



Compton USD Learning Packet

#5

Twelfth Grade

12th Grade Learning Packet

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17 SUBJECTS IN EXCLAMATORY SENTENCES

In exclamatory sentences, the subject often appears after the verb, or it may be understood as you.

| Exclamatory Sentence | With Subject and Verb Included—and in Subject-Verb Order |
|---|--|
| Subject and verb out of order: What do you know! | You do know what. |
| Subject understood: Leave now! | [You,] leave now! |
| Subject and verb both unstated: Hot dogs! | [You can buy] hot dogs! |

Practice A Identifying Subjects in Exclamatory Sentences

Read each sentence below. Then, underline the subject in each sentence. If the subject or verb is not included in a sentence, write it on the line provided.

Example: Get out!

Answer: you

1. Go away! _____
2. You scared me! _____
3. I just love this weather! _____
4. This isn't fair! _____
5. Get out of my room! _____
6. What does he know! _____
7. You are the best mom ever! _____
8. I am so relieved! _____
9. Fire! _____
10. That dog should be quiet! _____

Practice B Writing Exclamatory Sentences and Identifying Subjects

On the lines below, write exclamatory sentences. Then, underline the subject of each sentence. If the subject is implied, write it in parentheses next to the sentence.

Example: I love the spring air!

1. _____
2. _____
3. _____
4. _____
5. _____

Writing and Speaking Application

Write four exclamatory sentences and read them to a partner. Your partner should identify the subject in each sentence. Then, switch roles with your partner.

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27 RESTRICTIVE RELATIVE CLAUSES AND NONRESTRICTIVE RELATIVE CLAUSES

Relative pronouns connect adjectival clauses to the words they modify. They act as subjects, direct objects, objects of prepositions, or adjectives in the subordinate clauses.

- Relative pronouns include words such as *that, which, who, whom, and whoever*.
- Relative pronouns have two jobs in a sentence.
 1. They connect an adjectival clause (a clause that modifies a noun) to the word it modifies. Look at the sentence as a whole to see the relative pronoun do this.
 2. The relative pronoun is the subject, direct object, object of the preposition, or an adjective *within the clause*. You can identify what the pronoun is doing within the clause by pulling the adjectival clause away from the rest of the sentence.

Show that you can use and understand the function of restrictive and nonrestrictive relative clauses by completing the following exercises.

Practice A Identifying Relative Pronouns and Their Clauses

Read the following sentences. Then, circle the relative pronoun and underline the entire adjectival clause.

Example: Melanie, who was exhausted from the activity, went to bed early.
Answer: Melanie, who was exhausted from the activity, went to bed early.

1. The toy, which the boy had outgrown, was handed down to his brother.
2. The meal that had been prepared by my mother was a big hit with the kids.
3. The girl, who was tired from studying, did not want to go to track practice.
4. My puppy, who gets only dry dog food, sits under the table and begs.
5. The house that Tom painted looks fresh and new.
6. That building, which has been empty for years, is going to be torn down.

Practice B Combining Sentences, Using Relative Pronouns

Read the sentences below. On the line provided, combine each pair of sentences into one sentence by using a relative pronoun and an adjectival clause.

Example: The fruit was grown in Florida. The fruit tasted great.
Answer: The fruit, which was grown in Florida, tasted great.

1. We bought the tree for Mother. The tree is an apple tree.

2. The roof was just repaired. The roof is still leaking.

3. The sun finally came out today. We had not seen the sun in weeks.

4. The little boy is crying. The little boy wants his mother.

Writing and Speaking Application

Write three sentences that have relative pronouns and adjectival clauses. Then, read your sentences to a partner. Your partner should listen for and identify each relative pronoun and adjectival clause. Then, switch roles with your partner.

LESSON

18-3

Using a Pythagorean Identity

Reteach

The Pythagorean Identity, $\sin^2 \theta + \cos^2 \theta = 1$, can be rearranged to solve for $\sin \theta$ and $\cos \theta$.

$$\sin \theta = \pm\sqrt{1 - \cos^2 \theta}$$

$$\cos \theta = \pm\sqrt{1 - \sin^2 \theta}$$

Example

Find the approximate value of the trigonometric function.

