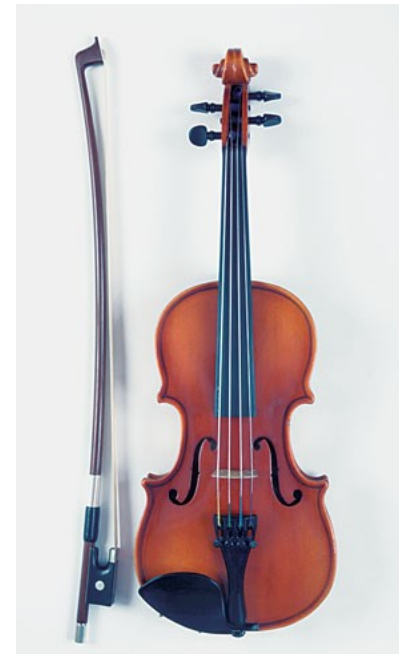
The violin is an excellent ensemble instrument, and it blends especially well with other violins. An orchestra violin section, made up of ten or more instruments playing together, can produce a strong yet sensitive and flexible tone. Hence the orchestra has traditionally relied on strings as a solid foundation for its composite sound.

Like most instruments, violins come in *families*, that is, in several sizes with different pitch ranges. Two other members of the violin family are basic to the orchestra. The **viola** is the tenor-range instrument, larger than a violin by several inches. It has a throaty quality in its lowest range, yet it fits especially smoothly into accompaniment textures. The viola's highest register is powerful and intense.

The **cello**, short for *violoncello*, is the bass of the violin family. Cellists play seated, with the instrument propped on the floor between their knees. Unlike the viola, the



The violin family: violin, viola, and cello



Violin and bow →



Chinese American cellist Yo-Yo Ma is perhaps this country's preeminent instrumentalist, and certainly the most versatile and most honored and admired. He has assumed the role of a national resource, playing at state occasions such as President Obama's 2009 inauguration. In 1998 he founded the Silk Road Project, a program of intercultural musical exchange along the Silk Road, the ancient trading route between China and the Mediterranean. His complete recordings to date fill ninety CDs!

cello has a rich, gorgeous sound in its low register. It is a favorite solo instrument as well as an indispensable member of the orchestra.

¶ **Double Bass** Also called **string bass** or just **bass**, this deep instrument is used to back up the violin family in the orchestra. (However, in various details of construction the bass differs from members of the violin family; the bass actually belongs to another, older stringed instrument family, the *viol* family.)

Played with a bow, the double bass provides a splendid deep support for orchestral sound. It is often (in jazz, nearly always) plucked to give an especially vibrant kind of accent and to emphasize the meter.

¶ **Harp** Harps are plucked stringed instruments with one string for each pitch available. The modern orchestral harp is a large instrument with forty-seven strings covering a wide range of pitches. In most orchestral music, the

swishing, watery quality of the harp is treated as a striking occasional effect rather than as a regular timbre.

Woodwind Instruments

As the name suggests, woodwind instruments were once made of wood. Some still are, while others today are made of metal and even plastic. Sound in these instruments is created by setting up vibrations in the column of air in a tube. A series of precisely spaced holes are bored in the tube, which players open or close with their fingers or with a lever device. This channels the air into columns of different lengths, producing different pitches.

Of the main woodwind instruments, *flutes*, *clarinets*, and *oboes* have approximately the same range. All three are used in the orchestra because each has a quite distinct tone color, and composers can obtain a variety of effects from them. It is not hard to learn to recognize and appreciate the different sounds of these woodwinds.

¶ **The Flute and Its Family** The **flute** is simply a long cylinder, held horizontally; the player sets the air vibrating by blowing across a side hole. The flute is the most agile of the woodwind instruments and also the gentlest. It nonetheless stands out clearly in the orchestra when played in its high register.



Orchestral harp



Flute, recorder, and clarinet

The **piccolo**, the smallest, highest member of the flute family, adds special sparkle to band and orchestral music. The **alto flute** and **bass flute**—larger and deeper flutes—are less frequently employed.

The **recorder**, a different variety of flute, is blown not at the side of the tube but through a special mouthpiece at the end. Used in older orchestral music, the recorder was superseded by the horizontal, or *transverse*, flute because the latter was stronger and more agile. In the late twentieth century recorders made a comeback for modern performances of old music using reconstructed period instruments. The instrument is also popular (in various family sizes) among musical amateurs today. The recorder is easy to learn and fun to play.

7 **Clarinet** The **clarinet** is a slightly conical tube made, usually, of ebony (a dark wood). The air column is not made to vibrate directly by blowing into the tube, as with the flute. The player gets sound by blowing on a reed—a small piece of cane fixed at one end—in much the same way as one can blow on a blade of grass held taut between the fingers. The vibrating reed vibrates the air within the clarinet tube itself.

Compared to the flute, the clarinet sounds richer and more flexible, more like the human voice. The clarinet is capable of warm, mellow tones and strident, shrill ones; it has an especially intriguing quality in its low register.

The small **E-flat clarinet** and the large **bass clarinet** are family members with a place in the modern orchestra. The tube of the bass clarinet is so long that it has to be bent back, like a thin black saxophone.

7 **Oboe** The **oboe** also uses a reed, like the clarinet, but it is a double reed—two reeds lashed together so that the air must be forced between them. This kind of reed gives the oboe its clearly focused, crisply clean, and sometimes plaintive sound.

The **English horn** is a larger, lower oboe, descending into the viola range. It is often called by the French equivalent, *cor anglais*; in either language, the name is all wrong, since the instrument is not a horn but an oboe, and it has nothing to do with England.



Orchestras usually have two or three *oboes*.

7 **Bassoon** The **bassoon** is a low (cello-range) instrument with a double reed and other characteristics similar to the oboe's. It looks somewhat bizarre: The long tube is bent double, and the reed has to be linked to the instrument by a long, narrow pipe made of metal. Of all the double-reed woodwinds, the bassoon is the most varied in expression, ranging from the mournful to the comical.

