7th Grade Packet

**CTS:** Reading Plus or Imagine Math is normal for the week as well as LIM lessons.

**ELA:** News ELA, Exact Path, vocabulary, and short stories/articles and continue reading novel.

**Math:** Work on Math Packet and Envision

**Science:** Continue working on Study Island and complete the work packet

**Civics:** Continue working on Prepworks, Icivics, Flocabulary and EOC review study guide packet

Check Edmodo daily for updates and resources shared with you from your teachers. Feel free to email any of us with questions you may have.
CTS Work

Complete the Leader me assignment as follows:

- We will continue our Leader in Me lessons on Leadership. Answer the following questions.

  1. What is leadership?
  2. Why do we say, “leadership is a choice?”
  3. What is the relationship between leadership and good choices?

**TASK:** I want all students to pick a Leader of our country (Any of the 45 US Presidents) and list three good and bad choices that affected our country.

Complete the mini Math Quiz for a grade

Since we are not in school, ALL students must show their work not matter the subject (Algebra/ Pre-Algebra). That also means explaining the steps you took to arrive at your answer.

**Pre-Algebra 7 NS 1st**

1) Sebastian went hiking near his house. The first trail he hiked on took him 4.5 miles away from his house. The second trail he hiked took him 2.4 miles closer to his house. The third trail he hiked took him 1.7 miles further away from his house. After Sebastian hiked the three trials, how far from his house was he?

2) During the first hour of a snowstorm 1 and 1/2 inches of snow fell. In the next hour, 4 and 3/8 inches fell. In the third hour, the snow stopped, and 7/8 inches of the snow melted. How much snow was on the ground at the end of the third hour?

**Algebra Inequalities**

1) Kaylee has 85 pairs of Air Jordans in her collection, which is over 4 times more than she had a year ago. 85 \(\geq\) or equal to 4x. At most how many pairs of Air Jordans did Kaylee have a year ago?

2) A jar contains at least 600 marbles. Two-thirds of the marbles are red. The rest are blue. How many marbles are blue?

Complete the Leader me assignment as follows:

Students must pick a Hip-Hop song from the 1990's. I picked this era of music because most of the songs were sampled from older songs in the past. All students must identify a music
producer, pick a song that they sampled (meaning two or more songs they "sampled" from to create a new song), this is an example of synergy.

Students must list:

- the songs that were sampled (2 points)
- the new song that was created (1 point)
- the year it was released to the public (1 point)
- Students must discuss their "findings" in two paragraphs explaining how the producers were able to synergize the old to create the new (6 points)


Pre-Algebra 7.RP.1

1. On her way to visit her parents, Giulia drives 265 miles in 5 hours. What is her average rate of speed in miles per hour?
2. If 4.5 pounds of cherries cost $10, what is the unit price?

Algebra Multi-Step Inequalities

Solve the following inequalities and graph them.

1. \(-3 (7n + 3) < 6n\)
2. \(3(2 - b) < 10 - 3(b - 6)\)
3. \(6(m - 3) > 5(2m + 4)\)

Day 9 (A/B Classes) 4/1 Catch UP Day.

Complete the following Math questions for a grade.

Algebra Ratios and Proportions
\[
\frac{6}{14} = \frac{7}{x-3}
\]

1) 

\[
\frac{7}{4} = \frac{f-4}{8}
\]

2) 

\[
\frac{3-y}{4} = \frac{1}{9}
\]

3) 

\[
\frac{2n-4}{5} = \frac{3n+3}{10}
\]

4)
Pre-Algebra 7.EE.A
Solve the following:

1) \( x - 5.6 = -1.7 \)
2) \( 0.7n = -3.5 \)
3) \( e = -4.2 \)
\( 2.5 \)
Dyer, grade 7 ELA

**Day 1**
1. Edmentum Exact Path (20 min)
2. Khan Academy: Phrases and Causes
3. *Tangerine* novel study (complete novel is online- google “Tangerine pdf”)
4. Answer questions on study guide- will be uploaded to Edmodo
5. Writing/Grammar- worksheet: *Unscrambling, Combining*, pp.5-8

**Day 2**
1. SSR (Silent Sustained Reading)
   *Check Edmodo for a Reading Response journal prompt*
2. Read Common Lit. assignment, watch video, submit assessment
3. Khan Academy: Phrases and Clauses

**Day 3**
1. Newsela- read, annotate, complete graphic organizer, submit quiz
2. Writing/Grammar- *Imitating Alone*, pp.12-14
3. *Tangerine* novel study
4. Answer questions on study guide

**Day 4**
1. SSR (Silent Sustained Reading)
   *Check Edmentum for a Reading Response journal prompt*
2. Read Scholastic Scope article “Mountain of Doom” and “My Journey to Pompeii” from March 2020 edition
3. Complete Text Evidence and Close Reading worksheets
**Day 5**

1. Edmentum Exact Path (30 min)
2. Writing/Grammar- Sentence Composing Tools, pp.12-19
3. Continue Scholastic assignment from Day 4
4. Complete Critical Thinking Questions and Preparing to Write

**Day 6**

1. Newsela read, annotate, submit quiz
   *Check Edmentum for a Reading Response journal prompt*
2. Read Scope article “Please Don’t Pet the Shark” from the November 2019
3. Complete Constructing a Response worksheet

**Day 7**

1. Edmentum Exact Path (30 min)
2. Writing/Grammar- Sentence Composing Tools, pp.20-22
3. Tangerine novel study (complete is novel online- google “Tangerine pdf”)
4. Answer questions on study guide
Part 2

Monday, September 18th

Predict what is going to happen to Paul at Tangerine Middle School:


74. What does Paul think is unusual about his new school?


75. What happened to the main players on the soccer team? Why?


76. What does the soccer coach tell Paul?


77. What happens to Paul's IEF?


Tuesday, September 19th

78. Why is Paul so interested in the story of how the soccer players got in trouble at the carnival?


Make a connection to the story:


Word Works III

1. Tell what these words have in common:
   I  me  you  he
   she  we  us  they
   them  it  this  that
   my  your  her  his
   its  our  their  who

   Answer to Activity 1: The words are all PRONOUNS.

   ii) What is a pronoun?
   iii) Tell what you think a pronoun is: __________________________________________

   A PRONOUN is a word that takes the place of a noun. A PRONOUN is a stand-in for a noun.

   PRONOUNS come in three flavors, or cases: subjective, objective, and possessive.
   Subjective pronouns appear as "subjects" of sentences and phrases. Objective pronouns appear as "objects" of sentences, phrases, and clauses. Possessive pronouns show ownership of a noun.

   Subjective Case          Objective Case          Possessive Case
   I read.                  head to me.            my book
   You read.                head to you.            your book
   She reads.               head to her.            her book
   He reads.                head to him.            his book
   It reads.                head to it.             its book
   We read.                 head to us.             our book
   They read.               head to them.           their book
   Who reads?               To whom does she read?

   This is a great book.    Give this to me.
   That is a lousy book.    Give that to her.

   There are also different kinds of pronouns:

   Reflexive Pronouns refer to themselves: myself, yourself, himself, herself, itself, ourselves, yourselves, themselves

   Demonstrative Pronouns indicate specific persons, places, or things: this, that, these, those.

   Indefinite Pronouns point to, generally not specifically, persons, places, or things: all, any, anyone, both, either, everybody, everyone, few, many, most, neither, nobody, none, several, some, somebody, someone.

   Relative Pronouns introduce clauses: which, who, whom, whose, that.

   Interrogative Pronouns introduce questions: what, which, who, whom, whose.
Writing Activity III: A Synonym Poem

Step One
Think of verbs that have synonyms: walk, eat, play, sit, etc.
Choose one and list synonyms for it.
Walk: stroll, saunter, amble, trudge, plod, dawdle, hike, tramp, tromp, slog, stomp, trek,
march, stride, saunter, glide, troop, patrol, wander, ramble, tread, prow, promenade, roam,
trample, mosey, promenade

Step Two
Think of seven synonyms: stroll, amble, trudge, plod, trek, mosey
Thank of an antonym for walk: stand
Use these in a poem: “How to walk on the sidewalk”

How to walk on the sidewalk:
Stroll on it.
Aimle on it.
Trudge on it.
Plod on it.
Trek on it.
Mosey on it.
But never, ever stand on it.

Try your own: how to eat an apple, how to sit on the sofa, etc.

Words Work in Different Ways

Can you tell what these words have in common?

cake star change place bank
down curve yoke fall arc
bend plot sink play share

These words are multiple-meaning words. They can be used as either nouns or verbs in sentences (and some can be used as adjectives).
The goblin's favorite food was pumpkin cake.
The giant had food caked on his face.
When Jack came to a bend in the road, he didn't know which way to go.
The giant had to bend the beanstalk in half before he could yank it out of the ground.

☐ Choose three words from the list and use them in one sentence.
☐ Use the same three words in another sentence, but don't use them the same way.
Use pronouns in the right case when using them in a sentence.

The queen gave the medals to Cinderella and I. (Incorrect because “I” is a subjective pronoun that is used as the object of a preposition)
The queen gave the medals to Cinderella and me. (Correct)

Her and me hiked to the castle to get our medals. (Incorrect because “her and me” are objective pronouns used as part of a compound subject)
She and I hiked to the castle to get our medals. (Correct)

Us are the best elves in the enchanted forest. (Incorrect because “us” is an objective pronoun used as part of a compound subject)
We are the best elves in the enchanted forest. (Correct)

The giant is taller than me. (Incorrect because “me” is an objective pronoun used as an adjective)
The giant is taller than I. (Correct)

Him and her are the fastest frogs. (Incorrect because “him and her” are objective pronouns used as compound subjects)
He and she are the fastest frogs. (Correct)

Them are shiny apples. (Incorrect because “them” is an objective pronoun used as a subject)
They are shiny apples. (Correct)

Him and I crossed the bridge. (Incorrect because “him” is an objective pronoun used as a subject)
He and I crossed the bridge. (Correct)

It was me who found the apple. (Incorrect because “me” is an objective pronoun used as a predicate nominative)
It was I who found the apple. (Correct)

It was him spinning straw into golden thread. (Incorrect because “him” is an objective pronoun used as a predicate nominative)
It was he spinning straw into golden thread. (Correct)

It was them who helped Snow White. (Incorrect because “them” is an objective pronoun used as a predicate nominative)
It was they who helped Snow White. (Correct)

That’s her who fell asleep. (Incorrect because “her” is an objective pronoun used as a predicate nominative)
That’s she who fell asleep. (Correct)

Use each set of pronouns in different sentences.

I and he
she and her
we and they
him and her
mine and theirs
who and whose

Remember: If you use subjective pronouns, begin a sentence with:

She and I
He and I
They and I
The giant and I
Cinderella, Rapunzel, and I
If you use pronouns after linking verbs (is, are, was, etc.), they must be subjective pronouns.
It was I who
It was he who
It was she who
It was they who
It is he who
It is she who

Writing Activity: Pronoun Poem

Choose six pronouns. Think of verbs that have the same beginning sound as the pronouns. Use them in a list poem.
He heaves.
She shocks.
I eye.
You usurp.
They thieve.
We weave.

Choose four more pronouns. Think of words that may either precede or follow them which have the same beginning sound.
Her hearse.
His hiss.
Our hour.
Your yurt.

Try your own:

Word Works IV

1. What do these words have in common?
   dim    moldy  wrinkled  smooth
   shiny  sharp  cracked  fuzzy
   spotted  frosted  hazy  slick
   muted  sour  sweet  spicy

2. What do these words have in common?
   beautiful  ugly  sad  anxious
   pretty  nice  mean  democratic
   fair  bad  good  boring

Answer to Activities 1 and 2: The words are all ADJECTIVES.

What is an adjective?
Tell what you think an adjective is: __________________________
Answer: ADJECTIVES are words that describe—give more information about—
nouns and pronouns.

Adjectives tell which: this frog, that giant, those dwarfs.
Adjectives tell what kind: the green frog, the lonely giant, the frozen lake.
Adjectives also tell how many: many frogs, several giants, one lake, seven dwarfs.
Adjectives can also work together: this green frog, that lonely giant, those seven dwarfs.
All the words in Activity 1 are concrete adjectives. These adjectives give information that
we can see, touch, taste, hear, and smell.
All the words in Activity 2 are abstract adjectives. They do not give information about
what we can see, touch, taste, hear, or smell. They give an idea about something. For
example, the bad troll tells us that the person who wrote the sentence thinks the troll is
bad; it does not tell us what the troll looks like. The green troll tells us something about
how the troll looks; he is green.

Too Many Adjectives
Adjectives can help make writing clearer and more specific. But adjectives should usually
be used sparingly. Too many adjectives will spoil the sentence! For example, this sentence
has too many adjectives:

“We went into the big, old, dark, cold, scary, empty, rotten house.” The adjectives in this
sentence do not create a picture; instead, they tell the reader what to think about the
room, not what to see.

Here’s a better sentence, one that uses just a few adjectives:

“We stepped into the house. We saw wrinkled wallpaper, shattered windows, and a
gaping hole where the staircase used to be.” The second sentence shows that the house
was old and falling apart; it does not tell the reader what to think or how to feel.

Remember: As a general rule, use adjectives that show, not ones that tell.

Word Wall

Make a word wall of adjectives that describe the same general thing:
Fairy-tale characters, summer, winter, school, birthdays, holidays, animals, games, friends,
family, picnics, vacations, etc.

Replace the weak adjectives in the following sentences with ones that are more specific
and vivid.

EXAMPLE:
We saw the pretty lake.
We saw the shimmering lake.
Snow White bit the bad apple.
Word Works VII

1. What do these words have in common?
   and but or yet
   after although as because
   before how if once
   since than though until

Answer to Activity 1: The words are all CONJUNCTIONS.

2. What is a conjunction?

3. Tell what you think a conjunction is:

A CONJUNCTION is a word that joins words or groups of words. Some conjunctions, called coordinating conjunctions, link words or independent clauses.

- The giant and the troll gossiped about Rumpelstiltskin.
- The giant likes to eat honey and vinegar sandwiches.
- The dwarfs loved dancing on rooftops and singing to the stairs.
- The elf ran home, for she had forgotten the map to the treasure.
- The queen promised to give Rumpelstiltskin a pardon, yet she smiled a cold and suspicious smile.
- Jack took the cow to town, and he sold it for five beans.
- Jack's mother took the beans, but she was unhappy.

Other conjunctions are called subordinating conjunctions; they introduce clauses. Here are some subordinating conjunctions that introduce adverbial clauses:

- time... after, as, before, since, until, when, whenever, while
- cause/reason... as, because, since, whereas
- purpose/result... that, in order that, so that
- condition... although, even though, unless, if, provided that, while

- After the rain stopped, the giant jumped in the puddles.
- Because the troll ran out of money, he had to charge a toll on his bridge.
- So that she could continue to be the fairest in the land, the evil queen gave Snow White the apple.
- Although she foiled Rumpelstiltskin's plans, the weaver's daughter avoided straw-filled rooms for the rest of her life.

Another kind of conjunction is called a correlative conjunction. Correlative conjunctions always occur in pairs. Here are some common pairs of correlative conjunctions:

- both... and
- either... or
- neither... nor
- not only... but also
- whether... or
Step One: Getting Started
Brainstorm a list of things you might be able to describe. Don’t try to describe something too big.

Example: a pet, a room, a favorite place, an animal, a character from a story, and so on. Pick one thing to describe. Make a list of concrete details about the thing you have chosen.

EXAMPLE:
An animal: dragon
List of details:
- body as large as a two-story building
- body covered with sharp, green scales
- arms as thick as telephone poles
- claws on the feet and beak
- head the size of an SUV
- mouth filled with rows of deadly teeth
- fiery eyes

Step Two: Drafting
Put your ideas together in a draft, a sloppy copy. Begin by describing your subject either from top to bottom, bottom to top, right to left, or left to right. Also start your description with a sentence that lets the reader know what you are going to describe and what the general idea is. For example, “The dragon was a frightening creature.” The word frightening lets the reader know what idea you will create in your description.

Here’s a way to begin a draft:
The ____________________________ was ____________________________.
The meadow was beautiful. The dungeon was horrible.
The eagle was majestic. The ogre was ugly.

Write a draft of the description, like this:
The dragon was a frightening creature. It stood up. It was taller than a two-story building. The dragon spread its wings. It opened its mouth, which had rows of deadly teeth. It spit fire. Its red eyes flashed. The dragon flew away.

Step Three: Revising Look at the Draft
Now try to replace any weak adjectives, nouns, and verbs with stronger ones. Also try to use some alliteration:
The dragon was a frightening creature. It roared and reared, whipping its slithering, slimy-scaled body to its full height. Taller than a two-story building, the dragon spread its wide wings and beat his air with thunderous blasts and bursts. It opened its mouth, which was lined with rows of jagged teeth, and spewed a searing stream of fire. As its laser-red eyes flashed at something in the distance, the dragon launched itself into the air and blasted toward the fading horizon.