Given that $\cos \theta = -0.285$ where $\frac{\pi}{2} < \theta < \pi$, find $\sin \theta$.

| Step 1 | Step 2 | Step 3 |
|--|--|---|
| Use the correct version of the Pythagorean Identity. | Substitute for $\cos \theta$ and evaluate using a calculator. Round to the nearest thousandth. | Determine the correct sign. |
| Since the cosine is given and sine is desired, use $\sin \theta = \pm\sqrt{1 - \cos^2 \theta}$. | $\sin \theta = \pm\sqrt{1 - (-0.285)^2}$ $\approx \pm 0.959$ | $\frac{\pi}{2} < \theta < \pi$ refers to Quadrant II where $\sin \theta > 0$. So, $\sin \theta \approx 0.959$. |

Find the approximate value of each trigonometric function.

1. Given that $\cos \theta = 0.929$ where $0 < \theta < \frac{\pi}{2}$, find $\sin \theta$.

2. Given that $\sin \theta = 0.548$ where $\frac{\pi}{2} < \theta < \pi$, find $\cos \theta$.

3. Given that $\cos \theta = -0.403$ where $\pi < \theta < \frac{3\pi}{2}$, find $\sin \theta$.

4. Given that $\sin \theta = -0.172$ where $\frac{3\pi}{2} < \theta < 2\pi$, find $\cos \theta$.

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18 DIRECT OBJECTS

A direct object is a noun, pronoun, or group of words acting as a noun that receives the action of a transitive verb.

Direct objects complete the meaning of action verbs by telling *who* or *what* receives the action. Verbs that have direct objects are called **transitive verbs**; they *transfer* their action onto direct objects. Some verbs are **intransitive**, meaning nothing receives the action of the verb.

| Sentence | Question to Ask | Answer | Direct Object? Transitive or Intransitive Verb? |
|------------------------------------|---|-----------|---|
| She makes cookies for her friends. | She makes <i>whom</i> or <i>what</i> ? | Cookies | Yes; transitive |
| Fish can breathe underwater. | Fish can breathe <i>whom</i> or <i>what</i> ? | No answer | No direct object; intransitive |
| Sam hugged his mother. | Sam hugged <i>whom</i> or <i>what</i> ? | Mother | Yes; transitive |

Practice A Identifying Direct Objects

All of the sentences below have transitive verbs, so each sentence has a direct object. Read each sentence, and underline its direct object.

Example: Our debate team won a medal.

Answer: Our debate team won a medal.

- | | |
|--|---|
| 1. Alea made her bed. | 6. The men watched football all day long. |
| 2. Trece would like more juice. | 7. I like working outside. |
| 3. The boys finished their homework. | 8. Did you make dinner? |
| 4. The teacher gave us an assignment. | 9. He broke his mother's vase. |
| 5. He earned money by helping Mr. Jackson. | 10. The dog has been chewing that bone all day. |

Practice B Identifying Sentences With Direct Objects

Read each sentence below. Then, on the lines provided, write *Yes* if the sentence has a direct object, and write *No* if the sentence does not have a direct object.

Example: Joseph hugged his mother.

Answer: Joseph hugged his mother. Yes

- | | |
|---|---|
| 1. I walk every morning. _____ | 7. Kenton plays the guitar beautifully. _____ |
| 2. I gave the plate to your father. _____ | 8. Dwayne collects rent on the first of the month. _____ |
| 3. Snakes scare Vanessa. _____ | 9. Maria spends a lot of money on her car. _____ |
| 4. Jennifer plays hockey. _____ | 10. I will never ski. _____ |
| 5. Josiah's team lost. _____ | |
| 6. The garage burned down. _____ | |

Writing and Speaking Application

Write three sentences that have direct objects and three that do not. Read your sentences to a partner. Your partner should say *yes* if the sentence has a direct object and *no* if it does not. Then, switch roles with your partner.