The **contrabassoon**, also called the **double bassoon**, is a very large member of the bassoon family, in the double bass range.

7 **Saxophone** The **saxophone**, invented by the Belgian instrument maker Adolphe Sax, was first used around 1840 in military bands. The instrument is sometimes included in the modern orchestra, but it really came into its own in jazz. Saxophones are close to clarinets in the way they produce sound. Both use single reeds. Since the saxophone tube is wider and made of brass, its tone is even mellower than that of the clarinet, yet at the same time

more forceful. The long saxophone tube has a characteristic bent shape and a flaring bell, as its opening is called.

Most common are the **alto saxophone** and the **tenor saxophone**. But the big family also includes *bass*, *baritone*, and *soprano* members.

Brass Instruments

The brass instruments are the loudest of all the wind instruments because of the rather remarkable way their sound is produced. The player's lips vibrate against a small cup-shaped mouthpiece of metal. The lip vibration itself vibrates the air within the brass tube. All brass instruments have long tubes, and these are almost always coiled in one way or another. This is easy to do with the soft metal they are made from.

7 **Trumpet** The **trumpet**, highest of the main brass instruments, has a bright, strong, piercing tone that provides the ultimate excitement in band and orchestral



Bassoon, double bass, accordion (*not* an orchestral instrument!), and violin



Two French horns, trumpet, trombone, and tuba

music alike. Pitch is controlled by three pistons, or valves, that connect auxiliary tubes with the main tube or disconnect them, so as to lengthen or shorten the vibrating air column.

🔧 **French Horn** The French horn has a lower, mellower, thicker tone than the trumpet. It is capable of mysterious, romantic sounds when played softly; played loudly, it can sound like a trombone. Chords played by several French horns in harmony have a specially rich, sumptuous tone.

🔧 **Trombone** The tenor trombone and the bass trombone are also pitched lower than the trumpet. The pitch is controlled by a sliding mechanism (thus the term *slide*

trombone) rather than a valve or piston, as in the trumpet and French horn.

Less bright and martial in tone than the trumpet, the trombone can produce a surprising variety of sounds, ranging from an almost vocal quality in its high register to a hard, powerful blare in the low register.

🔧 **Tuba** The bass tuba is typically used as a foundation for the trombone group in an orchestra. It is less flexible than other brass instruments. And like most other deep bass instruments, it is not favored for solo work.

🔧 **Other Brass Instruments** All the brass instruments described so far are staples of both the orchestra and the band. Many other brass instruments (and even whole families of instruments) have been invented for use in marching bands and have then sometimes found their way into the orchestra.

Among these are the *cornet* and the *flügelhorn*, both of which resemble the trumpet; the *euphonium*, *baritone horn*, and *saxhorn*, which are somewhere between the French horn and the tuba; and the *sousaphone*, a handsome bass tuba named after the great American bandmaster and march composer John Philip Sousa.

Finally there is the *bugle*. This simple trumpetlike instrument is very limited in the pitches it can play because it has no piston or valve mechanism. Buglers play “Taps” and military fanfares, and not much else.

Percussion Instruments

Instruments in this category produce sound by being struck (or sometimes rattled, as with the South American maraca). Some percussion instruments, such as drums and gongs, have no fixed pitch, just a striking tone color. Others, such as the vibraphone, have whole sets of wooden or metal elements tuned to regular scales.

🔧 **Timpani** The *timpani* (or *kettledrums*) are large hemispherical drums that can be tuned precisely to certain low pitches. Used in groups of two or more, timpani have the effect of “cementing” loud sounds when the whole orchestra plays, so they are the most widely used percussion instruments in the orchestra.

Timpani are tuned by tightening the drumhead by means of screws set around the rim. During a concert, one can often see the timpani player, when there are rests in the music, leaning over the drums, tapping them quietly to hear whether the tuning is just right.

🔧 **Pitched Percussion Instruments** Pitched percussion instruments are *scale instruments*, capable of playing melodies and consisting of whole sets of metal or wooden bars or plates struck with sticks or hammers. While they add unforgettable special sound effects to many compositions, they are not usually heard consistently throughout a piece, as the timpani are. They differ in their materials.

The *glockenspiel* has small steel bars. It is a high instrument with a bright, penetrating sound.



Drum kit with cymbals

The **xylophone** has hardwood plates or slats. It plays as high as the glockenspiel but also lower, and it has a drier, sharper tone.

The **marimba**, an instrument of African and South American origins, is a xylophone with tubular resonators under each wooden slat, making the tone much mellower.

The **vibraphone** has metal plates, like a glockenspiel with a large range, and is furnished with a controllable electric resonating device. This gives the “vibes” an echoing, funky quality unlike that of any other instrument.

Also like the glockenspiel, the **celesta** has steel bars, but its sound is more delicate and silvery. This instrument,

unlike the others in this section, is not played directly by a percussionist wielding hammers or sticks. The hammers are activated from a keyboard; a celesta looks like a miniature piano.

Tubular bells, or **chimes**, are hanging tubes that are struck with a big mallet. They sound like church bells.

¶ **Unpitched Percussion Instruments** In the category of percussion instruments without a fixed pitch, the following are the most frequently found in the orchestra.

Cymbals are concave metal plates, from a few inches to several feet in diameter. In orchestral music, pairs of large cymbals are clapped together to support climactic moments in the music with a grand clashing sound.

The **triangle**—a simple metal triangle—gives out a bright tinkle when struck.

The **tam-tam** is a large unpitched gong with a low, often sinister quality.

The **snare drum**, **tenor drum**, and **bass drum** are among the unpitched drums used in the orchestra.

The Orchestra

The orchestra has changed over the centuries, just as orchestral music has. Bach’s orchestra in the early 1700s was about a fifth the size of the orchestra required today. (See pages 114, 161, and 232 for the makeup of the orchestra at various historical periods.)