Step Four: Editing and Sharing
Check your revision to see that all words are spelled correctly and that proper punctuation has been used. Then share your description.

Extension: Choose a piece of writing that you are working on. Try to add three or four adjectives.
Writing Activity III: Opposite Adjectives

Towards the end of his poem, " Pied Beauty," Gerard Manley Hopkins puts together a string of adjectives in pairs of opposites: "swift, slow; sweet, sour; adazzle, dim."

Create a poem that describes something using pairs of opposite adjectives.

First, think of a topic, for example: Christmas, summer, winter, birthday, food (pizza, spinach, chips), friendship, etc.

Second, choose one. List opposite adjectives that can describe the topics.

Example: Summer
Summer is hot and cool, dazzling and dim, lazy and lively.

Third, give examples of each adjective.

Example: Summer
Summer is hot days and cool nights, dazzling sun and dim moon, lazy afternoons and lively evenings.

Word Works V

1. What do these words have in common?
   - happily
   - sadly
   - gently
   - morosely
   - quietly
   - quickly
   - smoothly
   - mysteriously
   - slowly
   - angrily
   - raucously
   - peacefully

2. What do these words have in common?
   - never
   - very
   - too
   - somewhat
   - often
   - always
   - up
   - here
   - almost
   - also
   - not
   - later

Answer to Activities 1 and 2: The words are all ADVERBS.

Manner: sadly, gently, smoothly Place: here, up Time: never, always, often

What is an adverb?

Tell what you think an adverb is:

An ADVERB is a word that gives more information about a verb, an adverb, or an adjective. Many adverbs end with the letter -ly, but not all. Adverbs tell:

Where
The giant put the harp down here by the beanstalk. Snow White fell asleep there by the but. The wolf looks nearby.

Other words that can be adverbs that tell where are: outside, inside, away, up, down, near, far.

When
The wolf often spotted the pigs building their houses. The wolf soon devised a plan. The wolf approached the house of straw later in the afternoon.

Other words that can be adverbs that tell when are: now, then, soon, today, tomorrow, immediately, daily.
How
The wolf crept quietly toward the house. The wolf howled happily after he blew down the house of straw.

Other words that can be adverbs that tell how are: quite, stealthily, mysteriously, sadly, effortlessly, easily, sprightly.

How Often or How Long
The wolf frequently sniped on the pigs. The wolf sometimes took a nap after eating.
The wolf never tired of thinking of new tricks.

Other words that can be adverbs that tell how often or how long are: twice, thrice, always.

How Much
After lunch, the wolf was too full to move. The wolf was somewhat unsure that he could blow down the brick house. The wolf was very happy when he thought of a way to try and trick the third pig.

Other words that can be adverbs that tell how much are: hardly, rather, extremely, greatly, more, just, still.

Writing Activity 5: Adding Adverbs

Add one or two adverbs to each of the following sentences.

EXAMPLES:
1. The frog croaked.
   The frog croaked **happily**. The frog croaked **grudgingly**.

2. The giant laughed.
   The giant laughed **loudly**. The giant laughed **heartily**.

3. The wolf howled.
   The wolf howled **yesterday**. The wolf **never** howled.

4. The ogre pushed.
   **Yesterday**, the ogre **easily** pushed his brother into the river.

Now you try:
5. The hen chucked.

6. The princess sighed.

7. The seven dwarfs pulled.
Writing Activity II: Speaking Adverbially

Write a dialogue between two fairy-tale characters who are disagreeing about something. One character wants or thinks one thing; the other character wants or thinks something else. Be sure to use an adverb in each line. Here are some ideas to get you started:

- The frog wants to stay in the pond, but the princess wants him to go to the castle.
- The giant wants to climb down the beanstalk, but his wife wants him to stay home.
- Rumpelstiltskin doesn't want to spin any more straw into golden thread; the weaver's daughter wants him to try once more.
- The Billy goat doesn't want to pay the troll's toll, but the troll demands it.
- The elf wants to dance on moonbeams; the sprite wants to watch fireflies.

**EXAMPLE:**

The mermaid wants to explore a shipwreck, but her friend wants to stay home and watch Jacques Cousteau on TV.

Mermaid: I don't want to stay inside tonight.
Friend: And I don't want to go outside.
Mermaid: Come on, we always do what you want.
Friend: I do not think so. We never do what I want.
Mermaid: Yesterday, we watched TV for rather a long time.
Friend: Yes, and we almost fell asleep.
Mermaid: I know; that show was boring, I could not keep my eyes open. My eyes drooped heavily, like they were suddenly weighted with lead.
Friend: But you'll like tonight's show better. It's supposed to be really funny.
Mermaid: I still feel like I'm endlessly doing what you want.
Friend: Okay, just to show you that you're not always right, I'll happily go with you to explore that shipwreck.
Mermaid: You mean the one lying mysteriously in the canyon nearly five miles from here?
Friend: That very one.

Extension I: Choose a piece of writing that you are working on. Try to add three or four adverbs.

Extension II: Adding Details

Begin with a verb. Add a noun. Add an adjective. Add another adjective. Add an adverb.

For example:

- Croak. Laugh.
- Frogs croak. Elves laugh.
- Happy frogs croak. Forest elves laugh.
- Happy leopard frogs croak. Hidden forest elves laugh.
- Happy leopard frogs croak musically. Hidden forest elves laugh mysteriously.

Try your own.
Writing Activity III: Adverb Poem

Choose an adverb: quietly, softly, swiftly, dazzlingly, thunderously, generously, greedily, dangerously, menacingly, silently, etc.

Think of five concrete examples for the adverb you have chosen.

Example: Silently

Silently, the river rounds the bend.
Silently, the fish flits through the current.
Silently, the cat eyes the mouse.
Silently, the moon drifts through the sky.
Silently, the rose's roots reach into the ground.

Word Works VI

1. What do these words have in common?

about  below  for  throughout
above  beneath  from  to
across  beside  in  toward
on account of  in spite of  along with  together with

Answer to Activity 1: The words are all PREPOSITIONS.

What is a preposition?
Tell what you think a preposition is:

PREPOSITIONS are words that tell how nouns and pronouns relate to other words in a sentence or other parts of a sentence.

Here is a list of commonly used prepositions:

about  around  between  for  over  underneath
above  at  beyond  from  past  until
across  before  but ("except")  in  since  unto
after  behind  by  into  through  up
against  below  concerning  like  throughout  upon
along  beneath  down  of  to  with
among  beside  during  off  toward  within
among  besides  except  on  under  without

A group of words may act as a preposition:
on account of  in spite of
along with  together with

A preposition usually introduces a phrase. The noun or pronoun (plus other words like adjectives) that follows the preposition is called "the object."
Writing Activity I: Placing Prepositions

Prepositional phrases can appear at the beginning or at the end of a sentence. Add a prepositional phrase or two to the following sentences.

EXAMPLES:

1. The frog jumped. The frog on the lily pad (where) jumped into the rippling river (where).
2. The frog jumped. The frog with green spots (which) jumped away from the angry elf (where) during a thunderstorm (when).
3. The giant snored. In his bed (where); the giant snored throughout the night (when). The giant snored like a buzzsaw (comparison).

Now you try:

5. The queen laughed.

6. The king called the guard.

7. Snow White ate the poisoned apple.

8. The bats flew.

Writing Activity II: Replacing Words and Combining Sentences with Prepositions

Rewrite and combine the following sentences by adding prepositional phrases. You may also add other words besides prepositions.

EXAMPLES:

1. There is a hen. There is a wooden table. The hen clucks and lays golden eggs. Perched on the wooden table, the hen clucks and lays golden eggs.

2. There is a giant. There is a beanstalk. The giant slid down the beanstalk.
3. There is a blackbird. There is a tree. There is a castle. There is a window.
The blackbird flew from the tree and through the castle window.
4. There is an elf. There is a meadow. There is the moon.
   Alone in the meadow, the elf gazed at the moon.

Try your own:
5. There is a princess. There is a throne. There is a ballroom.

6. There is a troll. There is a bridge.

7. There is a dwarf. There is a shoe. The shoe looks like an ogre’s foot.

**Writing Activity III: Using Prepositions to Describe**

Look at a picture from a favorite children’s picture book, or find a favorite painting, or choose a photograph from a newspaper or magazine. Use at least ten prepositions to describe what you see in the picture, painting, or photograph.

*Example: A picture (the one where Max is running down the stairs) from Where the Wild Things Are by Maurice Sendak*

- Max is running down the stairs.
- Max is running toward the dog.
- Max has a fork in his hand.
- Max’s wolf suit has ears on top of its head.

**Writing Activity IV: Preposition Poem**

First, choose seven prepositions. Arrange them in a list, for example:

- Across
- Around
- Between
- Beneath
- Over
- Into
- Through

Second, think of things that move (people, animals, objects): El Cucuy, wolf, mouse, ball, frisbee, kite, etc.

Choose one and explain where it goes; use the prepositions you have chosen.

*Example: The mouse skitters*

- Across the floor,
- Around the corner,
- Between the sleeping cats
- Beneath the sofa,
- Over the pile of newspapers,
- Into the kitchen,
- And through the hole in the wall.
Word Works VII

1. What do these words have in common?
   and but or yet
   after although as because
   before how if once
   since than though until

   Answer to Activity 1: The words are all CONJUNCTIONS.

   What is a conjunction?
   Tell what you think a conjunction is:

   A CONJUNCTION is a word that joins words or groups of words. Some conjunctions, called coordinating conjunctions, link words or independent clauses.

   The giant and the troll gossiped about Rumpelstiltskin.
   The giant likes to eat honey and vinegar sandwiches.
   The dwarfs loved dancing on rooftops and singing to the stars.
   The elf ran home, for he had forgotten the map to the treasure.
   The queen promised to give Rumpelstiltskin a pardon; yet she smiled a cold and suspicious smile.
   Jack took the cow to town, and he sold it for five beans.
   Jack's mother took the beans, but she was unhappy.

   Other conjunctions are called subordinating conjunctions; they introduce clauses. Here are some subordinating conjunctions that introduce adverbial clauses:

   time after, as, before, since, until, when, whenever, while
   cause/reason as, because, since, whereas
   purpose/result that, in order that, so that
   condition although, even though, unless, if, provided that, while

   After the rain stopped, the giant jumped in the puddle.
   Because the troll ran out of money, he had to charge a toll on his bridge.
   So that she could continue to be the fairest in the land, the evil queen gave Snow White the apple.
   Although she foiled Rumpelstiltskin's plans, the weaver's daughter avoided straw-filled rooms for the rest of her life.

   Another kind of conjunction is called a correlative conjunction. Correlative conjunctions always are seen in pairs. Here are some common pairs of correlative conjunctions:

   both . . . and
   either . . . or
   neither . . . nor
   not only . . . but also
   whether . . . or
Both the Wizard of Oz and Harry Potter are characters from well-known books.
EITHER the giant or the troll will be first in line at the mud pie eating contest.
NEITHER the dwarfs nor the local doctor could awaken Briar Rose from her deep sleep.
The elves brought not only moonbeam tea but also sweet ambrosia.
The giant exclaimed, "Whether you're ready or not, I'm coming to find you!"

Using conjunctions allows you to keep from writing a bunch of short, choppy sentences.
When you use conjunctions, you make your sentences more interesting and you pull ideas together.

**Writing Activity I: Combining Sentences with Conjunctions**

Combine the following sentences with coordinating conjunctions.

**EXAMPLES:**
The evil queen went sailing. The troll went sailing.
The evil queen and the troll went sailing.
The elf bought roller skates. The dwarf bought a skateboard.
The elf bought roller skates, and the dwarf bought a skateboard.

Now you try:
1. The mermaid dove deep. Her sister chased after small fish.

2. Baba Yaga lit the candles. Her cat slept in the corner.

3. The elf smiled. She said nothing.

4. Harry Potter phoned home. No one answered his call.

5. The king told the ogre, "You can stay. You can go home."

**Writing Activity II: Creating Sentences with Conjunctions**

Create sentences by using correlative conjunctions; use the words in each sentence.

**EXAMPLES:**
1. Hercules, Hydra
   In their battle, **either** Hercules or the Hydra would survive.

2. Icarus, his father
   **Neither** Icarus nor his father knew the wax that held the wings together would melt.
Now you try:
1. The third pig, the wolf
2. Cinderella, her stepmother
3. Giant, Jack

Writing Activity III: Revising Using Parts of Speech

Rewrite the following. Replace weak nouns and verbs with ones that are concrete and vivid. Add strong adjectives and adverbs. Add prepositional phrases. Add conjunctions (combine sentences) where needed. Here’s an example:

Orpheus got out of the boat. Orpheus was in front of a three-headed dog. The dog was not happy. Orpheus did not know what to do. Orpheus had an idea. He sang. The dog went to sleep.

As he stepped out of the wood-splintered boat that had carried him across the cold, smooth river, Orpheus found himself facing a growling, three-headed dog. As the dog pawed the ground, each of its three heads opened their gaping mouths to reveal rows of yellow, jagged teeth. Each of the heads bit the air and howled a howl that shook the ground. Stunned and stymied, Orpheus froze like a statue of ice. With a thought that struck him like lightning, Orpheus stepped forward, tentatively, then he opened his mouth and began to sing softly. The growling menace grew silent. Its three heads turned sideways. As Orpheus continued his sweet melody, the terrible dog lay down, fell asleep, and moaned softly.

Before you write your own story, tell how the revision is different from the original. Be specific. Talk about which words were changed; which words were added.

Rewrite this passage

The dragon was mad. The dragon landed on the ground. The dragon went to its cave. The dragon found that its treasure was missing. The dragon left the cave.
Unscrambling to Imitate

The unscrambling of sentence parts helps you see how those parts are connected within the model sentence. As a result, you will glimpse the mind of an author composing a sentence so you can go through a similar process when you compose sentences.

Directions: Unscramble the sentence parts to imitate the model. Then write your own sentence that imitates the model.

1. MODEL: When I awoke, there were snowflakes on my eyes.
   Charles Portis, *True Grit*
   
   a. in the sky
   b. there was a rainbow
   c. after the rain stopped

2. MODEL: Drawn by the scent of fish, the wild dogs sat on the hill, barking and growling at each other.
   Scott O'Dell, *Island of the Blue Dolphins*
   
   a. yelping and trembling with delight
   b. covered with mud from the yard
   c. the frisky puppy rolled on the carpet

3. MODEL: Then she swung the switch five more times and, discovering Little Man had no intention of crying, ordered him up.
   Mildred D. Taylor, *Roll of Thunder, Hear My Cry*
   
   a. one more time and
   b. walked away
   c. then he checked the crime scene
   d. finding the suspect had been telling the truth

4. MODEL: The girls of her class scarily fought to hang out around her, to walk away with her, to beam flatteringly, to be her special friend.
   Katherine Mansfield, *The Doll House*
a. really tried to make his best effort with the team
b. to keep up with the them
c. to be his absolute best
d. the boy of smallest size
e. to work tirelessly
Combining to Imitate

These exercises ask you to combine a series of plain sentences into just one varied sentence by changing the plain sentences into sentence parts resembling the model sentence. As you do these exercises, you'll become aware that plain sentences can easily be changed into sentence parts of better, more varied sentences.

Directions: Combine the sentences below to create a single sentence that has the same order of sentence parts as the model. You may eliminate some words to do so. Then write your own imitation of the model.

1. MODEL: The children, shouting and screaming, came charging back into their homeroom.

   Rosa Guy, *The Friends*

   a. The ponies were neighing.
   b. The ponies were pawing.
   c. The ponies came bolting out of their stalls.

2. MODEL: As Seabiscuit broke from the gate, he was immediately bashed inward by Count Atlas, a hopeless long shot emerging from the stall on Seabiscuit's right.

   Laura Hillenbrand, *Seabiscuit: An American Legend*

   a. Something happened as the car backed out of the space.
   b. What happened was that it was suddenly hit sideways.
   c. The hit was by an oncoming truck.
   d. The truck was a delivery pickup.
   e. The pickup was coming from the alley behind the market.

3. MODEL: A light kindled in the sky, a blaze of yellow fire behind dark barriers.

   J. R. R. Tolkien, *The Lord of the Rings*

   a. A noise erupted.
   b. The noise erupted from the forest.
   c. The noise was a screech.
   d. The screech was of angry ravens.
   e. The ravens were in decaying trees.
4. MODEL: He knew the bears would soon be leaving their winter dens, to travel, to claim their old ranges, to challenge intruders, and to fight their fearf ul battles among themselves.