Name _____ Date _____

28 ADVERBIAL CLAUSES

Adverbial clauses are subordinate clauses that modify verbs, adjectives, adverbs, or verbals by telling *where, when, in what way, to what extent, under what condition, or why.*

Adverbial clauses begin with subordinating conjunctions and contain subjects and verbs.

| Subordinating Conjunctions | | | | |
|----------------------------|-------------|---------|--------|----------|
| after | as long as | if | though | whenever |
| although | because | since | unless | where |
| as | before | so that | until | wherever |
| as if | even though | than | when | while |

Like adjectival clauses, adverbial clauses can be used to combine the information from two sentences into one sentence that shows the relationship between the ideas.

Example: You are going out for groceries. You should also pick up the dry cleaning.

Answer: As long as you are going out for groceries, you should also pick up the dry cleaning.

Practice A Identifying Adverbial Clauses

Read the following sentences. Then, circle the verb or verbs that are modified by the underlined adverbial clause.

Example: Before we started our work, the teacher explained the lesson.

Answer: Before we started our work, the teacher explained the lesson.

- I will arrive as soon as I can.
- After she finishes her homework, she can leave.
- Until you read the book, you cannot write the report.
- After the rain, the air smells fresh and clean.
- Mom is driving me to the dentist so that I can get a filling.
- Whenever I procrastinate, I regret it.
- Because I did not sleep well last night, I am tired today.
- While you run errands, I will clean the house.

Practice B Combining Sentences, Using Adverbial Clauses

Read the sentences below. Then, combine each pair of sentences into one sentence by using the relative adverb in parentheses.

Example: She did not want to do her chores. She did them anyway. (although)

Answer: Although she did not want to do her chores, she did them anyway.

- You want to be with your friends. You cannot go to the party. (although)

- It rained for seven days. Our roof leaked. (because)

- You don't turn in your homework. You will not get credit. (if)

- You were out of town. This package came for you. (while)

Writing and Speaking Application

Write three sentences that have adverbial clauses. Then, read your sentences to a partner. Your partner should listen for and identify the adverbial clause in each sentence. Then, switch roles with your partner.

LESSON
18-3**Using a Pythagorean Identity****Practice and Problem Solving: A/B**

Use the given value to calculate the values of the indicated trigonometric functions. Round your answers to three decimal places.

1. Given that $\cos \theta \approx 0.707$, where $0 < \theta < \frac{\pi}{2}$, find $\sin \theta$.

2. Given that $\sin \theta \approx -0.866$, where $\pi < \theta < \frac{3\pi}{2}$, find $\cos \theta$.

3. Given that $\tan \theta \approx 1.072$, where $0 < \theta < \frac{\pi}{2}$, find the values of $\sin \theta$ and $\cos \theta$.

4. Given that $\cos \theta \approx -0.485$, where $\frac{\pi}{2} < \theta < \pi$, find $\sin \theta$.

5. Given that $\tan \theta \approx -0.087$, where $\frac{3\pi}{2} < \theta < 2\pi$, find the values of $\sin \theta$ and $\cos \theta$.

6. Given that $\sin \theta = 0.5$, where $\frac{\pi}{2} < \theta < \pi$, find $\cos \theta$.

7. Given that $\sin \theta \approx -0.829$, where $\pi < \theta < \frac{3\pi}{2}$, find $\cos \theta$.

Solve.

8. The instant at which a waxed wood block on an inclined plane of wet snow begins to slide is represented by the equation $mg \sin \theta = \mu mg \cos \theta$, where θ represents the angle of the plane and μ is the coefficient of friction. What is $\cos \theta$ if $\mu = 0.52$ and $\sin \theta \approx 0.461$?

19 INDIRECT OBJECTS

An indirect object is a noun or pronoun that appears with a direct object. It often names the person or thing that something is given to or done for.