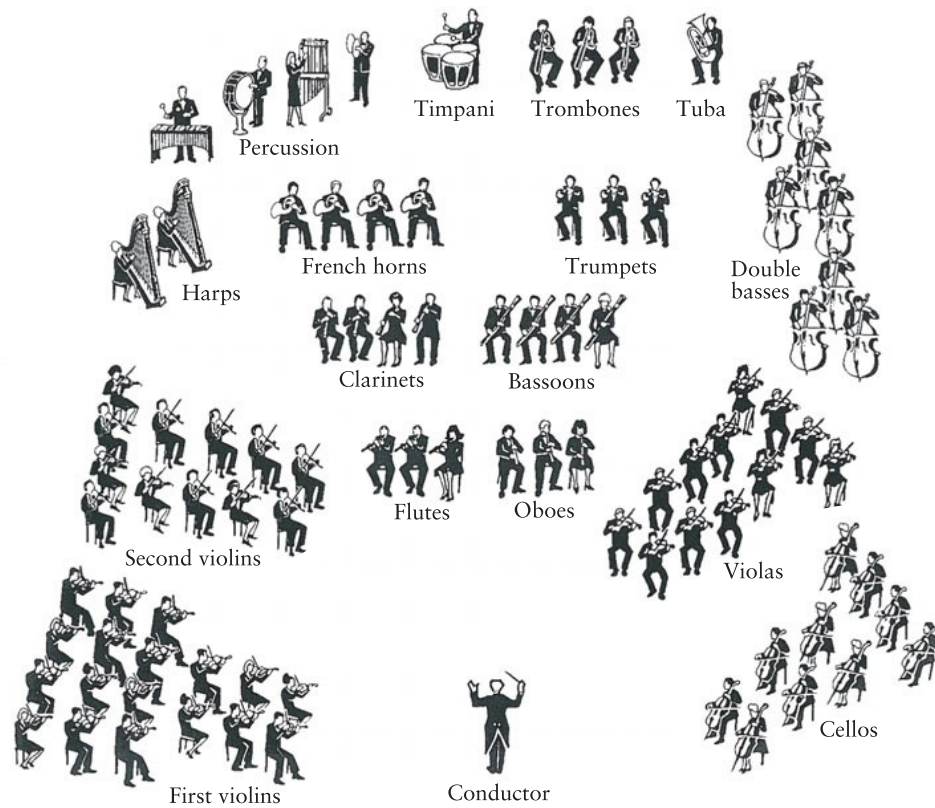
So today’s symphony orchestra has to be a fluid group. Eighty musicians or more will be on the regular roster, but some of them sit out some of the pieces on many programs. And freelancers have to be engaged for special compositions in which composers have imaginatively



French horn and timpani



ORCHESTRAL SEATING PLAN



LISTENING EXERCISE 4



The Orchestra in Action

Take a break from reading now and listen to *The Young Person's Guide to the Orchestra*, a work devised by Benjamin Britten in 1946 to introduce the many tone colors of orchestral instruments. A full chart of this work is given on page 45. For now, the chart below will lead you one by one through the various sections and instruments of the orchestra.

19	0:00	Full orchestra
	0:42	WOODWIND choir
	1:11	BRASS choir
	1:42	STRING choir
	2:07	PERCUSSION
	2:26	Full orchestra
20	2:50	Flutes and piccolo
0:39	3:29	Oboes
1:42	4:32	Clarinet family: bass clarinet (1:42), clarinet (1:57), and E-flat clarinet (1:46)
2:24	5:14	Bassoon
21	6:11	Violins
0:45	6:56	Violas
1:34	7:45	Cellos
2:32	8:43	Double bass
3:29	9:40	Harp
22	10:31	French horns
0:40	11:11	Trumpets
1:16	11:47	Trombones, tuba
23	12:48	PERCUSSION
24	14:43	Full orchestra

expanded the orchestra for their own expressive purposes. A typical large orchestra today includes the following sections, also called *choirs*.

🦋 **Strings:** about thirty to thirty-six violinists, twelve violists, ten to twelve cellists, and eight double basses.

🦋 **Woodwinds:** two flutes and a piccolo, two clarinets and a bass clarinet, two oboes and an English horn, two bassoons and a contrabassoon.

🦋 **Brass:** at least two trumpets, four French horns, two trombones, and one tuba.

🦋 **Percussion:** one to four players, who between them manage the timpani and all the other percussion instruments, moving from one to the other. For unlike the violins, for example, the percussion instruments seldom have to be played continuously throughout a piece.

There are several seating plans for orchestras; which is chosen depends on at least two factors. The conductor judges which arrangement makes the best sound in the particular hall. And some conductors feel they can control the orchestra better with one arrangement, some with another. One such seating plan is shown on page 21.

Keyboard Instruments

Though most orchestras today include a pianist, the piano is a relatively new addition to the symphony orchestra. In earlier times, the orchestra regularly included another keyboard instrument, the harpsichord.

The great advantage of keyboard instruments, of course, is that they can play more than one note at a time. A pianist, for example, can play a whole piece on a keyboard instrument without requiring any other musicians at all. Consequently the solo music that has been written for piano, harpsichord, and organ is much more extensive than (accompanied) solo music for other instruments—more extensive and ultimately more important.

🦋 **Piano** The tuned strings of a piano are struck by felt-covered hammers, activated from a keyboard. Much technological ingenuity has been devoted to the activating mechanism, or *action*.

The hammers must strike the string and then fall back at once, while a damping device made of felt touches the string to stop the sound instantly. All this must be done so fast that the pianist can play repeated notes as fast as the hand can move. Also, many shades of loudness and softness must lie ready under the player's fingers. This dynamic flexibility is what gave the piano its name: *piano* is short for *pianoforte*, meaning “soft-loud.”

The list of virtuoso pianists who were also major composers extends from Mozart through Frédéric Chopin to Sergei Rachmaninov. In the nineteenth century, the piano became *the* solo instrument. At the same time, nearly every middle-class European and American household had a piano. Piano lessons served and still serve for millions of young people as an introduction to the world of music.