Hal Berland, *When the Legends Die*

a. She knew something about the students.
b. She knew they would soon be entering their new classrooms.
c. The students would be entering the classrooms to learn.
d. They would also be entering them to take new courses.
e. They would also be entering them to make new friends.
f. And they would be entering them to discover their identities as young adults.
Day 1
Read "The Steadfast Parrot" and answer the accompanying questions. (35-40 minutes)
Online – Edmentum Reading Learning Path and track progress (20 minutes)
Read in your personal novel for 20 minutes

Day 2
Answer the “Week 26 Day 1” Language Review page (20 minutes)
Online – Newsela Assignment (Read and answer the quiz questions and the writing assignment) (25-30 minutes)
Review pages 3-9 of your notebook (15 min)
Read in your personal novel for 20 minutes

Day 3
Read “Medicine Walk” and answer the accompanying questions. (35-40 minutes)
Online – Edmentum Reading Learning Path and track progress (20 minutes)
Read in your personal novel for 20 minutes

Day 4
Answer the “Week 26 Day 2” Language Review page (20 minutes)
Online – Newsela Assignment (Read and answer the quiz questions and the writing assignment) (25-30 minutes)
Review pages 12-19 of your notebook (15 min)
Read in your personal novel for 20 minutes

Day 5
Read “Tablet, Scroll, and Text” and answer the accompanying questions. (35-40 minutes)
Online – Edmentum Reading Learning Path and track progress (20 minutes)
Read in your personal novel for 20 minutes

Day 6
Answer the “Week 26-Day 3” Language Review (15 min)
Online – Flokabulary (Complete the Active and Passive Voice assignment)
Video, vocab cards, read and respond, vocab game, and quiz (40-45 min)
Read in your personal novel for 20 minutes
Day 7
Read “Tablet, Scroll, and Text” and answer the accompanying questions. (35-40 minutes)
Online – Edmentum Reading Learning Path and track progress (20 minutes)
Read in your personal novel for 20 minutes

Day 8
Answer the “Week 26 Day 8” Language Review (15 min)
Online – Edmentum Reading Learning Path and track progress (20 minutes)
Review both writing rubrics in your notebook (15 min)
Read in your personal novel for 20 minutes

Day 9
The Steadfast Parrot
Buddhist Folktale

How does the title accurately represent the theme of this tale?

A petite parrot lived contentedly in a colossal banyan tree that supplied her every physical comfort she required. Its emerald leaves veiled her from the blazing sun. Its undulating branches made gentle creaking rhythms that soothed her concerns. Its cool bark refreshed her weary claws, and its moist and plentiful fruit satisfied her hunger.

The parrot appreciated the bounties her beloved banyan provided. Every night before she tucked her head beneath her feathere® wing, she expressed gratitude. “Beloved banyan, I honor you for welcoming me into your comforting fullness. My life with you is serene, contented, and free with your gracious hospitality. Never shall I abandon you for another.” Then the parrot would close her eyes and drift to sleep as the evening winds rustled the tree’s leaves.

Shakra, King of the gods, overheard the parrot’s thankful words each evening, but wondered whether she truly meant everything she said. So he decided to test her loyalty. During the night, Shakra caused the enormous banyan to wither, turning its once-green leaves brown and brittle. Dust coated the branches where life-giving morning dew once collected.

As stunned as the parrot was by this abrupt and shocking change, she kept her composure. Perched among its dead leaves, she vowed not to abandon the lifeless tree. Recalling better days, she flitted from branch to branch, flooded with fond memories. Despite the banyan’s desolate appearance, the parrot could envision it only as it had been—lush, verdant, cool, protective.

The determined creature resolved to remain. As days passed, the brutal sun bore down on the parrot but could not scorch her calm. Though she yearned for the dense leaves and refreshing shade, she pledged: “Friends don’t abandon friends when ill fortune strikes. Over time, fortunes may change, but I shall remain faithful.”

When Shakra observed the parrot’s perseverance, he became certain that the bird had spoken truthfully. He summoned a golden breeze to envelop the banyan. At once newborn buds emerged, fresh leaves unfurled, fruits sprouted and ripened, and ashen dust wafted away.

The astonished parrot released a blissful squawk to find herself sheltered again by the banyan she recognized. “Parrot,” said Shakra, “you have proven your loyalty and devotion. Your steadfast commitment permitted this tree to revive. You are small, but within you beats a true heart.”

Shakra disappeared behind a cloud. The grateful parrot bowed her head, sipped fresh dew, rubbed her beak along the cool bark, and listened to the whispering leaves. “Oh banyan, my love was true and deep,” she crooned. “My banyan, my promise I did steadfastly keep.”
The Steadfast Parrot

Answer each question. Give evidence from the folktale.

1. After Shakra changed the banyan, the parrot "kept her composure" (lines 20 and 21). Which of the following is an example of keeping one's composure?
   - A. maintaining one's balance on a narrow beam
   - B. staying calm in an emergency
   - C. exploding in anger
   - D. writing music for wind instruments

   What evidence in the text helped you answer?

2. The banyan had undulating branches (line 4). Use the photo to help give the meaning of undulate. Then describe something else in nature that undulates.

3. What does Shakra's test of the parrot reveal about him?

4. Give two examples of personification in this folktale.

5. Compare the relationship between the parrot and the banyan with the relationship between close friends.

6. The folktale uses the metaphor of the steadfast parrot to convey a lesson. What is the lesson?
Write the sentences correctly.

1. Even with the most newest camera taking a clear picture it can be tricky.

2. It could be blurry cause the photographer is too close or you wiggle the camera.

Write the missing word. Then explain your choice.

3. You could also get a fuzzy picture if the photo subject ____________ moves.
   yourself  itself  themselves

Complete this analogy.

4. photo : blurry :: needle : ____________________
Medicine Walk

Answer each question. Give evidence from the adventure.

1. Why was Tyler on the verge of crying (lines 21–22)?
   O A. He lacked experience being on his own.
   O B. He felt forced into making a medicine walk.
   O C. He was embarrassed that it was his first medicine walk.
   O D. He felt ashamed for feeling so fearful.

   What evidence in the text helped you answer? ________________________________

2. What makes Mr. Melvin an ideal coach for Tyler and the group? ________________________________

3. Describe the nature of a medicine walk and its overarching purpose. ________________________________

4. Why is mature problem-solver (lines 2 and 3) within quotation marks? ________________________________

5. What word in this passage could be synonymous with daunting (line 1)? Explain. ________________________________

6. How would you describe Mr. Melvin’s approach to preparing the boys for their medicine walk? ________________________________
Medicine Walk

What is the purpose of a medicine walk?

The counting task jumbled Tyler's thoughts: How could I spend 16 hours—
including overnight—a lone in the wooded state park? What if I have no "mature
problem solver" inside me? How will I succeed if I'm scared silly or worried whether
I'll ever find my way back?

But Tyler had no choice in this matter. Every young man in his family, as far
back as anyone could recall, had undertaken his own "medicine walk." Each
boy more than survived the challenge; in fact, each recalled the demanding
experience with fierce pride and acknowledged how eye-opening it had been.
Tyler liked being on his own, but preferred the security of his cell phone or at
least a sturdy flashlight to solitary exploration.

Mr. Melvin served as Tyler's coach. He led a reluctant group of 13-year-olds
whose families wanted them to experience a medicine walk as an exercise in
self-reliance. "I did my own version of this when I was thirteen," he shared. "My
folks called it a vision quest, but to me it began as aimless wandering. I was
allowed to bring very little with me, but I did carry the voices of the elders in my
head as I explored. As my medicine walk day went on, my own voice emerged,
and it served me well. My task today is to help you find your own inner strength
to accompany you on your journey."

Tyler understood that people learn by experience, but feared that the
inexperienced couldn't possibly have the resources to extract themselves from a
tangle. The what-ifs tormented him; he fought back tears of shame for feeling
so frightened.

Mr. Melvin stayed calm and confident as a model to the boys. He prepared
the group by sharing maps of the area, which indicated clear boundaries
beyond which walkers could not go, and noted occasional trail markers that
would help orient the walkers. The group learned to identify animal tracks,
recognize edible plants, and build a quick and simple shelter. Mr. Melvin
also helped them discover ways to invite curiosity and wonder instead of fear
and doubt. Together they took group practice walks, each one a bit more
challenging than the previous one.

On the last meeting before the intimidating medicine walk, the group
held a candid question-and-answer session in which each participant was
encouraged to express his fears or concerns. Mr. Melvin modeled steady support
and patience, saying, "Remember, you're not crossing a storm-tossed ocean
on a rickety raft. You'll be in a limited area for a fixed period of time. You will
begin as a group at 9:00 Saturday morning. Then you'll separate and explore
anywhere inside the designated area. You will spend the night wherever
you choose, in a shelter you will make, eating the food you bring with you,
and drinking fresh water you collect from the creek. You'll be free with your
thoughts and dreams. We'll reunite at 1:00 p.m. Sunday, exactly where we
began. Any questions?"
Write the sentences correctly.

1. Basque, one of the oldest and unusuallest language in the world.

2. After the Roman Conquest latin replaced many European languages.

3. The Latin root *vicus* means "village." What does the bold word in the sentence probably mean?

4. The language survived and is still spoken in the *vicinity* of the Pyrenees Mountains.

Write a sentence from this research note.

4. United States in World War II: Basque used to send secret messages
Tablet, Scroll, Text

Answer each question. Give evidence from the essay.

1. As it is used in line 15, uniform most nearly means ___.
   - A. attire
   - B. regulated
   - C. consistent
   - D. symmetrical
   How did you determine your response?

2. The writer begins this essay with a quotation. Give two reasons why this is an effective technique.

3. Why does the author mention cave art (line 18) in a piece about writing?

4. Use word analysis skills to explain the meaning of globalization (line 38).

5. In what way are the two images that accompany this essay linked? Explain.

6. How might globalization affect the number of written languages in our world?
Tablet, Scroll, Text

What details support writing as an essential human need?

Language historian and scholar I.J. Gelb once said that “writing is of such importance that civilization cannot exist without it.” In our modern world, written words appear everywhere: in books and magazines, in ads, on maps, menus, and medicine labels, on the Internet, mobile devices, and even in jewelry. Gelb believed that writing was intertwined with civilization. In his view, it was far more than a code of sounds in an alphabet or a system of idea characters.

**What Is Writing?** At its heart, writing is a graphical system meant to enable communication and assist in recall. Writing must contain graphic marks, such as letters, symbols, and ideograms. These may be recorded on paper, on any durable surface, or in an electronic device. Writing must be consistent enough so that people other than the writer can comprehend it.

**History** Historians and anthropologists dispute the exact dates when writing became uniform enough to serve as a reliable means of communication. Even as writing emerged, few people were literate enough to read anything that others had written. Clearly, writing has come a long way. So what should we conclude about writing from its development from cave art painted 30,000 years ago to today’s blazing cyber-media?

**Goals of Writing** Some might say that the highest goals of writing are to stimulate thought, discussion, debate, art, and aspirations. Others hold that writing exists to transmit rules, laws, and beliefs, and maintain business and historical records. But perhaps the relentless march from stone tablets to electronic tablets and from papyrus scrolls to scrolling down computer screens simply confirms how deeply humans need to communicate. We rely on words. We demand the written word. And we keep revising written language to keep pace with changes in our daily lives.

**The Digital Revolution** In the 1980s and 1990s, computers began to be integrated into our culture. It worried some people that this advance would bring about the end of books. Yet few worried that the written word itself would vanish. They were right. We read words in “regular” books and e-books. We can shop using printed catalogs or on websites, both of which still include written descriptions to amplify the images. The written word is alive and well.

**Speaking vs. Writing** Current data reports over 7,100 living languages. These are languages still spoken by people anywhere in the world. However, fewer than 100 languages have written systems. This difference may startle at first, but may be explained by the rise of globalization and its needs. There may be fewer written languages than spoken ones, but writing as a vital communication tool is likely to endure.
Write the sentences correctly.

1. Cecilia inherited a porcelain pretty candy dish of their grandmother.

2. Grandma she used to make the deliciousest chocolates for she and her parents.

Rewrite the sentence to clarify the meaning.

3. When the box with the candy dish arrived, it was damaged.

Complete this analogy.

4. bones : brittle :: package : ____________________
Answer each question. Give evidence from the essay.

1. Which two words from the essay have nearly the same meaning?
   - A. academic (line 13) and fundamental (line 29)
   - B. distinctive (line 12) and classic (line 23)
   - C. perspective (line 23) and attributes (line 29)
   - D. legitimate (line 15) and valid (line 26)

   How did you determine your response?

2. Based on the essay, summarize the main difference between fine art and folk art.

3. Why does the writer contend that folk art is an authentic art form?


5. Paraphrase Edgar Tolson’s statement (lines 36–37) in your own words.

6. Examine the image that accompanies the essay. Do you think it represents fine art, folk art, or both? Explain.
Fine Art vs. Folk Art

How does the author motivate, inform, and persuade readers?

The mission of a museum is to preserve, display, and explain the value of the works in its collection. So why do some visitors feel intimidated by certain works? Do museums attempt to define what art should be? It's a fair question that deserves a thoughtful response.

Art historians and museum curators are generally well-educated people who immerse themselves in their subject. So why do they often ignore an entire category of art? Let's first define two distinct groups of artwork.

Fine (or academic) art is what's found in museums, art books, and grand public spaces. It becomes legitimate mainly by its connections to academic institutions. Most fine artists attended universities or art schools to develop their skills under the watchful eyes of instructors. By contrast, folk art is the product of self-taught creative people who work outside such institutions. Folk artists typically bring their experiences to their work, art that can be naïve, ornamental, functional, spiritual, dramatic, but not necessarily pleasing to the aesthete's eye. Folk art may ignore classic rules of perspective or proportion and rarely follows academic trends.

If the purpose of art is to express one's creative vision through work in a chosen medium, then shouldn't folk art be just as valid as fine art? Perhaps these two styles need not compete since each style displays unique elements that demonstrate its value. Moreover, they also share many fundamental attributes.

All artists express their cultural identities and convey their values and traditions. They may work in any medium—fabric, wood, clay, paper, metals, plastics, paints, chalk, pencil, stone, glass—to create paintings, sculptures, pottery, furniture, and decorative or functional items. Why compare Picasso and Grandma Moses?

In 1971, Edgar Tolson, a Kentucky folk artist, may have captured the essence of art when he said, "You don't make it with your hands. You form it with your hands. You make it with your mind."

It may be time for museums, galleries, and other art institutions to make space on their walls for art from every noteworthy source. Such an approach could show visitors a greater range of creative possibilities to help them better appreciate the diverse ways artists dare to explore.
Write the sentences correctly.
1. some people think, the minimum wage for basic jobs, that it should be raised.

2. If businesses ain't paying enough, a worker can't support themself.

Write the missing word or words.
3. Society needs workers who will do the ____________ jobs.
   more basic  basicer  most basic  basicest

Rewrite the following so that there is no fragment.
4. All workers need to earn enough money. So they can afford food.
### Remote Student Learning Grade 7 Math

Daily Student Schedule (excluding Spring Break dates)

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Juan learned that gear ratio refers to the number of times one gear rotates in relation to another gear. The ratio of the gears in the picture below is $1\frac{1}{2}$ to $\frac{3}{2}$.

1. Write two unit rates to represent the gear ratio above. (Numbers can be used more than once.)

2. Explain what each unit rate means in the context of the problem.
3. A machine packs boxes at a constant rate of $\frac{2}{3}$ of a box every $\frac{1}{2}$ minute. What is the number of boxes per minute that the machine packs?

- $\frac{1}{3}$
- $\frac{3}{4}$
- $1\frac{1}{6}$
- $1\frac{1}{3}$

4. A. The fountain in the pond behind Kevin's school has a pump that recirculates 60 gallons of water every $\frac{4}{5}$ of an hour. Express this rate as a unit rate in gallons per hour.

B. The fountain in the pond at the public park near Kevin's house has a pump that recirculates 75 gallons of water in $\frac{3}{4}$ of an hour. Express this rate as a unit rate in gallons per hour.

C. Which fountain flows at a faster rate? Explain.
5. Roy is going to increase the size of his patio to make room for a new BBQ grill. The ratio of the area of the old patio to the area of the new patio is $2\frac{1}{4} : 6\frac{3}{4}$.

Convert this ratio to a unit rate and explain what this unit rate means in the context of this problem.
1. Robin is making bows to sell at her mother's yard sale. She will use $\frac{3}{4}$ foot of red ribbon and $\frac{2}{3}$ foot of blue ribbon to make each bow.

   A. What is the ratio of the length of red ribbon to blue ribbon?

   B. What is the ratio of the length of red ribbon to blue ribbon written as a unit rate?

<table>
<thead>
<tr>
<th></th>
<th>to</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\frac{1}{8}$</td>
<td></td>
</tr>
<tr>
<td>$\frac{3}{4}$</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>$\frac{2}{3}$</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

   C. What is the ratio of the length of blue ribbon to red ribbon?
D. What is the ratio of the length of blue ribbon to red ribbon written as a unit rate?

\[
\begin{array}{|c|}
\hline
\begin{array}{c}
\frac{1}{8} \\
\frac{3}{4} \\
1 \\
\frac{2}{3} \\
8 \\
9 \\
\end{array}
\end{array}
\]
to \,

2. Angela and Jayden were at track practice. The track is \(\frac{2}{5}\) kilometers around.
   - Angela ran 1 lap in 2 minutes.
   - Jayden ran 3 laps in 5 minutes.