Only sentences with direct objects can have indirect objects. To locate an indirect object, ask questions as indicated in the table below. Notice that the second example does not have a direct object, so it cannot have an indirect object.

| Sentence | Question to Ask | Direct and Indirect Object |
|---------------------------------------|--|-----------------------------|
| Sally teaches dogs manners. | 1. Teaches <i>what</i> or <i>whom</i> ? | manners (direct object) |
| | 2. Teaches manners <i>for what</i> or <i>whom</i> or <i>to what</i> or <i>whom</i> ? | dogs (indirect object) |
| She works quickly. | 1. Works <i>what</i> or <i>whom</i> ? | No answer; no direct object |
| Sam gave his mom a kiss on the cheek. | 1. Gave <i>what</i> or <i>whom</i> ? | kiss (direct object) |
| | 2. Gave a kiss <i>to what</i> or <i>whom</i> ? | mom (indirect object) |

Practice A Identifying Indirect Objects

Read each sentence below. Then, underline the direct object and circle the indirect object. Use the chart above to help you ask the necessary questions.

Example: She gave her friend a picture.

Answer: She gave her friend a picture.

1. He made his girlfriend a painting.
2. He cooked his family dinner.
3. I showed my husband the letter.
4. I taught my dog the command.
5. They gave their horses a bath.
6. Kaya gave her mom a hug.
7. Michael played his sister a song.
8. She baked the boy a cake.
9. They bought their uncle a present.
10. The cat brought me a mouse.

Practice B Identifying Sentences With Indirect Objects

Read each sentence below. If it does not have an indirect object, write *No* on the line next to it. If it does have an indirect object, write *Yes*.

Example: Jackson sent his dad an e-mail.

Answer: Jackson sent his dad an e-mail. Yes

1. Shane made Justin a cake. _____
2. I gave your father the plate. _____
3. Rosa finally paid me my money. _____
4. Their team won the trophy. _____
5. Jason's team lost the game. _____
6. Connie cooked her kids some dinner. _____
7. Ethan played me a song. _____
8. She posted an update. _____
9. Kendrick gave me a solution. _____
10. I forgot the answer. _____

Writing and Speaking Application

Write three sentences that have indirect objects. Read your sentences to a partner, who will identify the direct object for each. Then, switch roles with your partner.

Name _____ Date _____

29 NOUN CLAUSES

A noun clause is a subordinate clause that acts as a noun. In a sentence, a noun clause may act as a subject, a direct object, a predicate nominative, an object of a preposition, or an appositive.

Sometimes noun clauses can be difficult to identify because they begin with the same introductory words that can be used to begin other types of clauses and phrases (words such as *that, which, who, whom, whose, how, if, what, whatever, where, when, whether, and why*). You can test whether a clause is a noun clause by replacing the clause with *it, you, fact, or thing*. If the sentence still sounds smooth, you probably replaced a noun clause.

Notice that the underlined clause in the example below is a noun clause that is acting as the subject of the sentence. You can replace the clause with *it*, and the sentence still sounds correct.

Example: Whatever you would like for dinner is fine with me.

Practice A Identifying Noun Clauses

Read the following sentences. Then, underline the noun clause in each sentence.

Example: She told me that I would have to work late or be fired.

Answer: She told me that I would have to work late or be fired.

1. This gift is just what I wanted.
2. My idea, that we would gather to exchange cookies, was loved by one and all.
3. How you manage work, school, and sports is a complete mystery to me.
4. Did he agree with what you suggested?
5. A new house is what they were building.
6. What Mom says is usually right.
7. A good night's sleep is what that child needs.
8. Whoever showed up first won a prize.
9. What she wants for Christmas is a trip to New York City.
10. She told me that I passed with flying colors.

Practice B Distinguishing Noun Clauses

Some of the clauses underlined below are adjectival clauses (they describe a noun). Others are noun clauses (they take the place of a noun). Read each sentence. Then, write whether the underlined clause is a noun clause or an adjectival clause.