🦋 **Harpsichord** The **harpsichord** is an ancient keyboard instrument that was revived in the 1900s for the playing of Baroque music, in particular.

Like the piano, the harpsichord has a set of tuned strings activated from a keyboard, but the action is much

An organ with five (!) keyboards. The player pulls out the white knobs (stops) to change the sets of pipes that sound.



An elaborately painted eighteenth-century harpsichord, with two keyboards

simpler. There is no damping, and instead of hammers striking the strings, little bars flip up with quills that pluck them. This means, first, that the tone is brittle and ping-y. Second, it means that the player cannot vary dynamics; when a string is plucked in this way, it always sounds the same.

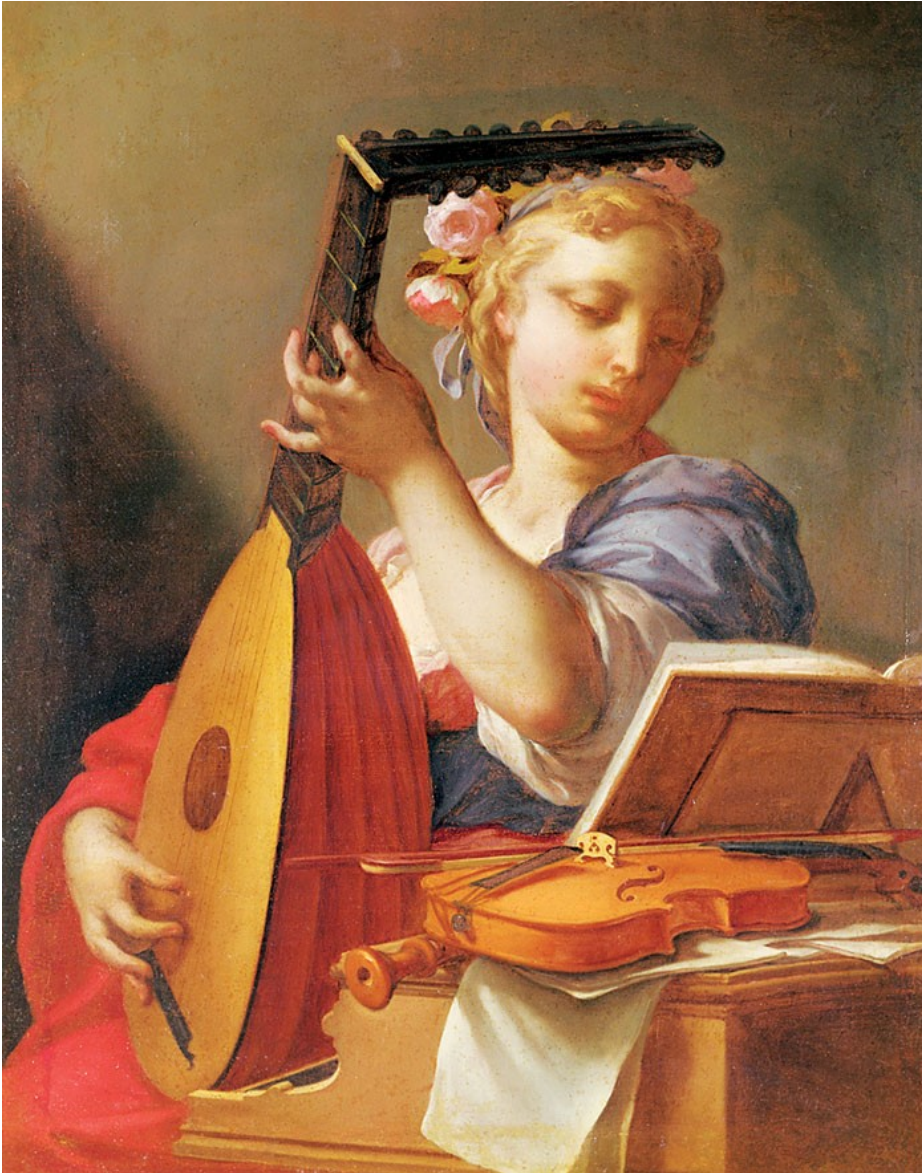
Harpichord makers compensated for this limitation in dynamics by adding one or two extra full sets of strings, controlled by an extra keyboard. One keyboard could be soft, the other loud. A mechanism allowed the keyboards to be coupled together for the loudest sound of all.

In spite of its brittle tone and its lack of flexibility in dynamics, the harpsichord can be a wonderfully expressive instrument. Good harpsichord playing requires, first and foremost, great rhythmic subtlety.

Another keyboard instrument of early times, the **clavichord**, has the simplest action of all. Its tone is much too quiet for concert use.

¶ **Organ** Called “the king of instruments,” the **pipe organ** is certainly the largest of them (see page 150). This instrument has to provide enough sound to fill the large spaces of churches and cathedrals on a suitably grand scale. The organ has a great many sets of tuned pipes through which a complex wind system blows air, again activated from a keyboard. The pipes have different tone colors, and most organs have more than one keyboard to control different sets of pipes. A pedal board—a big keyboard on the floor, played with the feet—controls the lowest-sounding pipes.

Each set of tuned pipes is called a *stop*; a moderate-sized organ has forty to fifty stops, but much bigger organs exist. One organ in Atlantic City, New Jersey, has 1,477 stops, for a total of 33,112 pipes. A large organ is capable of an almost orchestral variety of sound.



Artists loved to paint the lute—a beautiful instrument and a triumph of woodworking craft. Here Francesco Trevisani (1656–1746) includes also a violin, a recorder, and a harpsichord.

The organ is not a member of the orchestra, but because the grandest occasions call for orchestra, chorus, vocal soloists, and organ combined (e.g., Handel’s *Messiah* at Christmastime; see page 146), a major symphony hall has to have its organ—usually an imposing sight.

✦ **Electronic Keyboard Instruments** Today *keyboard* or *organ* generally means an electronic instrument. Synthesizers simulate the sound of organs, pianos, and harpsichords—and many other sounds as well.