A. How many minutes does it take Angela to run one kilometer? What about Jayden?

B. How far does Angela run in one minute? What about Jayden?

C. Who is running faster? Explain your reasoning.
3. Molly ran \( \frac{2}{3} \) of a mile in 8 minutes. If Molly runs at that speed, how long will it take her to run one mile?

4. Travis was attempting to make muffins to take to a neighbor that had just moved in down the street. The recipe that he was working with required \( \frac{3}{4} \) cup of sugar and \( \frac{1}{8} \) cup of butter. Travis accidentally put a whole cup of butter in the mix.

   A. What is the ratio of sugar to butter in the original recipe?
   What amount of sugar does Travis need to put into the mix to have the same ratio of sugar to butter that the original recipe calls for?

   B. If Travis wants to keep the ratios the same as they are in the original recipe, how will the amounts of all the other ingredients for this new mixture compare to the amounts for a single batch of muffins?

   C. The original recipe called for \( \frac{3}{8} \) cup of blueberries.
   What is the ratio of blueberries to butter in the recipe?
   How many cups of blueberries are needed in the new enlarged mixture?

5. This got Travis wondering how he could remedy similar mistakes if he were to dump in a single cup of some of the other ingredients. Assume he wants to keep the ratios the same.

   A. How many cups of sugar are needed if a single cup of blueberries is used in the mix?

   B. How many cups of butter are needed if a single cup of sugar is used in the mix?

   C. How many cups of blueberries are needed for each cup of sugar?
MAFS.7.RP.1.2

1. Select each option that represents a proportional relationship between x and y.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>( x )</td>
<td>( y )</td>
</tr>
<tr>
<td></td>
<td>1 1/2</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>3 1/4</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B</th>
<th>( x )</th>
<th>( y )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>6</td>
</tr>
</tbody>
</table>

\( y = \frac{7}{8}x \)

\( y = x + 1 \)
2. • Evergreen Elementary School has an average of six teachers per 138 second grade students.
• In third grade, there are 196 students for every seven teachers.
• The ratio of teachers to students in the fourth grade is three to 69.
• There are 207 fifth grade students for every nine teachers.

Part A: Graph the four teacher to student ratios as ordered pairs.

![Graph of Teacher to Student Ratios]

Part B: Use the graph to determine if the two quantities, number of teachers and number of students, are proportionally related. Explain.

Write your answer in the space provided.
3. This table shows a proportional relationship between \( x \) and \( y \).

<table>
<thead>
<tr>
<th>( x )</th>
<th>( y )</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1.25</td>
</tr>
<tr>
<td>4</td>
<td>2.5</td>
</tr>
<tr>
<td>6</td>
<td>3.75</td>
</tr>
<tr>
<td>10</td>
<td>6.25</td>
</tr>
</tbody>
</table>

What is the constant of proportionality between \( x \) and \( y \)?
(as a decimal.)

4. Hayden mixed 6 cups of blue paint with 8 cups of yellow paint to make green paint. To represent the relationship between the number of cups of blue paint, \( b \), and the number of cups of yellow paint, \( y \), needed to make the same shade of green paint, Hayden wrote the equation \( b = \square y \).

What number should be placed in the box?
5. This graph shows the relationship between the pounds of cheese bought at a deli and the total cost, in dollars, for the cheese.

![Graph showing pounds of cheese vs. total cost in dollars]

Select each statement about the graph that is true. Select all that apply.

- The point (0,0) shows the cost is $0.00 for 0 pounds of cheese.
- The point (0.25,1) shows the cost is $0.25 for 1 pound of cheese.
- The point (0.5,2) shows that 0.5 pound of cheese costs $2.00.
- The point (1,4) shows the cost is $4.00 for 1 pound of cheese.
- The point (2,8) shows that 8 pounds of cheese cost $2.00.
1. A business in the Florida Keys offers Key West Jet Ski Tours for the following rates:

<table>
<thead>
<tr>
<th>Tour Prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time (in hours)</td>
</tr>
<tr>
<td>( \frac{3}{4} \text{ hour} )</td>
</tr>
<tr>
<td>( 1 \frac{1}{2} \text{ hours} )</td>
</tr>
<tr>
<td>2 hours</td>
</tr>
</tbody>
</table>

Are the two quantities, time and price, proportionally related? Explain.

Write your answer in the space provided.

2. Which equation has a constant of proportionality equal to 4?

\[ \circ \ 4y = 4x \]
\[ \circ \ 4y = 12x \]
\[ \circ \ 3y = 4x \]
\[ \circ \ 3y = 12x \]
3. Which relationships have the same constant of proportionality between $y$ and $x$ as in the equation $y = \frac{1}{3}x$?
Select each correct answer.

4. The numbers of parts produced by three different machines are shown in the table.

**Numbers of Machine Parts**

<table>
<thead>
<tr>
<th>Minutes</th>
<th>Machine Q</th>
<th>Machine R</th>
<th>Machine S</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>9</td>
<td>27</td>
<td>72</td>
<td>52</td>
</tr>
</tbody>
</table>

Only one of the machines produces parts at a constant rate. Which equation represents $y$, the number of parts produced in $x$ minutes, for the one machine that produces parts at a constant rate?

- $y = 3x$
- $y = 6x$
- $y = 8x$
- $y = 9x$
5. The amount Sandy earns from babysitting is proportional to the number of hours she works. The graph represents this proportional relationship.

### Babysitting Graph

- **Earnings (in dollars)**
- **Time Worked (in hours)**

A. Explain what the point (0, 0) represents in the context of this problem. Write your answer in the space provided.

B. Explain what the point (6, 45) represents in the context of this problem. Write your answer in the space provided.

C. Find the hourly rate that Sandy charges and write this as an ordered pair. Write your answer in the space provided.
### MAFS.7.RP.1.3

1. **Use the information provided to answer Part A through Part D.**

   The directions on a bottle of vinegar say, "mix 1 cup of vinegar with 1 gallon of water to make a cleaning solution." The ratio of vinegar to water is 1 to 16.

   **Part A**
   How many cups of water should be mixed with \( \frac{1}{4} \) cup of vinegar to make the cleaning solution?

   **Part B**
   How many **fluid ounces** of vinegar should be mixed with 80 fluid ounces of water to make the cleaning solution?

   **Part C**
   The bottle contains 1 quart of vinegar.

   What is the total number of quarts of cleaning solution that can be made using the entire bottle of vinegar?
### Part D

A spray bottle holds up to 1 cup of the cleaning solution.

When the spray bottle is full, what fraction of the cleaning solution is vinegar?

- $\frac{1}{17}$
- $\frac{1}{16}$
- $\frac{15}{10}$
- $\frac{16}{17}$

---

2. **Use the information provided to answer Part A and Part B for question #2.**

A store owner paid $15 for a book. She marked up the price of the book by 40% to determine its selling price.

### Part A

What is the selling price of the book?

### Part B

A customer buys a different book that has an original selling price of $38. The book is discounted 25%. The customer must pay a 6% sales tax on the discounted price of the book.

What is the total amount the customer pays for the discounted book?
3. Tiffany plans to use $275 she earned from a summer job to buy some new clothes for school. She found several items she likes but is trying to decide if she has enough money to buy all of them. She wants to buy three pairs of jeans for $42 each and five shirts with an average cost of $27 per shirt. She will have to pay $6\% \frac{1}{2}$ sales tax.

A. If she buys all of these items, how much tax will she have to pay?

B. Will she have enough money for the entire purchase? Explain how you know whether she will have enough money.
Write your answer in the space provided.

4. Today, gasoline prices are $3.44 per gallon. One year ago, gasoline prices were $3.75 per gallon. Determine the percent of change in the gasoline price from a year ago to today. Show how you calculated this change and interpret its meaning in the context of this problem. Write your answer in the space provided.

5. Kennedy wants to use an internet site to sell his game system. The website will charge him a fee that will be deducted from the selling price.

A. Suppose the fee is $9\% \frac{1}{2}$ of the selling price. Determine the amount of the fee if Kennedy sells his system for $50.

B. How much money will Kennedy receive after the fee has been deducted?
6. A $1,500 loan has an annual interest rate of $4\frac{1}{4}\%$ on the amount borrowed. How much time has elapsed if the interest is now $127.50?
1. Use the information provided to answer Part A and Part B.

   The students in Naomi's class sold calendars for a fund-raiser this year and last year. This year, the selling price of each calendar was $13.25. The price this year represents 6% more than the selling price of each calendar last year.

   **Part A**

   What was the selling price of each calendar last year?

   **Part B**

   The students in Naomi's class earned 20% of the money from selling these calendars:

   - They sold 650 calendars at last year's selling price.
   - They sold 600 calendars at this year's selling price.

   Based on the information, which statement is true?

   ☐ The students in Naomi's class earned more money from this fund-raiser last year by $20.
   ☐ The students in Naomi's class earned more money from this fund-raiser last year by $35.
   ☐ The students in Naomi's class earned more money from this fund-raiser this year by $20.
   ☐ The students in Naomi's class earned more money from this fund-raiser this year by $35.

2. A recipe that makes 16 cookies calls for \( \frac{1}{4} \) cup of sugar and \( \frac{2}{3} \) cup of flour. Janelle wants to proportionally increase these amounts to get a new recipe using one cup of sugar.

   **A.** Using the new recipe, how much flour should she use?

   **B.** How many cookies can she make with the new recipe?
3. You have a coupon worth $18 off the purchase of a scientific calculator. At the same time the calculator is offered with a discount of 15%, but no further discounts may be applied. For what tag price on the calculator do you pay the same amount for each discount?

4. The sales team at an electronics store sold 48 computers last month. The manager at the store wants to encourage the sales team to sell more computers and is going to give all the sales team members a bonus if the number of computers sold increases by 30% in the next month. How many computers must the sales team sell to receive the bonus? Explain your reasoning.

Write your answer in the space provided.

5. Alexandra buys sweatshirts for $12 each. In her store, she sells each sweatshirt for $30.

Part A
As part of a promotion, Alexandra discounts the college sweatshirts by 25%. If a customer purchases 2 college sweatshirts at a sales tax of 4%, what is the total price for this customer? Show your work or explain your answer.
Part B
During a clearance sale, Alexandra discounts the Halloween sweatshirts by 55%.
What is the percentage of profit Alexandra will make on each Halloween sweatshirt she
sells? Show your work or explain your answer.

6. Write an equation to find the amount of simple interest, A, earned on a $600 investment
after 1 1/2 years if the interest rate is 2%.
1. Which expressions are equivalent to \(-2.5(1 - 2n) - 1.5n\)?
   Select all that apply.
   - \(-2.5 - 3.5n\)
   - \(-2.5 + 3.5n\)
   - \(-2.5 - 6.5n\)
   - \(-2.5 - n(5 - 1.5)\)
   - \(-2.5 + n(5 - 1.5)\)

2. Mark which expressions are equivalent to \(8 - 2(5x - 3)\).
   Explain or show work to justify your decision.

<table>
<thead>
<tr>
<th>Expression</th>
<th>Equivalent</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. 6(5x - 3)</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>B. 8 - 10x + 6</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>C. 8 - (10x - 6)</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>D. 8 - 10x - 6</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>E. -10x + 14</td>
<td>□</td>
<td></td>
</tr>
</tbody>
</table>

3. Which expressions are a factor of \(-40xyz - 24xy + 40xyz\)?
   Select all that apply.
   - 4
   - 24
   - 3x
   - 8y
   - 2xy
   - 6xy
   - xyz
4. What is the simplest form of \(\frac{1}{3} (45x - \frac{18}{7})\)?

5. Use factoring to rewrite each expression in an equivalent form. Use the fewest number of terms possible. Show each step of your work.

   A. \(4x + 8 + 2\)

   B. \(3x - 12 + 6x + 9\)

6. Patricia, Hugo and Sun work at a music store. Each week, Patricia works three more than twice the number of hours that Hugo works. Sun works 2 less than Hugo.

   A. Let \(x\) represent the number of hours that Hugo works each week. The number of hours that Hugo, Patricia, and Sun work can be modeled is shown below.

   Write an expression that represents each person's number of hours.

   - Hugo's Hours: \(x\)
   - Patricia's Hours: \(2x + 3\)
   - Sun's Hours: \(x - 2\)

   Hugo ____________

   Patricia ____________

   Sun ____________
B. Model the total number of hours that Patricia and Sun work together. Draw the result below. Then write an expression for the drawing.

C. Like tiles are tiles that have the same shape. Using your model, group like tiles together and remove the zero pairs. Draw the result below. Then write an expression for your drawing.
1. Which expression is equivalent to $\frac{1}{4}(8 - 6x + 12)$?

- $\frac{7}{2}x$
- $-\frac{13}{2}x$
- $-6x + 14$
- $-\frac{3}{2}x + 5$

2. Mark all of the expressions in the table that are equivalent to $-1.8x - 11.76y + 10.8$. Explain or show work to justify your decisions.

<table>
<thead>
<tr>
<th>Expression</th>
<th>Equivalent</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. $-1.8x - 11.76y + (10.8 + 3.06) - 3.06$</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>B. $-1.8(x + 11.76y - 10.8)$</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>C. $\frac{1}{2} \cdot (-1.8x - 11.76y + 10.8) \cdot 2$</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>D. $-1.8x - 11.76y + 0 \cdot 4.2x + 10.8$</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>E. $-(1.8x - 11.76y + 10.8)$</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>
3. A regular octagon has a side length of $\frac{3}{4}x - \frac{1}{4}$. A regular hexagon has a side length of $12 - x$.

The difference between the perimeters of the two shapes is represented by the expression

$$8 \left( \frac{3}{4}x - \frac{1}{4} \right) - 6(12 - x).$$

Write an expression equivalent to $8 \left( \frac{3}{4}x - \frac{1}{4} \right) - 6(12 - x)$ using the fewest possible terms. Show all work neatly and clearly.

4. The students in Mr. Sanchez's class are converting distances measured in miles to kilometers. To estimate the number of kilometers, Abby takes the number of miles, doubles it, then subtracts 20% of the result to create the expression, $2m - 0.2(2m)$.

Renato first divides the number of miles by 5, then multiplies the result by 8 to create the expression, $8 \left( \frac{m}{5} \right)$.

Determine if the two expressions are equivalent.
5. What is the difference of the two expressions?

\[
\left( \frac{3}{7}x + 9 \right) - \left( \frac{2}{7}x - 3 \right)
\]
MAFS.7.EE.1.2

1. A garden is 15-feet long by 5-feet wide. The length and width of the garden will each be increased by the same number of feet. This expression represents the perimeter of the larger garden:

\[(x + 15) + (x + 5) + (x + 15) + (x + 5)\]

Which expression is equivalent to the expression for the perimeter of the larger garden?

Select all that apply.

- \(4x + 40\)
- \(2(x + 20)\)
- \(2(x + 15)(x + 5)\)
- \(4(x + 15)(x + 5)\)
- \(2(x + 15) + 2(x + 5)\)

2. Andrew sells treats from his ice cream cart. The items he sells along with their prices are shown in the table.

<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frosty Mango Pop</td>
<td>$1.75</td>
<td>(a)</td>
</tr>
<tr>
<td>Frozen Fruit Yogurt</td>
<td>$2.25</td>
<td>(b)</td>
</tr>
<tr>
<td>Sundae Swirl Cup</td>
<td>$2.75</td>
<td>(a)</td>
</tr>
<tr>
<td>Chocolate Chip Cone</td>
<td>$2.25</td>
<td>(c)</td>
</tr>
<tr>
<td>Fudge Sandwich</td>
<td>$1.75</td>
<td>(b)</td>
</tr>
</tbody>
</table>

Suppose Andrew sells the quantities of each item given by the variables in the table.

What does the expression \(1.75a + 2.25b + 2.75a + 2.25c + 1.75b\) represent in the context of this problem?
3. An expression equivalent to the one above is $4.5a + 4b + 2.25c$.

What does the first expression show about the quantities in this problem that the second expression does not show?

---

**Use the below diagram for problems 4, 5, & 6.**

4. The width of the rectangle is $x$ inches and the length is $(3x + 2)$ inches.

![Diagram of a rectangle with dimensions $x$ by $(3x + 2)$]

Brit represented the perimeter of the rectangle using the expression:

$$x + (3x + 2) + x + (3x + 2).$$

Explain how Brit’s expression represents the perimeter of the rectangle. Write your answer in the space provided.
5. Abbey represented the perimeter of the rectangle in problem with the expression $8x + 4$. Determine if Abbey’s expression is equivalent to Brit’s expression. Justify your reasoning.