Example: She wrecked the bike that she had just gotten for her birthday.

Answer: adjectival clause

1. Whoever you choose will be captain of the team. _____
2. He found his teddy bear, which had been under the couch for a week. _____
3. He loved the cookies that I made for him. _____
4. Whichever choice you make is the choice you will have to live with. _____
5. How the sun rises day after day is a miracle to ponder. _____

Writing and Speaking Application

Write three sentences that have noun clauses. Then, read your sentences to a partner. Your partner should listen for and identify the noun clause in each sentence. Then, switch roles with your partner.

LESSON

18-3

Using a Pythagorean Identity**Practice and Problem Solving: C**

Use the given value to calculate the values of the indicated trigonometric functions. Round your answers to three decimal places.

1. Given that $\sin \theta \approx 0.899$, where $0 < \theta < \frac{\pi}{2}$, find $\cos \theta$.

2. Given that $\cos \theta \approx -0.342$, where $\pi < \theta < \frac{3\pi}{2}$, find $\sin \theta$.

3. Given that $\tan \theta \approx 1.376$, where $0 < \theta < \frac{\pi}{2}$, find the values of $\sin \theta$ and $\cos \theta$.

4. Given that $\sin \theta \approx 0.839$, where $\frac{\pi}{2} < \theta < \pi$, find $\cos \theta$.

5. Given that $\tan \theta \approx -0.384$, where $\frac{3\pi}{2} < \theta < 2\pi$, find the values of $\sin \theta$ and $\cos \theta$.

6. Given that $\cos \theta \approx -0.438$, where $\frac{\pi}{2} < \theta < \pi$, find $\sin \theta$.

7. Given that $\cos \theta \approx -0.326$, where $\pi < \theta < \frac{3\pi}{2}$, find $\sin \theta$.

Solve.

8. Alan is using the equation $mg \sin \theta = \mu mg \cos \theta$ to determine the coefficient of friction, μ , between a flat rock and a metal ramp, where θ represents the angle of the ramp. Find μ to the nearest hundredth if $\sin \theta \approx 0.321$.

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20 OBJECT COMPLEMENTS

An object complement is an adjective or a noun that appears with a direct object and describes or renames it.

Object complements occur after such verbs as *appoint, call, consider, declare, elect, judge, label, make, name, and think*. The words *to be* are often understood before an object complement.

The parents found the performance [to be] enchanting.
 subject verb direct object object complement

Practice A Identifying Object Complements

Read each sentence. Then, underline its object complement.

Example: They appointed me the leader.

Answer: They appointed me the leader.

1. Omar declared our team victorious.
2. Amanda thought my joke the best.
3. The boss considered our work successful.
4. She called me her best friend.
5. The fifth grade elected Julian class president.
6. The men named bowling the sport of kings.
7. The medicine made the child better.
8. She declared the casserole delicious.
9. She thought the gift beautiful.
10. I considered the game frustrating.

Practice B Completing Sentences With Object Complements

Read each item below. Then, fill in the blank with an object complement.

Example: The customer at the bakery called the cake _____.

Answer: The customer at the bakery called the cake a work of art.

1. They appointed the woman _____.
2. The teacher judged the report _____.
3. Mom thought the flowers _____.
4. The city elected Maria _____.
5. Kim named the puppy _____.
6. The inspector judged the construction _____.
7. Peggy declared the weather _____.
8. I thought the movie _____.
9. The worker thought his pay rate _____.
10. I will never think you _____.

Writing and Speaking Application

Write five sentences that have object complements. Read your sentences to a partner. Your partner should identify the object complement in each sentence. Then, switch roles with your partner.