Modern concert music, from the 1960s on, has occasionally used electronic keyboards. On the whole, however, synthesizers have been used more to compose concert music than to play it. And of course electronic keyboards play major roles in today’s popular music.

Plucked Stringed Instruments

Plucked stringed instruments figure much less in art music of the West than in Asian countries such as India and Japan, as we shall see. One exception is the orchestral harp; see page 16. The acoustic **guitar** and the **mandolin** are used very widely in Western popular music, but only occasionally in orchestras.

However, a now-obsolete plucked instrument, the **lute**, was of major importance in earlier times. One of the most beautiful-looking of instruments, the lute sounds rather like a gentle guitar. Large members of the lute family were the **theorbo** and the **archlute**.

Like keyboard instruments, plucked stringed instruments have been revolutionized by electronic technology. **Electric guitars** dominate rock music, though they have only occasionally found their way into concert music.

SHALL WE GATHER AT THE RIVER

Student

Robert Lawry
(1826-1899)



Flowing gently

The image shows a handwritten piano accompaniment for the song 'Shall We Gather at the River'. It consists of two systems of music, each with a treble and bass clef staff. The key signature is two sharps (F# and C#), and the time signature is 4/4. The first system is marked 'mf' and the second 'mp'. Above the treble staff, there are handwritten chord symbols: D, F# G, F# G, F# G, A, F#, G/D, G, G, A, G, F# A7/C#, A. Below the bass staff, there are handwritten chord symbols: DF#A, DF#A, DGB, C#G A. Fingerings are indicated by numbers 1-5 and plus signs. Rhythmic patterns like '1-2 3-4' and '1-2 3-4' are written below the notes. The second system includes a 'rit.' marking. The piece concludes with a final chord of F# A D.

SHALL WE GATHER AT THE RIVER

Accompaniment

Flowing gently

The image shows a handwritten piano accompaniment for the song 'Shall We Gather at the River'. It consists of two systems of music, each with a bass clef staff. The key signature is two sharps (F# and C#), and the time signature is 4/4. The first system is marked 'mf' and the second 'mp'. The music features a steady eighth-note accompaniment. The second system includes a 'rit.' marking. The piece concludes with a final chord of F# A D.

DEF#GA
Do Re Mi Fa Sol

a. Dis Do

b. A is Do

In a canon, one melodic line/voice imitates another.

c. Practice this exercise in various major and minor keys of your choice.

CANON G is Do

FOR THE BEAUTY OF THE EARTH

Student

Piano 1

Conrad Kocher (1786-1872)
Arranged by E. M.



Stately

mp

1 2 3

5

9

mf

f

Piano 2

Stately

2

mp

5

9

mf

f

MORNING HAS BROKEN

Student

Gaelic
Arranged by E. M.



Flowing

4

mp

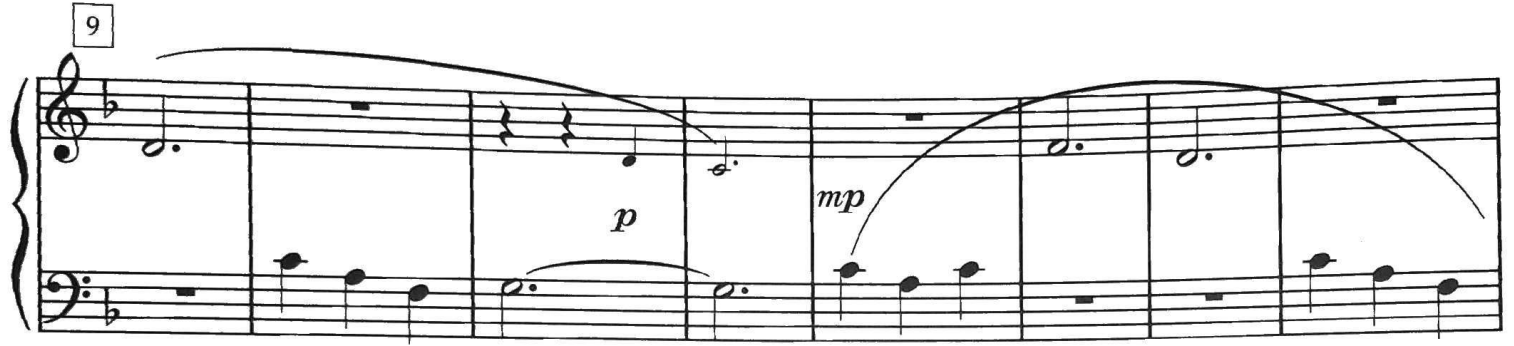
5

Musical notation for measures 1-8. The piece is in 3/4 time with a key signature of one flat. The melody in the treble clef is marked 'Flowing' and 'mp'. A slur covers measures 1-8. Measure numbers 4 and 5 are indicated below the staff.

9

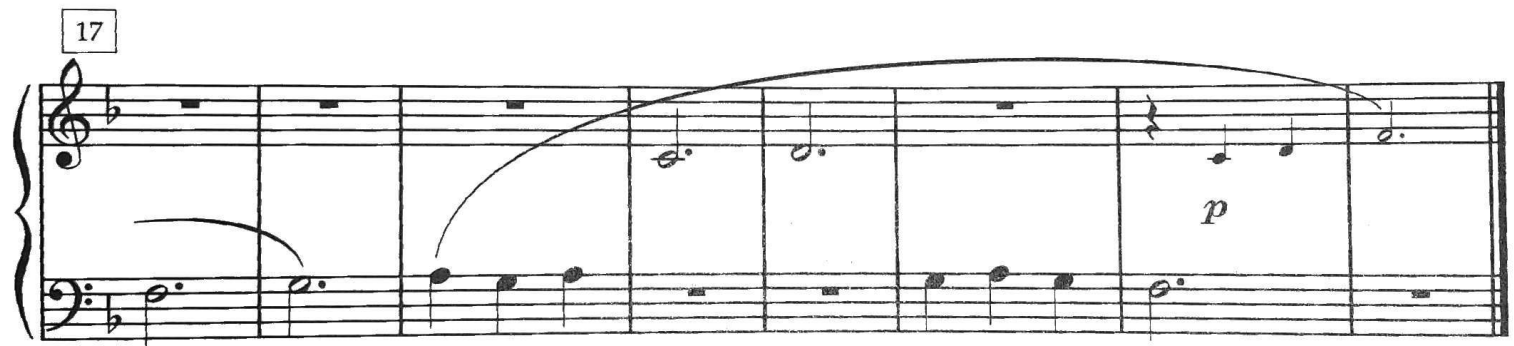
p

mp

Musical notation for measures 9-16. Measure 9 is boxed. The melody in the treble clef has a dynamic of 'p' in measure 10 and 'mp' in measure 11. A slur covers measures 9-16.