Write your answer in the space provided.

6. Explain what the second expression, $8x + 4$, indicates about finding the perimeter of the rectangle.

Write your answer in the space provided.
MAFS.7.EE.1.1

1. Which expressions are equivalent to \(-2.5(1 - 2n) - 1.5n\)?
   Select all that apply.
   - \(-2.5 - 3.5n\)
   - \(-2.5 + 3.5n\)
   - \(-2.5 - 6.5n\)
   - \(-2.5 - n(5 - 1.5)\)
   - \(-2.5 + n(5 - 1.5)\)

2. Mark which expressions are equivalent to \(8 - 2(5x - 3)\).
   Explain or show work to justify your decision.

<table>
<thead>
<tr>
<th>Expression</th>
<th>Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. (6(5x - 3))</td>
<td>□</td>
</tr>
<tr>
<td>B. (8 - 10x + 6)</td>
<td>□</td>
</tr>
<tr>
<td>C. (8 - (10x - 6))</td>
<td>□</td>
</tr>
<tr>
<td>D. (8 - 10x - 6)</td>
<td>□</td>
</tr>
<tr>
<td>E. (-10x + 14)</td>
<td>□</td>
</tr>
</tbody>
</table>

3. Which expressions are a factor of \(-48xyz - 24xy + 40xyz\)?
   Select all that apply.
   - 4
   - 24
   - 3x
   - 8y
   - 2xy
   - 6xy
   - xyz
4. What is the simplest form of \( \frac{1}{3} (45x - \frac{18}{7}) \)?

5. Use factoring to rewrite each expression in an equivalent form. Use the fewest number of terms possible. Show each step of your work.

   A. \( 4x + 8 + 2 \)

   B. \( 3x - 12 + 6x + 9 \)

6. Patricia, Hugo and Sun work at a music store. Each week, Patricia works three more than twice the number of hours that Hugo works. Sun works 2 less than Hugo.

   A. Let \( x \) represent the number of hours that Hugo works each week. The number of hours that Hugo, Patricia, and Sun work can be modeled is shown below.

   Write an expression that represents each person's number of hours.

   \[ \text{Hugo's Hours: } x \]
   \[ \text{Patricia's Hours: } x + \frac{1}{3} \]
   \[ \text{Sun's Hours: } x - \frac{1}{3} \]

   Hugo ____________
   Patricia ____________
   Sun ____________
B. Model the total number of hours that Patricia and Sun work together. Draw the result below. Then write an expression for the drawing.

C. Like tiles are tiles that have the same shape. Using your model, group like tiles together and remove the zero pairs. Draw the result below. Then write an expression for your drawing.
MAFS.7.EE.1.1-FSA Practice

1. Which expression is equivalent to \( \frac{1}{4}(8 - 6x + 12) \)?
   - A. \( \frac{7}{2}x \)
   - B. \( -\frac{13}{2}x \)
   - C. \( -6x + 14 \)
   - D. \( -\frac{3}{2}x + 5 \)

2. Mark all of the expressions in the table that are equivalent to: \(-1.8x - 11.76y + 10.8\). Explain or show work to justify your decisions.

<table>
<thead>
<tr>
<th>Expression</th>
<th>Equivalent</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. (-1.8x - 11.76y + (10.8 + 3.06) - 3.06)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. (-1.8(x + 11.76y - 10.8))</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. (\frac{1}{2} \cdot (-1.8x - 11.76y + 10.8) \cdot 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. (-1.8x - 11.76y + 0 \cdot 4.2x + 10.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. (-(-1.8x - 11.76y + 10.8))</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. A regular octagon has a side length of $\frac{3}{4}x - \frac{1}{4}$. A regular hexagon has a side length of $12 - x$.

\[ \frac{3}{4}x - \frac{1}{4} \quad \quad 12 - x \]

The difference between the perimeters of the two shapes is represented by the expression

\[ 8 \left( \frac{3}{4}x - \frac{1}{4} \right) - 6(12 - x). \]

Write an expression equivalent to $8 \left( \frac{3}{4}x - \frac{1}{4} \right) - 6(12 - x)$ using the fewest possible terms. Show all work neatly and clearly.

4. The students in Mr. Sanchez's class are converting distances measured in miles to kilometers. To estimate the number of kilometers, Abby takes the number of miles, doubles it, then subtracts 20% of the result to create the expression, $2m - 0.2(2m)$.

Renato first divides the number of miles by 5, then multiplies the result by 8 to create the expression, $8 \left( \frac{m}{5} \right)$.

Determine if the two expressions are equivalent.
5. What is the difference of the two expressions?

\[
\left(\frac{3}{7}x + 9\right) - \left(\frac{2}{5}x - 3\right)
\]
MAFS.7.EE.1.2

1. A garden is 15-feet long by 5-feet wide. The length and width of the garden will each be increased by the same number of feet. This expression represents the perimeter of the larger garden:

\[(x + 15) + (x + 5) + (x + 15) + (x + 5)\]

Which expression is equivalent to the expression for the perimeter of the larger garden?

Select all that apply.

○ 4x + 40
○ 2(2x + 20)
○ 2(x + 15)(x + 5)
○ 4(x + 15)(x + 5)
○ 2(x + 15) + 2(x + 5)

2. Andrew sells treats from his ice cream cart. The items he sells along with their prices are shown in the table.

<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frosty Mango Pop</td>
<td>$1.75</td>
<td>a</td>
</tr>
<tr>
<td>Frozen Fruit Yogurt</td>
<td>$2.25</td>
<td>b</td>
</tr>
<tr>
<td>Sundae Swir Cup</td>
<td>$2.75</td>
<td>a</td>
</tr>
<tr>
<td>Chocolate Chip Cone</td>
<td>$2.25</td>
<td>c</td>
</tr>
<tr>
<td>Fudge Sandwich</td>
<td>$1.75</td>
<td>b</td>
</tr>
</tbody>
</table>

Suppose Andrew sells the quantities of each item given by the variables in the table.

What does the expression 1.75a + 2.25b + 2.75a + 2.25c + 1.75b represent in the context of this problem?
3. An expression equivalent to the one above is $4.5a + 4b + 2.25c$.

What does the first expression show about the quantities in this problem that the second expression does not show?

---

**Use the below diagram for problems 4, 5, & 6.**

4. The width of the rectangle is $x$ inches and the length is $(3x + 2)$ inches.

![Diagram of a rectangle with dimensions labeled: $x$, $3x + 2$, $x$, $3x + 2$.]

Brit represented the perimeter of the rectangle using the expression:

$$x + (3x + 2) + x + (3x + 2).$$

Explain how Brit's expression represents the perimeter of the rectangle. Write your answer in the space provided.
5. Abbey represented the perimeter of the rectangle in problem with the expression $8x + 4$. Determine if Abbey's expression is equivalent to Brit's expression. Justify your reasoning.

Write your answer in the space provided.

| ____________________________________________________________________________ |
| ____________________________________________________________________________ |

6. Explain what the second expression, $8x + 4$, indicates about finding the perimeter of the rectangle.

Write your answer in the space provided.

| ____________________________________________________________________________ |
| ____________________________________________________________________________ |
### MAFS.7.EE.1.2-FSA Practice

1. Which expression is not equivalent to the other three?
   - A. $-8 - 7n + 16n$
   - B. $9(n - 8)$
   - C. $n - 8 + 8n$
   - D. $9n - 8$

2. Why are the expressions $3(y - 2) + 2(y - 2)$ and $5(y - 2)$ equivalent?
   Justify your answer.

   Write your answer in the space provided.

3. Refer to the below information for problems 3, 4, & 5.
   Malia is at an amusement park. She bought 14 tickets, and each ride requires 2 tickets.
   Write an expression that gives the number of tickets Malia has left in terms of $x$, the number of rides she has already gone on. Find at least one other expression that is equivalent to it.
4. \[14 - 2x\] represents the number of tickets Malia has left after she has gone on \(x\) rides.

How can each of the following numbers and expressions be interpreted in terms of tickets and rides?

- \[14\]
- \[-2\]
- \[2x\]

Write your answer in the space provided.

5. \[2(7 - x)\] also represents the number of tickets Malia has left after she has gone on \(x\) rides.

How can each of the following numbers and expressions be interpreted in terms of tickets and rides?

- \[7\]
- \[(7-x)\]
- \[2\]

Write your answer in the space provided.

6. Select all the expressions that are equivalent to each other.

- A. \[2(1+2b+3a)\]
- B. \[2(1+2a)+2(a+2b)\]
- C. \[6a+2+4b\]
- D. \[2(3a+1)+4b+1\]
1. Use the information provided to answer Part A and Part B.

Each bulleted statement describes how the amount of income tax is determined for yearly taxable incomes in different ranges.

- Yearly taxable incomes of $8,925 or less are taxed at a flat rate of 10%.
- For yearly taxable incomes from $8,926 to $36,250, the first $8,925 is taxed at 10% and any income beyond $8,925 is taxed at 15%.
- For yearly taxable incomes greater than $36,250, the first $8,925 is taxed at 10%, the next $27,325 is taxed at 15%, and any income beyond $36,250 is taxed at 25%.

Part A

Mr. Vance's yearly taxable income is $35,675. What is the dollar amount taken out for taxes based on Mr. Vance's taxable income?

Part B

Mr. Rivera's taxable income is $20 each hour before taxes are taken out. Mr. Rivera worked a total of 40 hours each week for 50 weeks.

What is the dollar amount, to the nearest dollar, taken out for taxes based on Mr. Rivera's taxable income?
2. Use the information provided to answer Part A and Part B.

Today, Joelle walked 20 minutes at a rate of 3 miles per hour, and she ran 15 minutes at a rate of 6 miles per hour.

**Part A**

How many total miles did Joelle travel while walking and running?

---

**Part B**

Tomorrow, Joelle wants to travel a total of 4 miles by walking and running. She plans to run for 20 minutes at a rate of 6 miles per hour.

How many minutes should she walk at a rate of 3 miles per hour to finish traveling the 4 miles?
3. Use the information provided to answer Part A and Part B.

A teacher surveyed students in four classes to determine the location for a field trip. Each student chose only one location. The table shows the number of students from each class who chose each location.

<table>
<thead>
<tr>
<th>Class</th>
<th>Number of Students Who Chose the Zoo</th>
<th>Number of Students Who Chose the Museum</th>
<th>Number of Students Who Chose the Planetarium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class E</td>
<td>10</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Class F</td>
<td>8</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Class G</td>
<td>12</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Class H</td>
<td>6</td>
<td>10</td>
<td>8</td>
</tr>
</tbody>
</table>

**Part A**

Determine the percent of students in each class who chose the museum. What is the order, from least to greatest, of the percents for each class?

- Class E, Class F, Class G, Class H
- Class G, Class E, Class F, Class H
- Class G, Class E, Class H, Class F
- Class H, Class F, Class E, Class G

**Part B**

The total number of students who chose the zoo is how many times as great as the total number of students who chose the planetarium?

- 1
- \(1 \frac{1}{18}\)
- \(1 \frac{1}{6}\)
- \(1 \frac{1}{9}\)
4. At the beginning of the month, Alexa's bank account contained $4329.97. She then made two deposits of $452.28 each and a withdrawal of $279.34. Alexa estimates that she has about $5000 in her account. Use a mental strategy to determine if her estimate is reasonable. Explain and describe your strategy.

Write your answer in the space provided.

5. Bruno noticed today's gasoline price at the local convenience store was advertised as $3.40 per gallon. This price is 15% above last year's price. Calculate last year's price, showing each step of your work.
### MAFS.7.EE.2.3-FSA Practice

#### 1. Refer to the below information for problems 1 & 2.

A Florida factory produces fishing reels at a rate of 800 per day, every day. In April, they are forced to cut their production by $\frac{1}{5}$ due to an aluminum shortage.

A chain of sporting goods stores orders 20,000 fishing reels. Will the factory be able to produce enough fishing reels in the 30 days of April to meet this order? Explain how you know.

Write your answer in the space provided.

How many days will it take the factory to produce the 20,000 fishing reels?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>+</th>
<th>-</th>
<th>*</th>
<th>÷</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
<td>&lt;</td>
<td>≤</td>
<td>≥</td>
<td>&gt;</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>(\sqrt{\cdot})</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>,</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Brittany's family went to dinner at her favorite restaurant because her father had a coupon for 15% off. Her father said if she could correctly figure out the total cost of dinner, including the $\frac{1}{2}$% sales tax, he would take them all out for frozen yogurt on the way home. The meal cost $53.52 without the discount. Brittany determined the total, with the discount and sales tax, will be $44.50.

Did Brittany figure it out correctly? Show your work to support your answer.

4. Jordan earned $200 this month delivering newspapers. His mom said he must put 20% into his savings account. He wants to buy headphones that cost $99.95 and two shirts that cost $17.99 each. He also has to pay 7% sales tax on his purchases.

Jordan said, “No problem. I will put 20% into savings, buy the things I want, and still have about $10 left.”

Use estimation to determine if Jordan’s calculation is reasonable. Show your work.
A restaurant makes a special seasoning for all its grilled vegetables. Here is how the ingredients are mixed:

- $\frac{1}{2}$ of the mixture is salt
- $\frac{1}{4}$ of the mixture is pepper
- $\frac{1}{8}$ of the mixture is garlic powder
- $\frac{1}{8}$ of the mixture is onion powder

When the ingredients are mixed in the same ratio as shown above, every batch of seasoning tastes the same.

Study the measurements for each batch in the table. Fill in the blanks so that every batch will taste the same.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Batch 1</th>
<th>Batch 2</th>
<th>Batch 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt (cups)</td>
<td>1</td>
<td>______</td>
<td>______</td>
</tr>
<tr>
<td>Pepper (cups)</td>
<td>______</td>
<td>1</td>
<td>______</td>
</tr>
<tr>
<td>Garlic powder (cups)</td>
<td>$\frac{1}{4}$</td>
<td>______</td>
<td>1</td>
</tr>
<tr>
<td>Onion powder (cups)</td>
<td>______</td>
<td>______</td>
<td>1</td>
</tr>
</tbody>
</table>
### A CALCULATOR IS ALLOWED

<table>
<thead>
<tr>
<th>MAFS.7.EE.2.4</th>
</tr>
</thead>
</table>

1. Two equations are shown.
   - Equation 1: \(-0.5x - 4 = 1.5\)
   - Equation 2: \(-0.5(x - 4) = 1.5\)

   Select each statement that must be true.
   - \(x\) represents a negative value in both equations.
   - \(x\) represents a positive value in both equations.
   - \(x\) represents a positive value in one equation and a negative value in the other equation.
   - The value \(x\) represents in Equation 1 is less than the value \(x\) represents in Equation 2.
   - The value \(x\) represents in Equation 1 is greater than the value \(x\) represents in Equation 2.

2. **Use the information provided to answer Problems 2 and 3.**

   Rebecca and Megan are shopping at a store that sells jewelry, scarves, and purses. The cost of all the items at the store include tax.

   Rebecca buys some scarves that cost $5 each and 2 purses that cost $12 each. The cost of Rebecca's total purchase is $39. What equation can be used to find \(n\), the number of scarves that Rebecca buys?

   - \(5 + 24n = 39\)
   - \(5n + 24 = 39\)
   - \((24 + 5)r = 39\)
   - \(24 + 5 + r = 39\)

3. Megan buys 3 bracelets and 3 necklaces. Each bracelet costs $5. Megan pays the clerk $40 and gets $4 change. What is the cost, in dollars, of one necklace?
4. A scrapyard had 200 tons of recycled steel. They sold 15 tons per day for several days. If there are fewer than 80 tons left at the scrapyard, how many days, \( d \), have passed?

A. Write an inequality to answer the question.

\[
\begin{array}{cccc}
1 & 2 & 3 & + \\
4 & 5 & 6 & - \\
7 & 8 & 9 & \cdot \\
0 & . & - & \div
\end{array}
\]

B. Solve the inequality.

C. Graph the solution set of the inequality. What does the solution of your inequality mean in terms of the answer to the question?
5. When carbon dioxide is frozen, it is called dry ice. In order to keep the carbon dioxide frozen, the temperature has to be \(-109.3^\circ\) Fahrenheit or lower. Fahrenheit is \(\frac{9}{5}\) of the Celsius temperature plus 32 degrees.