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30 THE FOUR STRUCTURES OF SENTENCES

Every sentence falls into one of four categories according to its structure:

| Sentence Type | Definition | Example |
|----------------------------------|---|---|
| Simple sentence | contains a single independent or main clause | Carrie wants chicken for dinner. |
| Compound sentence | contains two or more main clauses | Carrie wants chicken for dinner, but Chris wants fish. |
| Complex sentence | consists of one independent or main clause and one or more subordinate clauses | Although Carrie wants chicken for dinner, Chris wants fish. |
| Compound-complex sentence | consists of two or more independent clauses and one or more subordinate clauses | Chris wants fish for dinner, even though Carrie wants chicken, so they are going to a restaurant. |

Show that you can use and understand a variety of sentence structures by completing the following exercises.

Practice A Distinguishing Between Simple and Compound Sentences

Read the following sentences. Then, label each sentence simple or compound.

Example: The rain came down suddenly, and the fields soaked up the water.

Answer: compound

- Have you finished your homework? _____
- In this area, everybody recycles their garbage. _____
- I love living in the mountains, but my husband prefers a warmer climate. _____
- I received an award for my speech. _____
- Joseph wants to stay home tonight, so Jessie has agreed to cook dinner. _____
- You can mow the lawn or vacuum the family room. _____
- You can write the report, or you can present it to the class. _____
- They are watching the movie and eating popcorn. _____

Practice B Identifying the Four Structures of Sentences

Read the sentences below. Then, select the structure of each sentence from the choices provided.

Example: She finished the test, and she walked home.

Answer: She finished the test, and she walked home. complex compound

- | | | |
|---|------------------|----------|
| 1. Although I love sleeping late, I rarely have the chance to do so. | simple | complex |
| 2. The little boy was running down the hill, and then he fell. | compound | complex |
| 3. Usually I am careful, but I was distracted when I wrecked my bike. | compound-complex | compound |
| 4. Whenever I feel sad, I watch a funny movie. | compound | complex |
| 5. While he drove, I slept. | compound | complex |

Writing and Speaking Application

Write three sentences and identify which structure is used in each. Then, read your sentences to a partner. Your partner should listen for and identify the structure of each sentence. Then, switch roles with your partner.

LESSON
18-3**Using a Pythagorean Identity****Practice and Problem Solving: Modified**

Use the given value to calculate the values of the indicated trigonometric functions. Round your answers to three decimal places. The first one is done for you.

1. Given that $\cos \theta = 0.5$, where $0 < \theta < \frac{\pi}{2}$, find $\sin \theta$.

$\sin \theta \approx 0.866$

2. Given that $\sin \theta = -0.5$, where $\pi < \theta < \frac{3\pi}{2}$, find $\cos \theta$.
-

3. Given that $\cos \theta \approx 0.707$, where $0 < \theta < \frac{\pi}{2}$, find $\sin \theta$.
-

4. Given that $\cos \theta \approx -0.866$, where $\frac{\pi}{2} < \theta < \pi$, find $\sin \theta$.
-

5. Given that $\sin \theta \approx -0.866$, where $\frac{3\pi}{2} < \theta < 2\pi$, find $\cos \theta$.
-

6. Given that $\tan \theta \approx -1.732$, where $\frac{\pi}{2} < \theta < \pi$, find the values of $\sin \theta$ and $\cos \theta$.
-

7. Given that $\sin \theta \approx -0.906$, where $\pi < \theta < \frac{3\pi}{2}$, find $\cos \theta$.
-

Solve.

8. Martina is using the equation $mg \sin \theta = \mu mg \cos \theta$ to determine the angle θ at which a desk can be tilted before a paperback book on the desk begins to slide. What is $\cos \theta$ if $\mu = 1.11$ and $\sin \theta \approx 0.743$?
-

Name _____ Date _____

21 SUBJECT COMPLEMENTS

A subject complement is a noun, a pronoun, or an adjective that appears after a linking verb and gives more information about the subject.

There are two kinds of subject complements. A **predicate nominative** is a noun that appears after a linking verb and names the subject of the sentence: *Joseph is a programmer*. A **predicate adjective** is an adjective that appears after a linking verb and describes the subject: *The weather is warm*. Some sentences contain compound subject complements: *Joseph is a programmer and a father*.