17

p

Musical notation for measures 17-24. Measure 17 is boxed. The melody in the treble clef has a dynamic of 'p' in measure 20. A slur covers measures 17-24.

Remote Learning Packet

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

April 6-10, 2020

Course: Physical Education

Teacher(s): James.Bascom@GreatHeartsIrving.org
John.Bascom@GreatHeartsIrving.org
Joseph.Turner@GreatHeartsIrving.org

Weekly Plan:

Monday, April 6

Mobility Routine

Tuesday, April 7

Workout

Wednesday, April 8

Mobility Routine

Thursday, April 9

Workout

Friday, April 10

No School!

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 6

General Mobility Routine (15-20 minutes)

All students are expected to complete Part I. 9th Graders are expected to continue the workout and complete Part II (any middle school student that would like an extra challenge is more than welcome).

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 7

1. 3 minute run
2. 20 squats
3. 20 lunges
4. 3 minute run
5. 10 jump squats
6. 10 jump lunges
7. 3 minute run
8. 10 squats, 10 jump squats
9. 10 lunges, 10 jump lunges
10. 3 minute run

Wednesday, April 8

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

Thursday, April 9

1. **7 minute run**
2. Set a timer for 8 minutes. Try to continuously do this workout for the duration.
 1. 1-3 pushups
 2. 5 meter bear crawl forwards
 3. 1-3 pushups
 4. 5 meter bear crawl backward
 5. 1 slow pushup (15-30 second count on the way down)
 6. 5 meter crab walk forward
 7. 1 slow pushup (15-30 second count on the way down)
 8. 5 meter crab walk backwards
 9. REPEAT

Remote Learning Packet

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

April 6-10, 2020

Course: 7 Science

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

Mrs. Voltin mary.voltin@greatheartsirving.org

Weekly Plan:

Monday, April 6

- Review Your Chapter 15 Section 1 Outline
- Read the Teacher Notes provided with the lesson today
- Neuron Anatomy Review

Tuesday, April 7

- Review Your Chapter 15 Section 2 Outline
- Read the Teacher Notes provided with the lesson today
- Nervous System Action-Reaction Lab

Wednesday, April 8

- Review Your Chapter 15 Section 3 Outline
- Senses Activity
- Hearing Test Lab

Thursday, April 9

- Review Your Chapter 15 Section 3 Outline
- Smell and Taste Experiment

Friday, April 10 — No School!

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 6

- Review Your Chapter 15 Section 1 Outline
- Read the Teacher Notes provided with the lesson today
 - ◆ Test Yourself — this is the second (or third or fourth) time you are seeing this information, can you recount these definitions to a family member from memory?
- Complete the Neuron Anatomy Review Found After Today's Notes

TEACHER NOTES!

The Nervous System

Purpose

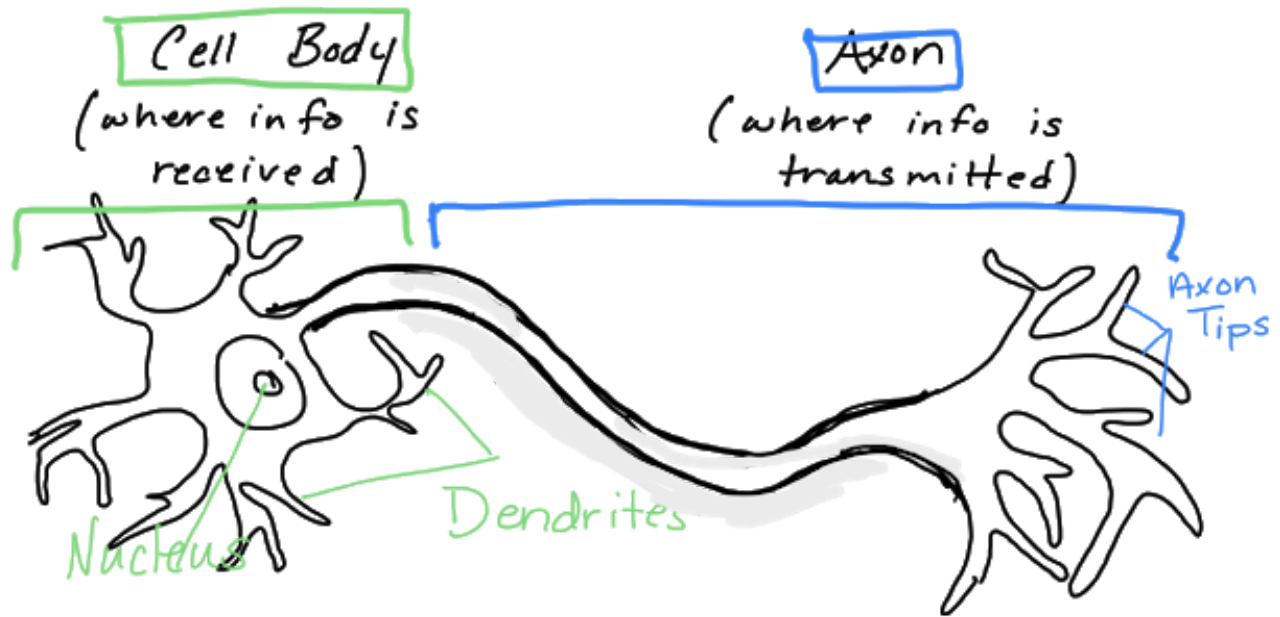
- Receives information (stimuli) from inside and outside of our body from nerves and sensory organs and sends it to the brain.
- Body transmits information back telling the body how to respond
- All this is done to MAINTAIN HOMEOSTASIS