A. Write an inequality to determine the Celsius temperatures, \(C\), at which dry ice can be kept.

\[
\begin{align*}
1 & \quad 2 & \quad 3 & \quad + & \quad - & \quad \cdot & \quad \div \\
4 & \quad 5 & \quad 6 & \quad < & \quad \leq & \quad = & \quad \geq & \quad > \\
7 & \quad 8 & \quad 9 & \quad \frac{1}{2} & \quad \square & \quad ( & \quad ) & \quad \ | & \quad \sqrt{ } & \quad \sqrt[3]{ } & \quad \pi \\
0 & \quad . & \quad - & \quad C
\end{align*}
\]

B. Solve your inequality.

C. Scale the number line below and graph the solution to the inequality.
1. Devon exercised the same amount of time each day for 5 days last week.
   - His exercise included walking and swimming.
   - Each day he exercised, he walked for 10 minutes.
   - He exercised for a total of 225 minutes last week.

   What is the number of minutes Devon swam each of the 5 days last week?

2. Jessica rented 1 video game and 3 movies for a total of $11.50.
   - The video game cost $4.75 to rent.
   - The movies cost the same amount each to rent.

   What amount did Jessica pay to rent each movie?

3. A. Which of the equations below will answer the following question?
    Check all that apply.

    "I think of a number, add 8 and then multiply by 3. My answer is 66. What was my number?"

    - [ ] A. \( x + 24 = 66 \)
    - [ ] B. \( 3x + 8 = 66 \)
    - [ ] C. \( 3x + 24 = 66 \)
    - [ ] D. \( 3(x + 8) = 66 \)

    B. Find the value of \( x \) for the equation(s) for the number described.
4. Aaron received a $25 gift card for his birthday. He used it to download a game for $3.99 and some songs for $0.99 each.

The following inequality models the relationship among the quantities in this scenario where \( x \) represents the number of songs Aaron can afford to download:

\[ 25 \geq 0.99x + 3.99 \]

A. Show all work to solve the inequality.

B. Scale the number line below and graph the solution to the inequality. Explain the meaning of your solution within the context of the problem.

\[ \hspace{1cm} \]

5. Jonathan wants to save up enough money so that he can buy a new sports equipment set that includes a football, baseball, soccer ball, and basketball.

This complete boxed set costs $50. Jonathan has $15 he saved from his birthday. In order to make more money, he plans to wash neighbors' windows.

He plans to charge $3 for each window he washes, and any extra money he makes beyond $50 he can use to buy the additional accessories that go with the sports box set.

A. Write an inequality that represents the number of windows, \( w \), Jonathan can wash in order to save at least the minimum amount he needs to buy the boxed set.
B. Solve the inequality.

C. What is a realistic number of windows for Jonathan to wash? How would that be reflected in the graph?

   Write your answer in the space provided.

D. Scale the number line below and graph the solutions to the inequality.
MAFS.7.NS.1.1

1. In which of these situations would the answer to the question be 0?
   - Teddy jumped into a pool from a diving board 8 feet above the water. He sank 8 feet and then swam straight up to the surface of the water. How many feet did Teddy swim?
   - Jerry left his house and walked 1.5 miles directly west. Then he walked 1.5 miles directly east. At this point, how many miles was Jerry from his house?
   - A trail begins at an elevation of −50 feet. The trail ends at an elevation of 50 feet. By how many feet does the elevation of the trail change from beginning to end?
   - The low temperature one day was −3°C Celsius. The high temperature that day was 3°C Celsius. What is the difference between the low temperature and the high temperature that day?

2. Two numbers, $n$ and $p$ are plotted on the number line shown.

```
\[ \text{Number Line: } \bullet -1 \bullet 0 \bullet 1 \]
```

The numbers $n - p$, $n + p$, and $p - n$ will be plotted on the number line.

Select an expression from each drop-down menu to make this statement true.

The number with the least value is \[\text{Choose...}\] , and the number with the greatest value is \[\text{Choose...}\]

Choose from the following:

- $n - p$
- $n + p$
- $p - n$

Write your answer in the space provided.
3. Jonah is a novice when it comes to scuba diving. His first dive was 12 feet deep, and his second dive was 3 feet deeper than the first.

Describe the depth of Jonah's second dive. Show your work on the vertical number line.
4. Which expressions are equivalent to \(-3 - (7.5 + 4)\)? Select all that apply.

- (7.5 + 4) - 3
- \(-7.5 + 4\) - 3
- \(-7.5 + 4\) + 3
- \(-3 - (4 + 7.5)\)
- \((3 - 7.5) + 4\)
- \(-3 + (7.5 - 4)\)
- \(-3 + (-7.5 + 4)\)
MAFS.7.NS.1.1-FSA Practice

1. **Part A**
   DeWayne stands on a rock that is (+10) feet compared to the surface of the water, as shown with the X below. Place an X on the picture to show where (−10) feet is compared to the surface of the water.

   ![Diagram of a rock near the surface of the water with an X indicating the comparison]

**Part B**
The bottom of the lake is 50 feet below the surface.
What number can be used to represent the depth of the lake?

**Part C**
DeWayne starts at the surface of the water and swims to (−25) feet. From there he swims (+10) feet to see the fish and then back down (−5) feet to the seaweed.
How many feet does DeWayne need to swim in order to get back to the surface?

**Part D**
What number would represent the surface of the water? Explain your reasoning.
Write your answer in the space provided.
2. **Use the information provided to answer Parts A, B, C, and D.**

Ethan plotted points **E**, **F**, **G**, **H**, and **I** on a number line, as shown below.

```
  E  F  G  H  I
-10  -5   0   5   10
```

A. Which two points that Ethan plotted represent numbers that have a sum of 0? Show or explain how you got your answer.

Write your answer in the space provided.

B. Write an equation using **subtraction** that could be used to find **d**, the distance, in units, between point **E** and point **I**.
C. Solve the equation that you wrote in part (b). Show or explain how you got your answer.

Write your answer in the space provided.

Ethan wrote the expression below to represent the distance between point G and point H.

\[-2 + |k|\]

D. What is the value of Ethan’s expression?

Explain how you know Ethan’s expression is equivalent to the distance between point G and point H.

Write your answer in the space provided.

3. Which expressions are equivalent to \(\frac{3}{4} - \left(-\frac{1}{2}\right)\)?
   Select all that apply.
   - A. \(\frac{3}{4} - \left(\frac{1}{2}\right)\)
   - B. \(\frac{3}{4} + \left(\frac{1}{2}\right)\)
   - C. \(\frac{3}{4} + \left(-\frac{1}{2}\right)\)
   - D. \(\frac{3}{4} + \left(+\frac{3}{2}\right)\)
   - E. \(-\frac{3}{4} + \left(-\frac{1}{2}\right)\)
   - F. \(-\frac{3}{4} + \left(+\frac{1}{2}\right)\)
4. Select the correct number from each drop-down menu to complete the equation.

\[
\frac{1}{2} - \left( -2 + \frac{3}{4} \right) = \left( \begin{array}{c}
\text{Choose...} \\
\text{Choose...}
\end{array} \right) + \left( \begin{array}{c}
\text{Choose...} \\
\text{Choose...}
\end{array} \right) + \frac{1}{2}
\]

Write your answer in the space provided.
MAFS.7.NS.1.2

1. Which expressions have products that are positive? Select all that apply.
   - \((-5)(0.2)(-9)\)
   - \(\left(\frac{2}{3}\right)\left(\frac{3}{2}\right)(-\frac{1}{3})\)
   - \((6)(-3)(6)(-7)\)
   - \((-4\frac{1}{3})(-\frac{1}{4})(-\frac{1}{2})(-\frac{1}{9})\)
   - \(\left(\frac{5}{6}\right)(-10)(3\frac{4}{9})(2)\)
   - \((-1.2)(-3.5)(2.7)(-0.8)\)

2. In which situation could the quotient of \(-24 + 3\) be used to answer the question?
   - The temperature of a substance decreased by 24°C per minute for 3 minutes. What was the overall change of the temperature of the substance?
   - A football team lost 24 yards on one play, then gained 3 yards on the next play. How many total yards did the team gain on the two plays?
   - Julia withdrew a total of $24 from her bank account over 3 days. She withdrew the same amount each day. By how much did the amount in her bank account change each day?
   - A cookie jar contains 24 cookies. Each child receives 3 cookies. How many children are there?

3. Which expressions are equivalent to \(-3\cdot\frac{4}{5}\)?
   Select each correct answer.
   - \(-\frac{3}{5}\cdot4\)
   - \(-\frac{3}{5}\cdot4\)
   - \(-\frac{3+4}{5}\)
   - \(-3\cdot\frac{4}{5}\cdot\frac{1}{5}\)
   - \(\frac{3}{5}\cdot4\)
   - \(\frac{3\cdot4}{5}\)
4. Convert each of the following fractions to a decimal using long division.

| A. \( \frac{5}{6} \) | B. \( \frac{0}{17} \) |

C. Which of the fractions above are rational numbers? Explain how you know.

Write your answer in the space provided.
5. The water level in Ricky Lake changes at an average of $\frac{7}{16}$ inch every 3 years.

A. Based on the rate above, how much will the water level change after one year? Show your calculations and model your answer on the vertical number line, using 0 as the original water level.

B. How much would the water level change over a 7-year period?

C. When written in decimal form, is your answer to part (B) a repeating decimal or a terminating decimal? Justify your answer using long division.
<table>
<thead>
<tr>
<th>MAFS.7.NS.1.2-FSA Practice</th>
</tr>
</thead>
</table>
| **1.** Roger is trying to understand why the product of a positive number and a negative number should be negative.  
How would you explain to Roger why \(2 \cdot -\frac{4}{5}\) is a negative number?  
Write your answer in the space provided. |
| **2.** Which expressions are equivalent to \(-\frac{5}{19}\)?  
Select each correct answer.  
- A. \(\frac{5}{19}\)  
- B. \(-\frac{5}{19}\)  
- C. \(-\frac{5}{19}\)  
- D. \(\frac{5}{19}\)  
- E. \(-\left(\frac{5}{19}\right)\)  
- F. \(-\left(-\frac{5}{19}\right)\) |
3. Mark which expressions below are equivalent to $-5 \div 20$.
Explain your reason for each choice.

<table>
<thead>
<tr>
<th></th>
<th>Equivalent</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>$\frac{1}{-4}$</td>
<td>☐</td>
</tr>
<tr>
<td>B.</td>
<td>$\frac{20}{5}$</td>
<td>☐</td>
</tr>
<tr>
<td>C.</td>
<td>$-4$</td>
<td>☐</td>
</tr>
<tr>
<td>D.</td>
<td>$-\frac{5}{-20}$</td>
<td>☐</td>
</tr>
<tr>
<td>E.</td>
<td>$\frac{1}{4}$</td>
<td>☐</td>
</tr>
<tr>
<td>F.</td>
<td>$\frac{-5}{-20}$</td>
<td>☐</td>
</tr>
</tbody>
</table>

4. Evaluate each expression using the properties of operations (e.g., the Associative, Commutative, and Distributive Properties) to make your work easier.
Indicate where you used any properties to complete the problem.

<table>
<thead>
<tr>
<th></th>
<th>Associative Property</th>
<th>Distributive Property</th>
<th>Commutative Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. $(1 - \frac{1}{3} \cdot 2 \frac{1}{2}) \cdot 3$</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>B. $7 \cdot 2 \frac{4}{5} + 7 \cdot 3 \frac{1}{5}$</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
5. Convert each of the following fractions to a decimal using long division.

A. \( \frac{13}{8} \)  
B. \( \frac{32}{0} \)

C. Which of the fractions above are rational numbers? Explain how you know.

Write your answer in the space provided.
MAFS.7.NS.1.3

1. At the start of the month, the value of an investment was $48.45. By the end of the month, the value of the investment changed by a loss of $13.80.

What was the value, in dollars, of the investment at the end of the month?

2. Evaluate the expression. Show all of your work.

\[-10 - 6 + 4 \div (-0.5)(-2)\]

3. Adonico made snacks for her friends by putting equal amounts of trail mix into small bags. If she started with \(\frac{4}{5}\) cups of trail mix and put \(\frac{3}{4}\) cup into each bag, how many complete bags did she make?

Show your work and explain how you answered the question.

Write your answer in the space provided.
4. Kay's mother taught her how to make handmade ornaments to sell at a craft fair. Kay rented a table at the fair for $30 and set up her work station. Each ornament that she makes costs approximately $2.50 for materials. She sells each ornament for $6.00.

Kay does not want to lose money on her business. Her mother told her she needs to sell enough ornaments to at least cover her expenses (costs for materials and table rental). Kay figures that if she sells 8 ornaments, she covers her expenses and does not lose any money.

Do you agree? Explain and show work to support your answer.

Write your answer in the space provided.
MAFS.7.NS.1.3-FSA Practice

1. An airplane's altitude changed \(-378\) feet over 7 minutes. What was the mean change of altitude in feet per minute?

2. The water around a Florida power plant in the winter averages 22.5 °C. Isaiah measured the water temperature, $t$, every week for five weeks and recorded the difference between each measured temperature and 22.5 °C by calculating $t - 22.5$.

<table>
<thead>
<tr>
<th>Week</th>
<th>Temperature Difference from 22.5 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>2.5</td>
</tr>
<tr>
<td>Week 2</td>
<td>-4.1</td>
</tr>
<tr>
<td>Week 3</td>
<td>-0.5</td>
</tr>
<tr>
<td>Week 4</td>
<td>1.0</td>
</tr>
<tr>
<td>Week 5</td>
<td>-3.4</td>
</tr>
</tbody>
</table>

What is the average of the actual water temperatures taken during the five weeks? Explain how you found your answer.
3. Travis received a letter from his bank saying that his checking account balance fell below zero. His account transaction log is shown below.

<table>
<thead>
<tr>
<th>CHECK NO.</th>
<th>DATE</th>
<th>DESCRIPTION OF TRANSACTION</th>
<th>PAYMENT</th>
<th>DEPOSIT</th>
<th>BALANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10/17</td>
<td>Beginning Balance</td>
<td></td>
<td></td>
<td>$367.50</td>
</tr>
<tr>
<td>1125</td>
<td>10/18</td>
<td>CBC Audio (Headphones)</td>
<td>$62.00</td>
<td></td>
<td>$305.50</td>
</tr>
<tr>
<td>1126</td>
<td>10/22</td>
<td>NY Sport (Basketball Shoes)</td>
<td>$87.00</td>
<td></td>
<td>$218.50</td>
</tr>
<tr>
<td>Debit</td>
<td>10/25</td>
<td>Gary's Country Market</td>
<td>$38.50</td>
<td></td>
<td>$180.00</td>
</tr>
<tr>
<td>1127</td>
<td>10/25</td>
<td>Iggy's Skate Shop (Skateboard)</td>
<td>$188.00</td>
<td></td>
<td>$8.00</td>
</tr>
<tr>
<td>10/25</td>
<td>Cash Deposit (Birthday Money)</td>
<td>$20.00</td>
<td></td>
<td>$28.00</td>
<td></td>
</tr>
<tr>
<td>Debit</td>
<td>10/30</td>
<td>McDonuts</td>
<td>$5.95</td>
<td></td>
<td>$23.05</td>
</tr>
</tbody>
</table>

On which line did Travis make a mathematical error? Explain Travis' mistake.

Write your answer in the space provided.

4. The bank charged Travis a $20 fee because his balance dropped below 0. He knows that he currently has an outstanding charge for $7.85 that he has not recorded yet.

How much money will Travis have to deposit into his account so that the outstanding charge does not create another bank fee? Explain.

Write your answer in the space provided.
5. The three seventh grade classes at Sunview Middle School collected the most box tops for a school fundraiser, and so they won a $600 prize to share among them. Mr. Aceves' class collected 3,760 box tops, Mrs. Baca's class collected 2,301, and Mr. Canyon's class collected 1,855.

How should they divide the money so that each class gets the same fraction of the prize money as the fraction of the box tops that they collected?
Use the information provided to answer Questions 1 and 2. The scale on a map shows that 5 centimeters = 2 kilometers.

1. What number of centimeters on the map represents an actual distance of 5 kilometers?

2. What is the actual number of kilometers that is represented by 2 centimeters on the map?

Many supersonic jet aircraft in the past have used triangular wings called delta wings. Below is a scale drawing of the top of a delta wing.

Scale: 2 centimeters (cm) in the drawing = 192 cm on the actual wing.

3. What is the length of the actual wing?

4. What is the area of the actual wing?

![Diagram of a delta wing with a side length of 5 cm.]
5. Over the break, your uncle and aunt ask you to help them cement the foundation of their newly purchased land and give you a top-view blueprint of the area and proposed layout. A small legend on the corner states that 4 inches of the length corresponds to an actual length of 52 feet.

A. What is the scale factor?

B. If the dimensions of the foundation on the blueprint are 11 inches by 13 inches. What are the actual dimensions in feet?

C. You're asked to go buy bags of dry cement and know that one bag covers 350 square feet. How many bags do you need to buy to finish this project?
1. Racquel drew a picture of her school. She used the scale 1 cm : 3 m. Her drawing is 61 cm long. What is the length, in meters, of the actual school?

2. Each solar array wing on the International Space Station measures 39 feet by 112 feet. The scale drawing of a solar array wing shown below was made using a scale of 1 inch : 8 feet.

   ![Diagram of solar array wing]

   Write the ratio of the area of the wing in the drawing (square inches) to the area of an actual solar array wing (square feet) as a unit fraction.

3. Explain the relationship between your answer to Question 2 and the scale of the drawing.
4. A landscape designer drew a blueprint of a garden she is designing for a client. The length of each square on her current grid is 1 centimeter (cm) and represents a length of 10 feet (ft) in the actual garden.

Maintaining the same actual garden dimensions, redraw the blueprint so that 1 cm represents a length of 5 ft in the actual garden.

1 cm:10 ft

1 cm:5 ft

5. How did the new scale change the length of each side of the figure in the blueprint?
7th Science

Day to day instructions are forthcoming
Chapter 3 • Lesson 11
Waves and Electromagnetic Energy

- energy • wave • radiation • electromagnetic wave • amplitude • wavelength • frequency
- wave speed • electromagnetic energy • electromagnetic spectrum • visible light
- visible spectrum • infrared light • ultraviolet light

Getting the Idea

Imagine sitting by a lake on a beautiful day. Sunlight shines through the trees and warms your face. You hear music from a nearby radio. A fish jumps, making ripples in the lake water. Light, sound, and ripples in water are all forms of energy carried by different kinds of waves. These waves differ in their characteristics and move at different speeds in different types of matter.

Waves

Energy is the ability to make things move or change. A wave is a disturbance that transfers energy through matter or space. If you throw a pebble into water, waves move outward from the spot where the pebble entered the water. Energy from the pebble's splash causes the water to move up and down as the wave passes. This motion is a disturbance. All waves are disturbances that carry energy from one place to another.

Many waves need a medium in order to transfer energy. A medium, such as water, is a material through which a wave travels. Sound waves require a medium, such as air, water, or a solid object, in order to reach your ears.

When traveling through a medium, a wave displaces the particles of the medium. That is, the wave moves the particles from their original, or resting, position. The particles do not travel with the wave. They move up and down or back and forth. After the wave passes, the particles return to their resting position.

Some waves, such as light waves and radio waves, do not require a medium. Energy transferred without a medium is radiation. Waves that can transfer energy as radiation are called electromagnetic waves. Electromagnetic waves can transfer energy through a vacuum, or empty space. That is how energy from the sun passes through 150,000,000 kilometers of space to reach Earth. You see that energy as light and feel it on your skin as heat.
Properties of Waves
All waves have certain characteristics in common. These include amplitude, wavelength, frequency, and wave speed. Refer to the diagram as you read about these characteristics.

Amplitude is the distance from the midpoint (resting position) of a wave to its top, or crest, or to its bottom, or trough. In a medium, wave amplitude is the maximum amount of displacement of particles from their resting position. A water wave with high amplitude is a tall wave. A sound wave with high amplitude causes you to hear a loud sound.

Wavelength is the distance from any point on a wave to the identical point on the next wave. The most common way to measure wavelength is to find the distance from crest to crest or from trough to trough. Waves with short wavelengths transfer more energy than waves with long wavelengths.

Frequency is the number of waves that pass a given point in one second. Frequency and wavelength are inversely related. When frequency increases, wavelength decreases, and vice versa. The unit of measurement for frequency is the hertz (Hz). One hertz equals one wave per second. A sound wave with high frequency makes a higher-pitched sound than a sound wave with low frequency.

One other property of waves is wave speed. Wave speed is a measurement of the distance a wave travels per unit of time. Wave speed is usually measured in meters per second. The medium a wave passes through and the type of wave determine wave speed. Wave speed remains constant unless the medium changes. For example, light waves travel through empty space at a constant speed of 299,792,458 meters per second. But when light waves enter a medium, such as air or water, their speed changes. Sound waves, too, travel at different speeds in different materials. Sound waves travel faster through liquids than through gases. Sound travels fastest through solid materials.
Electromagnetic Energy

Energy that travels through space in the form of waves is electromagnetic (EM) energy. There are different types of electromagnetic waves. Each type of EM wave has a different range of wavelengths and frequencies. The whole range of EM energy makes up the electromagnetic spectrum.

The diagram illustrates the electromagnetic spectrum. At one end of the spectrum are very long waves, called radio waves. At the other end are very short waves, called gamma rays. As with other types of waves, the frequency of EM waves increases as wavelength decreases. Thus, frequency increases as you move through the EM spectrum from radio waves to gamma rays.

There are seven types of EM energy. The three types you are likely most familiar with are visible light, infrared light, and ultraviolet light.

Visible light is a narrow section of the electromagnetic spectrum that humans can see. This type of EM energy falls near the middle of the EM spectrum. Visible light is composed of different colors of light known as the visible spectrum. Each color in the spectrum has a different range of wavelengths and frequencies. These colors, from longest to shortest wavelength, include red, orange, yellow, green, blue, indigo, and violet. White light is made up of all the colors in the visible spectrum.

Infrared light is the EM energy most associated with heat. These waves make up the wavelength range between visible light and microwaves. The sun's heat travels to Earth as infrared waves. Although you cannot see infrared waves, you can feel their warmth coming from the sun or from a campfire.

If you use a toaster oven, you are using infrared rays to cook your food. When the coils of a toaster glow red, you are not seeing infrared waves. You are seeing some of the red light that the toaster produces in addition to infrared light. The heat that toasts your bread is the infrared waves.
Much of the light from the sun is in the form of ultraviolet light. **Ultraviolet (UV) light** is composed of waves that are somewhat shorter and carry more energy than visible light. The energy of UV light can affect matter. For example, UV light makes some minerals glow. UV energy from the sun can also burn or tan the skin. Too much UV energy can damage cells and lead to skin cancer.

The chart below summarizes the different types of EM energy.

<table>
<thead>
<tr>
<th>Types of Electromagnetic Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form of EM Energy</strong></td>
</tr>
<tr>
<td>Gamma rays</td>
</tr>
<tr>
<td>X-rays</td>
</tr>
<tr>
<td>Ultraviolet light</td>
</tr>
<tr>
<td>Visible light</td>
</tr>
<tr>
<td>Infrared light</td>
</tr>
<tr>
<td>Microwaves</td>
</tr>
<tr>
<td>Radio waves</td>
</tr>
</tbody>
</table>

**Discussion Question**

How are sound waves and EM waves alike? How are they different?

**Lesson Review**

1. Which of the following is not a medium?
   - A. space
   - B. air
   - C. water
   - D. wood
2. High-frequency waves
   A. have high amplitudes.
   B. have long wavelengths.
   C. travel at high speeds.
   D. have short wavelengths.

3. Where do most of the visible electromagnetic waves on Earth come from?
   A. X-rays
   B. the sun
   C. radio waves
   D. fluorescent lights

4. What do waves transfer?
   A. matter
   B. energy
   C. water
   D. particles

5. Which statement is true?
   A. Waves travel at different speeds through different materials.
   B. Light waves and sound waves travel at the same constant speed.
   C. Wave speed depends on the amplitude of the wave.
   D. Light waves always travel at a constant speed, but sound waves do not.
Chapter 3 • Lesson 12
The Behavior of Light

Getting the Idea

In the last lesson, you learned that light travels through matter or empty space in the form of electromagnetic waves. The waves travel away from a source, such as the sun or a lightbulb, in all directions. Light waves behave in different ways when they strike or pass through different materials.

Reflection

Light waves move in a straight path called a ray. You can see light's straight path when you use a flashlight. When light strikes an object, the light may bounce off the object, pass through the object, or be absorbed by the object. The bouncing of light off a surface is called reflection.

Everything you see reflects some light. The light bounces off the surface and into your eyes. Different surfaces reflect light in varying degrees. Smooth, white surfaces reflect more light than dark, rough surfaces.

When light strikes a very smooth surface, such as a mirror or the surface of very still water, the light forms images that we can see. When you look in a mirror, your body reflects light into the mirror, and the light bounces back into your eyes. You see yourself because the angle at which light strikes the mirror is the same size as the angle at which the light is reflected.

When light strikes a surface that is not smooth, the light is scattered, or reflected in many different directions. Most objects scatter light in this way.

Reflection

![Reflection Diagram]

Smooth surface

Rough surface

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**Refraction**

*Refraction* is the bending of light. When light passes from one material, such as air, into another, such as a glass of water, the light changes speed. The change in speed causes the light to change direction. The greater the change in speed, the more the light bends.

Recall from the last lesson that white light, such as the light from the sun or from a lamp, is actually a mixture of all the colors of light. The colors of visible light include red, orange, yellow, green, blue, indigo, and violet. Together, these colors make up the visible spectrum.

A prism is a transparent, or clear, object that separates light into the colors of the visible spectrum. A prism works because light is refracted when it enters a new medium. Light that enters a prism slows down and changes direction. The diagram below illustrates the bending and separating of white light into colors as it passes through a prism.

![Diagram of a prism](image)

When white light passes through a prism, the different colors of light are slowed by different amounts. Therefore, the paths of the different colors are also changed by different amounts. Red light is bent less than orange light, orange light is bent less than yellow light, and so on.

Did You Know?

You can sometimes see rainbows when it is sunny and raining at the same time. Rainbows occur because raindrops act like little prisms. They separate the sunlight into all its colors.

A lens is a clear object that has at least one curved surface. A lens refracts the light that passes through it. Lenses bend light in ways that help people see better. Eyeglasses, contact lenses, microscopes, and telescopes all make use of lenses. A convex lens is thicker in the middle than at its edges. A convex lens bends light inward. A concave lens is thicker at the edges than it is at the middle. A concave lens bends light outward.

![Diagram of convex and concave lenses](image)
Absorption
When light strikes a surface, some of the light is neither reflected nor refracted. The light is absorbed, or taken in. That does not mean that an object absorbs light the way a paper towel soaks up water. Absorption is the process by which materials take in light energy and change it to heat energy. For example, sand on a beach gets hot on a sunny summer day. Sunlight absorbed by the sand is transformed, or changed, into heat. You will learn more about transformations of energy in Lesson 14.

The color of an object affects how much light the object absorbs and how much it reflects. On a sunny summer day, you will feel warmer in a black shirt than in a white shirt. That is because dark-colored materials usually absorb more light than light-colored materials. Light tends to bounce off a white shirt.

Absorption plays a role in your ability to perceive color. Reflection also plays a role in this process. Objects have different colors because they absorb and reflect light differently. When light strikes an object, the object absorbs some light waves and reflects others. The colors you see are not in objects themselves. Instead, colors are the way you see reflected light.

Different materials absorb more light of certain colors and reflect more light of other colors. For example, a blue balloon reflects a combination of colors that your eyes and brain recognize as blue. A banana reflects mostly light that you see as yellow. Objects you see as black appear black because they absorb most colors of light. By contrast, white objects reflect most colors of light.

Discussion Question
What roles do reflection, refraction, and absorption play in how we see things?

Lesson Review

1. What happens when a light wave is refracted?
   A. The wave spreads out.
   B. The wave changes direction.
   C. The wave is scattered.
   D. The wave changes frequency.

   [Diagram of light waves and angles]

   1. What happens when a light wave is reflected?
2. What happens when light waves strike a mirror?
   A. Most of the light waves are refracted.
   B. Most of the light waves are absorbed.
   C. Most of the light waves are scattered.
   D. Most of the light waves are reflected.

3. Which process changes light energy to heat?
   A. refraction
   B. absorption
   C. reflection

4. Which statement about white light is true?
   A. White light has no color.
   B. White light is a mixture of all the colors of light.
   C. The light that comes out of a prism is white light.
   D. White light is always reflected.
Chapter 3 • Lesson 13

Heat, Temperature, and Changes of State

Getting the Idea

Matter is made up of particles that are always in motion. Because these particles are always moving, they have energy. This energy can be transferred from one particle to another. The transfer of energy can cause changes in matter.

Thermal Energy, Temperature, and Heat

The particles that make up matter have energy. Thermal energy is the energy of the moving particles that make up matter. Temperature is a measure of the average thermal energy of the particles in an object or substance.

The temperature of a substance changes if the motion of its particles speeds up or slows down. Temperature rises when the particles move more quickly. For example, particles move faster in a cup of hot tea with a temperature of 80°C than in a glass of iced tea with a temperature of 10°C. The hot tea has a higher temperature because the average thermal energy of its particles is greater.

Remember that temperature is an average. It does not depend on the total number of particles in a sample. By contrast, thermal energy does depend on the number of particles. Thermal energy is the total energy of all the particles in a substance. A large pot of water at 50°C has more thermal energy than a smaller pot of water at the same temperature.

Heat is the flow of thermal energy. Heat always flows in the same direction: from an object or substance at a higher temperature to an object or substance at a lower temperature. Heat will continue to flow in this way until both objects or substances are at the same temperature.

Heat always flows from a warmer substance (tea) to a cooler one (air).
States of Matter

Matter is anything that has mass and takes up space. Matter is made up of particles. The arrangement and motion of these particles determine the state of the matter. A state of matter is the physical form in which matter exists. On Earth, most matter exists in three states: solid, liquid, or gas. A solid has a definite shape and a definite volume. The particles of a solid are close together. The particles vibrate, or move back and forth very quickly, but they do not move away from their positions.

A liquid does not have a definite shape but does have a definite volume. The particles of a liquid are in contact with one another. The particles do more than vibrate; they can slip past one another. Because the particles can slip past one another, a liquid takes the shape of the container that holds it.

A gas does not have definite shape or a definite volume. The particles of gases are not normally in contact. They move quickly in straight lines until they bump into other gas particles or the walls of a container. When a gas particle hits another particle or the wall of the container, it bounces off and continues to move. Gases spread out in all directions.

The diagrams model the particles in solids, liquids, and gases.

Changes of State

When a substance absorbs heat, the particles that make up the substance move faster. By contrast, particles move more slowly when a substance releases heat. If a substance gains or releases enough heat, the substance changes state. A change of state is the physical change that occurs when a substance changes from a solid, liquid, or gas into another form.

Freezing and melting are opposite changes of state. Freezing is the process by which a liquid changes to a solid. Freezing takes place when heat is released from a substance, causing its particles to move more slowly. The temperature at which a liquid changes to a solid is called the freezing point.

The particles of most substances move closer together when the substance freezes. Water is an important exception. Water particles spread out when they freeze. This makes solid water less dense than liquid water, which is why ice floats.
Melting is the process by which a solid changes to a liquid. Melting occurs when heat moves into a solid substance. As more heat is added, the particles move faster and farther apart. The temperature at which a solid changes to a liquid is its melting point. The freezing point and the melting point are the same temperature for any given substance. For example, the freezing point and melting point of water are both 0°C.

Evaporation and condensation are also opposite changes of state. Condensation is the process by which a gas changes to a liquid. When heat is removed from a gas, its particles move more slowly and get closer together. Particles condense on cool surfaces once they lose enough energy. Water vapor in the air condenses to form rain in clouds and dew on the ground.

Evaporation is the process by which a liquid changes to a gas. Evaporation takes place as heat moves into a liquid. The added heat causes the particles to move faster and spread out. Once the particles at the surface of the liquid gain enough energy, they are able to escape from the surface and change into gas particles. Evaporation is the reason wet objects dry out.

Evaporation can happen over a range of temperatures. Boiling is another process by which a liquid changes to a gas, but it happens at a certain temperature for every substance. For example, water boils at 100°C. This is the boiling point of water. Boiling also takes place throughout a liquid, not only at the surface as evaporation does. You can see this in boiling water. Bubbles of gas form throughout the liquid and rise to the surface.

Discussion Question
Imagine that an ice cube is changing from a solid to a liquid. What change of state is taking place? Describe the role of heat transfer in this process and how the motion of the particles changes.
Lesson Review

1. Which sentence describes a liquid?
   A. Particles are closely packed together and vibrate back and forth.
   B. Particles are not in contact with each other and are moving very quickly.
   C. Particles are in contact with each other and are able to slip past one another.
   D. Particles are in contact with each other and do not move at all.

2. What change of state occurs when a gas changes to a liquid?
   A. freezing  C. evaporation
   B. melting    D. condensation

3. As a substance changes from a liquid to a gas, the distance between its particles
   A. increases.
   B. decreases.
   C. remains the same.

4. The melting and boiling points of silver are about 960°C and 2162°C, respectively. What is its freezing point?
   A. 0°C
   B. 100°C
   C. 960°C
   D. 2162°C
Chapter 3 • Lesson 14

Transformations of Energy

- mechanical energy • thermal energy • sound energy • electrical energy
- electromagnetic energy • chemical energy • energy transformation
- law of conservation of energy • friction

Getting the Idea

You have already learned that the light and heat that come from the sun are forms of energy. Energy is all around you, in many other forms as well. When you play catch with a friend, energy is present in the moving ball. Energy is also stored in the foods you eat. Your body uses this energy to carry out all the functions needed to keep you alive. These forms of energy seem very different from each other. However, they all have some common characteristics.