Main Parts

1. Central Nervous System (CNS)
 - Brain
 - Spinal Cord
 - Nerves
2. Peripheral (PNS) Nervous System
 - Nerves
 - Sensory Organs

NERVES (found in both CNS+PNS) are bundles of NEURONS

Neurons Have Two Main Parts



Cell Body (Latin "cella" meaning small room)

- holds the nucleus and other cell machinery
- surrounded by **dendrites** (Greek "dendron" meaning tree) that collect information and send information to the brain

Axon (Greek "axon" meaning axis)

- transfers/relays/passes on the messages being sent from the **dendrites**.
 - * These messages are called **NERVE IMPULSES**
- **Axon Tips** make contact with the dendrites of the next neuron to relay **nerve impulses**

3 Types of Neurons

Sensory Neurons Motor Neurons Interneurons

Get information from Sense Organs

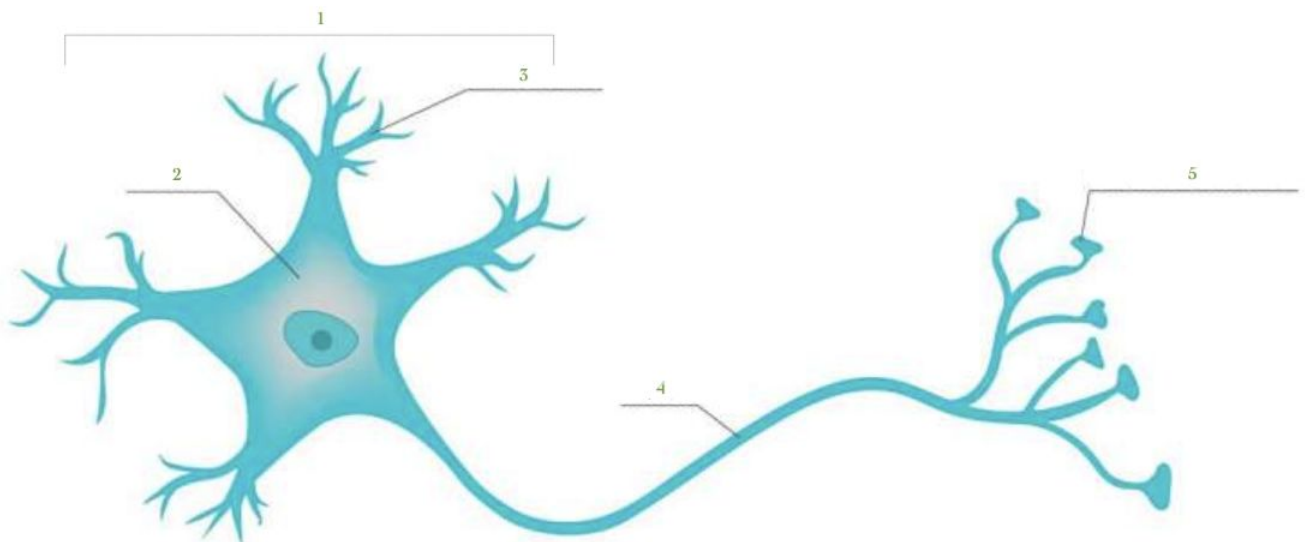
Send responses from the brain - often to muscles to get things done.

(think about the motor of a car - it gets things done!)

Send information to and from the brain. The link between sensory + motor neurons and the brain.

Neuron Anatomy Practice

See if you can name each of the five parts of the neuron and tell what each does. If you can't the first time, review your notes and try again!



Tuesday, April 7

- Review Your Chapter 15 Section 2 Outline
- Read the Teacher Notes provided with the lesson today
 - ◆ Test Yourself — this is the second (or third or fourth) time you are seeing this information, can you recount these definitions to a family member from memory?
- Follow the directions below to complete a lab to test and understand your nervous system better.
 - ◆ You must record your lab observations, data, and questions on a sheet of paper with a full heading. You should recreate the tables to record your data (unless you have the tables printed out).

TEACHER NOTES

The Central Nervous System (CNS)

- Composed of the Brain, Spinal Cord, and 100 BILLION Interneurons
- This is the CONTROL Station (does this remind you of our feedback loops?!)
- The CNS is so important for Homeostasis that the body has built-in protection for it

To Protect The Brain

- skull
- hair
- 3 layers of connective tissue
- brain fluid

To Protect The Spinal Cord

- safely tucked inside the vertebral column
- connective tissue and fluid (like the brain)

The Peripheral Nervous System (PNS)

- Composed of the Sensory Organs and ONLY Sensory and Motor Neurons

* no interneurons - these are only found in the CNS

- Includes 43 Nerve Pairs (bundles of neurons) to receive and deliver information to/from the brain to all parts of the body

- The PNS Controls Both

* Can you think of examples for each?

Voluntary Action
(Somatic PNS)

Involuntary Actions
(Autonomic PNS)

Nervous System Action-Reaction Lab

"Adapted from the textbook, page 491"

Problem

Do people's reactions vary at different times of day?

Materials

meter/yard stick

two other objects of your choosing (for example: try a long piece of string, a dollar bill, or a wooden spoon from the kitchen)

Observing a Response to a Stimulus

1. Have your partner hold a meter stick with the zero end about 50 cm above a table.
2. Get ready to catch the meter stick by positioning the top of your thumb and forefinger just at the zero position.

3. Your partner should drop the meter stick without any warning. Using your thumb and forefinger only (no other part of your hand), catch the meter stick as soon as you can. Record the distance in centimeters that the meter stick fell. This distance is a measure of your reaction time.

4. In addition to the meter/yard stick, pick TWO more objects to drop. For example, try using a dollar bill, a long piece of string, or a wooden spoon from your kitchen. You can use a meter/yard stick, a ruler, or a measuring tape to measure the results of the other two objects you have chosen. Drop the objects as described above and measure from the bottom of the object to the place where it was caught by your lab partner. This distance is a measure of your reaction time.

5. To find out whether people's reactions vary at different times of day, test your lab partner with the same three objects in the same way as described above, but at different times of the day. Try testing now, tonight after dinner, and tomorrow morning!

Use the chart below to record your data, or make your own chart like this one on your own notebook paper.

	Now	Tonight after Dinner	Tomorrow Morning
Meter/yard stick			
Item #2 (write name of object here)			
Item 3# (write name of object here)			

Analyze and Conclude

1. In this lab, what is the stimulus? What is the response? Is this response voluntary or involuntary? Explain.
2. Why can you use the distance on the meter stick, or the measured distance on the other objects you used, as a measure of reaction time?
3. Based on your results, do people's reactions vary at different times of day? Explain.
4. Why is it important to control all variables (same person dropping the object, same person catching the object, same object being dropped, etc..) except the time of day.

Wednesday, April 8

- Review Your Chapter 15 Section 3 Outline
- Complete the Senses Activity Described Below to Organize and Better Understand How Your Sensory Organs Work
 - ◆ You must complete this activity on a sheet of paper with a full heading. You should recreate the table to record your answers (unless you have the tables printed out).
- Complete the Hearing Test Lab Found After the Sense Activity
 - ◆ You must record your lab observations, data, and questions on *this same sheet of paper as the Senses Activity*. You should recreate the tables to record your table (unless you have the tables printed out).

SENSES ACTIVITY

In 6th Grade, and again earlier this year, you studied the five senses — sight, smell, taste, touch, and hearing. Each of these senses has a specific sensory organ and external stimuli. Use your knowledge of the senses and your textbook if necessary (pages 500-507) to identify the correct organ and stimuli for each. The book also lists *balance* as a sense, can you determine what sensory organ and stimuli would describe this 6th sense?

Sense	Sensory Organ	External Stimuli
<i>sight</i>		
<i>smell</i>		
<i>taste</i>		
<i>touch</i>		
<i>hearing</i>		
<i>balance</i>		

HEARING TEST LAB

Adapted from the “Try This” activity in the textbook on page 50

In this activity, you will determine whether one of a person’s ears hears better than the other one.

1. Hold a ticking watch next to the right ear of someone’s ear.
2. Slowly move the watch away from the ear. Stop moving it at the point where the person can no longer hear the ticking.
3. At, that point, measure the distance between the watch and the person’s ear. Test both their right and left ear.
4. Test another person in the same way if possible. Testing a second person is not required, but more data to evaluate is helpful.

Use the chart below to record the data from your experiment, or recreate a chart similar to this one on your own notebook paper.

	<i>Right Ear -</i> Record the distance from the ear where the person can no longer hear the ticking.	<i>Left Ear</i> Record the distance from the ear where the person can no longer hear the ticking.
Person #1		
Person #2 (optional)		

Analyze and Conclude

1. How did the two distances compare?
2. Do you think this is an accurate way to evaluate someone’s hearing? Why or why not?
3. If you tested more than one person, how did their measurements compare?

Thursday, April 9

→ Review Your Chapter 15 Section 3 Outline

→ Follow the directions below to complete the *Smell and Taste Experiment*

- ◆ You must record your lab observations, data, and questions on a sheet of paper with a full heading. You should recreate the tables to record your data (unless you have the tables printed out).

Smell and Taste Experiment

(Adapted from an experiment found on education.com)

Questions

- How does our sense of smell affect our sense of taste?
- Are all the taste sensations affected by smell in the same way?

Observations

The aroma of turkey on Thanksgiving, cookies baking in the oven, or freshly squeezed orange juice — the nose knows, recognizing these smells and associating them with certain tastes. Either good or bad our sense of smell plays a role in taste. A common example is a stuffy nose. When you get a cold and your nose is "stuffed up" it is nearly impossible to taste anything. When giving cough syrup parents often tell their kids to hold their nose so they don't taste the bitter medicine. In this experiment we will examine the relationship between smell and taste.

Material Needed

- Blindfold
- Paper cups
- Nose plug (you can use your fingers)
- Food: Sweet, Sour, Salty, & Bitter.
- Family member(s)

Procedure

1. Have your family members look at the four food samples. Based on their past experience, have them describe what flavors (sweet, sour, salty, or bitter) they expect each food to have. Record their guess in the data chart below.
2. Prepare the foods. Break the food into small pieces so the subjects do not recognize the flavor based on the texture of the food.
3. Place each sample into a plain paper cup.
4. Choose at least 1 family member (plus yourself), blindfold them, and have them plug their noses one at a time.
5. Give the first sample in a cup and pour the contents directly into their mouth. Do not allow them to handle the food sample directly in case they can recognize the food by touch. Have them guess the flavor and describe how it tastes. Record their guess.
6. Repeat steps 6-7 for the other food samples.
7. For the next part each subject will be blindfolded only without a nose plug so his or her sense of smell is intact.

8. Using the same foods from the first part have each subject taste and guess the flavor. Record their guess.
9. Organize your data into the chart below or one you recreate on your own notebook paper. Make sure to identify your four foods at the top.

		Food 1:	Food 2:	Food 3:	Food 4:
Family Member 1	guess				
	Blindfolded & Nose plugged				
	Blindfolded only				
Family Member 2 (or you)	guess				
	Blindfolded Nose plugged				
	Blindfolded only				

Analyze and Conclude

1. Did the subjects guess the correct flavors while blindfolded & nose plugged?
2. Did the subjects guess the correct flavors while only blindfolded?
3. Were there some foods/taste sensations that could be correctly identified despite a lack of smell?