Different Forms of Energy

Recall that energy is the ability to make things move or change. Energy is also defined as the capacity to do work. As you have already read, energy exists in different forms. Each form of energy has its own characteristics.

Mechanical energy is the energy of moving objects. When you throw a baseball through the air, the moving ball has mechanical energy. Water in a stream or river has mechanical energy because the water is moving. You have mechanical energy when you walk or run.

Recall that the particles that make up matter are always in motion. The total amount of energy in all of the moving particles in a sample of matter is thermal energy. In Lesson 13, you learned that heat is associated with thermal energy. Heat is the transfer of thermal energy between objects of different temperatures.

Sound energy is the energy given off by a vibrating object. A vibration is a rapid, back-and-forth motion. Sound is energy that we can hear. Recall that sound energy travels through matter in the form of waves.

Electrical energy is energy that results from moving electrical charges. Computers, radios, televisions, and lamps are all examples of electrical devices that operate using electrical energy.
Recall from Lesson 11 that electromagnetic (EM) energy is energy that travels through space as waves. Visible light is one form of electromagnetic energy. Other forms of electromagnetic energy include X-rays, microwaves, and infrared and ultraviolet (UV) light. Like sound energy, EM energy can travel through matter. However, unlike sound energy, EM energy can travel through empty space. This is why electromagnetic energy from the sun can travel through the vacuum of space to reach Earth.

Chemical energy is energy stored in matter because of its composition. Chemical bonds form when particles of matter join together. Energy is stored in these chemical bonds. Food, fuels, and batteries all store chemical energy. When you digest food, the bonds break and release energy. In the same way, fuels release energy when they are burned. The chemicals in a battery release energy when the battery is used to run an electrical device. Energy is always part of making or breaking chemical bonds.

**Did You Know?**

Fishes glow by changing chemical energy into light energy. This process is called bioluminescence. Bioluminescent animals are rare on land, but many are found deep in the ocean, where sunlight does not reach.

**Energy Transformations**

Energy can change from one form to another. This change of energy from one form to another is an energy transformation. You see many examples of energy transformations each day. For example, when you flip a switch to turn on a lamp, electrical energy moves through the lamp wire and into the bulb. Inside the bulb, a thin wire called a filament transforms, or changes, the electrical energy into electromagnetic energy. You perceive this electromagnetic energy as visible light. If you place your hand near the bulb, you observe that some of the electrical energy also changes to thermal energy, which you feel as heat.

Your body breaks down food to release chemical energy. When you move, your body changes this chemical energy into mechanical energy. In a baseball game, a pitcher uses mechanical energy to throw the ball. The pitcher transfers energy to the ball. The ball has mechanical energy because it is moving. When a batter swings at the pitch, mechanical energy is transferred from the batter’s body to the bat.

If the hitter makes contact, the bat transfers some mechanical energy to the ball, causing the ball to change direction and move away from the batter. Some of the mechanical energy is also transformed into sound. Fans hear this sound as the crack of the bat. Some of the mechanical energy also changes to thermal energy at the exact point where the ball and bat make contact.
Energy transformations are part of your daily life. As the previous examples show, sometimes energy changes form many times. The chart below shows other common examples of energy transformations.

| Plants change EM energy from the sun into chemical energy stored in food they make. |
| As a car burns fuel, it changes chemical energy into heat and mechanical energy. |
| A music player changes chemical energy (inside the battery) into electrical energy and then into sound energy. |
| A hot plate changes electrical energy to thermal energy. Some electrical energy also changes to EM energy (visible light). |
| Solar panels change EM energy from the sun to electrical energy. |
| A fan changes electrical energy into mechanical energy. |

**The Law of Conservation of Energy**

The examples show that energy transformations can take many forms. However, no matter how energy is transformed, energy itself is not made or destroyed. This principle forms the basis of an important scientific law. The law of conservation of energy states that energy may change from one form to another, but energy cannot be created or destroyed.
In most energy conversions, energy may seem to be "lost" or destroyed. But energy that seems lost actually changes to a different form, one that is not as useful. For example, most energy transformations release thermal energy. (You observe this as heat.)

Energy transformations are never completely efficient. In most transformations where mechanical energy is involved, friction is responsible for the apparent energy loss. Friction is a force that acts between objects that are in contact with each other. Friction tends to oppose the motion of an object. For example, when you roll a ball across a floor, the ball eventually comes to a stop because of friction between the ball and the floor. A baseball slows down on its way to the batter because of air resistance. Air resistance is a form of friction that opposes the motion of an object moving through air. In both of these examples, friction causes some of the mechanical energy of the moving object to change to thermal energy.

Discussion Question
Imagine that you are on a camping trip with your family. You gather wood for use in building a campfire that will be used to cook your food, keep you warm, and provide light to see. What energy transformations are involved in this scenario?

Lesson Review
1. What kind of energy is stored in food?
   A. sound
   B. mechanical
   C. thermal
   D. chemical

2. Which of the following correctly states the law of conservation of energy?
   A. Energy cannot be created or destroyed, but it can be transformed from one form to another.
   B. Energy can be created or destroyed, as well as transformed from one form to another.
   C. Energy is created when it is transformed from one form to another.
   D. Transformations are inefficient because some energy is destroyed and lost as heat.
3. Which is an example of chemical energy being transformed into light energy?
   A. a horse pulling a cart
   B. a bell vibrating
   C. a pitcher throwing a ball
   D. a candle burning

4. When you clap your hands, you make particles in the air vibrate. What energy transformation takes place?
   A. chemical energy into sound energy
   B. sound energy into mechanical energy
   C. sound energy into electrical energy
   D. mechanical energy into sound energy
Chapter 3 Review

1. Look at the diagram below.

The drawing shows two beakers of water connected by a glass tube. How will the system change over time?

A. Heat will flow between the beakers, and the final temperature in both beakers will be 60°C.
B. Heat will flow from beaker B to beaker A, and the final temperature in both beakers will be 10°C.
C. Heat will flow from beaker A to beaker B, and the final temperature in both beakers will be 30°C.
D. Heat will flow from beaker A to beaker B. The final temperature in beaker A will be 25°C, and the final temperature in beaker B will be 35°C.

2. The different forms of electromagnetic energy vary in their

A. wavelengths.
B. speed in a vacuum.
C. particle size.
D. ability to pass through space.
3. Which of the following is an example of an energy transformation?
   A. A student transfers mechanical energy to a ball.
   B. A battery-operated flashlight is turned on.
   C. Heat energy flows from a warmer object to a cooler object.
   D. Electromagnetic energy moves through space.

4. The graph below shows the speed of sound in different materials.

   ![Graph of Speed of Sound through Different Substances]

   Based on the graph, which of the following is correct?
   A. Sound travels faster through air than through water.
   B. Sounds travel faster through solids than through liquids.
   C. Sound cannot travel through gases.
   D. Sounds travels through all materials at the same rate.
5. When a hot object is placed on a cool surface, in which direction does the heat flow?
   A. Heat flows from the hot object to the cool surface.
   B. Heat flows from the cool surface to the hot object.
   C. Heat flows in both directions, between both surfaces.
   D. Heat does not flow between the object and the surface.

6. A student has a container of ice cubes. Which of the following will cause the ice cubes to
   change from a solid to a liquid?
   A. removing heat from the container of ice cubes
   B. letting the ice cubes evaporate
   C. freezing the ice cubes
   D. adding heat to the container of ice cubes

7. Which of the following best describes the energy transformations that take place when a
   battery-powered DVD player is used to watch a movie?
   A. electromagnetic $\rightarrow$ sound
   B. chemical $\rightarrow$ electrical
   C. electrical $\rightarrow$ chemical $\rightarrow$ sound and electromagnetic
   D. chemical $\rightarrow$ electrical $\rightarrow$ sound and electromagnetic
8. Which of the four diagrams below illustrates refraction?

A. 1  
B. 2  
C. 3  
D. 4

9. When an electric light is turned on, the amount of light energy released by the light bulb is less than the amount of electrical energy going into the light bulb. Which statement best explains this?

A. Some of the electrical energy is destroyed.  
B. Some of the electrical energy stays in the wire.  
C. Some of the electrical energy is changed into heat.  
D. Some of the light energy changes back into electrical energy.
10. Which of these best describes what must happen before water can change from one state to another?

A. The water must gain or lose thermal energy.
B. The water must change thermal energy into chemical energy.
C. The water's particles must spread out.
D. The water's particles must move closer together.

11. Look at the diagram below.

![Diagram of a prism and light spectrum]

The diagram illustrates that

A. a prism separates white light into infrared radiation.
B. a prism reflects white light into different wavelengths.
C. white light is made up of a spectrum of different wavelengths.
D. white light is absorbed by a prism.
12. Which of the following statements about the electromagnetic spectrum is accurate?
   A. Visible light has the longest wavelengths of all types of electromagnetic waves.
   B. All waves of the electromagnetic spectrum are visible.
   C. Radio waves and microwaves have wavelengths that are the same length.
   D. Only a small part of the electromagnetic spectrum is visible to humans.

13. As light waves pass through water and then into the air, they bend. Which statement best describes what happens to the light waves?
   A. The light waves are reflected from the surface of the water.
   B. The light waves are refracted as they change mediums.
   C. The light waves are absorbed by the air.
   D. The light waves are transformed into heat.

14. A substance changes from a solid to a liquid. What role do temperature and heat transfer play in this change of state? What happens to the arrangement of the particles making up the matter as it changes state?
15. The experimental setups shown below are identical except for the color of the boxes. The temperature inside the dark-colored box is higher than that in the light-colored box.

Use what you know about the properties of light to explain this observation.
Civics Work

*Note to parents/students* Prepworks and Icivics does work from phone as well as computers.

**Day 1:** March 17; Finish unit on Beyond our Boarders on Prepworks and make sure you have taken notes of the video lessons.

**Day 2/Day 3:** March 18-19; Online test 8 or unit 8, beyond our boarders and completing their Prepworks unit Beyond our Boarders.

**Day 4/5:** March 30-31; Working on I civics Responsibility Launcher and Immigration Nation and Prepworks review citizenship unit

**Day 6/7:** April 1-2; Quizlet review https://quizlet.com/287602372/florida-civics-eoc-review-flash-cards/ Pages 1-3 of the review packet using the video shared on Edmodo

**Day 8/9:** April 3-6; Working on I civics Ratification assignment, vocabulary vocabulary quiz, and Prepworks review Read to Independence

**Day 10/11:** April 7-8; Quizlet review https://quizlet.com/287602372/florida-civics-eoc-review-flash-cards/ April Pages 4-6 of the review packet using the video shared on Edmodo

**Day 12:** April 9 early release day; Working on ICivics Legislative assignment and Prepworks review Government Structure

**Day 13/14:** April 13-14; Quizlet review https://quizlet.com/287602372/florida-civics-eoc-review-flash-cards/ Pages 7-9 of the review packet using the video shared on Edmodo

**Day 15/16:** April 15-16 Working on I civics Judicial assignment and Prepworks review Government Structure

**Day 17/18:** April 17-21; Quizlet review https://quizlet.com/287602372/florida-civics-eoc-review-flash-cards/ Pages 10-12 of the review packet using the video shared on Edmodo

**Day 19/20:** April 22-23; Working on I civics Executive assignment and Prepworks review Government Structure

**Day 21/22:** Working on I civics Elections assignment and Prepworks review Political Process
Study Guide: Civics EOC Exam

John Locke: What ideas is he known for?

• 
• 
•

What is the social contract?

• 

Montesquieu: How did he influence the “Founding Fathers”?

• 
• 

What are four concepts found in the Magna Carta that influenced the Founding Fathers?

• 
• 
• 

List three rights that are found in the English Bill of Rights that are found in the US Bill of Rights:

• 
• 
•

Name three concepts in the Mayflower Compact that influenced the Founding Fathers:

• 
• 
•

What did Thomas Paine’s Common Sense influence the Founding Fathers to do?

• 

List three things that the British did that made the Colonists angry?
Who was the "Grievances" of the Declaration of Independence addressed to? 

What rights did Thomas Jefferson say every American is entitled to in the Declaration of Independence? 

Which Enlightenment philosopher influenced Jefferson in the "Natural Rights" section of the Declaration of Independence? 

List three weaknesses of the Articles of Confederation: 

List the goals of the Preamble and describe what they mean: 

• 

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•
Define Separation of Power:  


Define Checks and Balances:  


Provide an Example of Checks and Balances for each branch:  


Define the Rule of Law:  


What President demonstrated the Rule of Law:  


List two “sources” of American Law:  


List four “types” of law:  


Which Amendment defined citizenship?  


List five “qualifications” for becoming a naturalized citizen:  


What are the two ways to become a natural born citizen?

List the six steps to become a naturalized citizen:
1. 
2. 
3. 
4. 
5. 
6. 

List four "obligations" of US citizens:
1. 
2. 
3. 
4. 

List four "responsibilities" of citizenship:
1. 
2. 
3. 
4. 

List the 10 Amendments in the Bill of Rights:
1. 
2. 
3. 
Define the following Amendments:

13th: ___________________________________________________________________

14th: ___________________________________________________________________

15th: ___________________________________________________________________

19th: ___________________________________________________________________

24th: ___________________________________________________________________

26th: ___________________________________________________________________

List the outcomes of the following Landmark Supreme Court Cases:

Marbury v. Madison ___________________________________________________________________

Plessy v. Ferguson: ___________________________________________________________________

Brown v. Board of Education: ___________________________________________________________________

Gideon v. Wainright: ___________________________________________________________________

Miranda v. Arizona: ___________________________________________________________________
In re' Gault: __________________________________________

____________________________________________________

Tinker v. Des Moines:__________________________________________

____________________________________________________

Hazelwood v. Kuhlmeier:________________________________________

____________________________________________________

US v. Nixon: ________________________________________________

____________________________________________________

Bush v. Gore: ______________________________________________

____________________________________________________

Describe the following Political Parties:

Democrats:

• ______________________________________________________

• ______________________________________________________

• ______________________________________________________

Republicans:

• ______________________________________________________

• ______________________________________________________

• ______________________________________________________

Libertarians: ______________________________________________

Socialist: ________________________________________________

Communists: ______________________________________________
List the Constitutional Qualifications for the following offices:

President:

- 
- 
- 

House of Representatives:

- 
- 
- 

Senate:

- 
- 
- 

Define the following:

Party Platform: 

Political Action Committee: 

Bias: 

Media Watching Role: 

Propaganda: 

Public Policy: 

List 3 things each level of government is responsible for:

- 
- 
-
What is a "domestic policy"?

What is a "foreign policy"?

List the ways the President deals with foreign policy:

- 
- 
- 
- 
- 

List the ways Congress deals with foreign policy:

- 
- 
- 
- 

Define the following international organizations:

United Nations:

NATO:

NAFTA:

UNICEF:
International Court of Justice (World Court):

WTO:

Red Cross:

NGOs:

What two wars fought in Europe and Asia where the last “declared wars”?

Name two “undeclared” wars?

What was the decades long conflict between the United States and the Soviet Union referred to?

What were the two conflicts with Cuba in the 1960s?

What country were the two “Gulf Wars” fought against?

*Define the following “forms” of government:

Direct Democracy:

Representative Democracy:

Absolute Monarchy:
Constitutional Monarchy: ________________________________

Communism: __________________________________________

Socialism: ____________________________________________

Autocracy: ____________________________________________

Oligarchy: ____________________________________________

What "system" of government is power shared between the national and regional governments?

What system of government do the regional governments tell the central government what to do?

What system of government does the central government have all of the power?

Who is the executive chosen by in a Parliamentary System?

What are powers held by the national government called?

List ten constitutional powers of the national government:

List the three levels of Federal Courts:

List the three levels of the Florida Court System:
What are powers shared by the national and state governments called?

List three powers shared by the national & state governments:

What are powers held by state governments called?

List three powers held only by state governments:

What do you call the system in which powers are shared by national and state governments?

How are federal amendments made?

List the steps through Congress for passing a law:

1. Introduce legislation
2. Committee review
3. Full Senate or House debate
4. Vote on the floor
5. Conference committee
6. Approval by both houses
7. President's signature
8. Publication in the Federal Register
Complete the Chart Comparing the US & Florida Constitutions:

<table>
<thead>
<tr>
<th>United States</th>
<th>Florida</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles:</td>
<td>Articles:</td>
</tr>
<tr>
<td>Size:</td>
<td>Size:</td>
</tr>
<tr>
<td>Rights Contained in:</td>
<td>Rights Contained in:</td>
</tr>
<tr>
<td></td>
<td>Specifics:</td>
</tr>
</tbody>
</table>

List three ways to amend the Florida Constitution:

- 
- 
- 

List Services:

National: __________________________

State: __________________________

Local: __________________________