Practice A Identifying Subject Complements

Read the following sentences. Then, underline the subject complement in each sentence.

Example: She is tall and strong.
Answer: She is tall and strong.

- | | |
|--------------------------------------|--|
| 1. You seem tired. | 6. My grandfather was a machinist. |
| 2. Chris is a blues guitarist. | 7. Tricia is a wife, a mother, and a pediatrician. |
| 3. My father is a doctor. | 8. That sign seems promising. |
| 4. The snow is powdery. | 9. The garden is dry. |
| 5. The queen's hair looks glamorous. | 10. Those clouds look threatening. |

Practice B Identifying Predicate Nominatives and Predicate Adjectives

Read each sentence below. Then, underline the subject complement. On the line provided, write whether the subject complement is a predicate nominative or a predicate adjective.

Example: I am a gardener.
Answer: I am a gardener. predicate nominative

1. I want to be a nurse. _____
2. She is kind and compassionate. _____
3. You look beautiful. _____
4. My father is the mayor. _____
5. Mike's friend is the state wrestling champion. _____
6. The sunsets at the beach are lovely. _____
7. I feel optimistic. _____
8. You seem discouraged. _____
9. Do you want to be a lawyer? _____
10. Hank's horse is a thoroughbred. _____

Writing and Speaking Application

Write three sentences that have subject complements. After you read each sentence to a partner, your partner should identify the subject complement and say whether it is a predicate adjective or a predicate nominative. Then, switch roles with your partner.

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31 THE FOUR FUNCTIONS OF A SENTENCE

Sentences can be classified according to what they do—that is, whether they state ideas, ask questions, give orders, or express strong emotions.

| | |
|--|-----------------------------------|
| Declarative: states an idea; ends with a period | The car is parked nearby. |
| Interrogative: asks a question; ends with a question mark | What do koalas eat? |
| Imperative: gives commands or directions; ends with a period or an exclamation mark | Hang up your coat. Stop there! |
| Exclamatory: conveys strong emotions; ends with an exclamation mark | I don't believe it! |

Practice A Punctuating the Four Types of Sentences

Read each sentence and identify its function, which is listed in parentheses. Then, add the correct end mark.

Example: What time does the movie start (interrogative)

Answer: What time does the movie start?

- What a beautiful painting that is (exclamatory)
- Stop texting during dinner (imperative)
- How far is your house from school (interrogative)
- Come here now (imperative)
- The bakery will open in an hour (declarative)
- What an exciting game that was (exclamatory)
- Mercury revolves once around the sun in 88 days (declarative)
- The Great Wall of China spans 4,500 miles of the country (declarative)
- Remember to drop off the books at the library (imperative)
- Did you know penguins can't fly (interrogative)

Practice B Identifying the Four Types of Sentences

Read each sentence. Then, on the line provided, label each sentence declarative, interrogative, imperative, or exclamatory.

Example: Ask the waiter to bring us some water.

Answer: imperative

- What is an asteroid? _____
- That's not fair! _____
- Bring a friend to the meeting.

- Plot is the sequence of events in a story.

- Don't walk on that ice!

- Violent shivering is a sign of hypothermia.

- What a great football player Troy Polamalu is!

- After you complete the application, leave it on my desk. _____
- New words are added to the dictionary each year. _____
- Have you heard the results of NASA's latest tests on the moon? _____

Writing and Speaking Application

Write a short description of an interesting event. Include declarative, interrogative, imperative, and exclamatory sentences. Read your description to a partner. Your partner should listen for and identify each type of sentence. Then, switch roles with your partner.

LESSON

18-3

Using a Pythagorean Identity**Reading Strategies: Identify Relationships**

Given the value of $\sin \theta$, $\cos \theta$, or $\tan \theta$, you can find the values of the other trigonometric functions using variations of the following identities:

$$\tan \theta = \frac{\sin \theta}{\cos \theta}$$

$$\sin^2 \theta + \cos^2 \theta = 1$$

Use the identity $\sin^2 \theta + \cos^2 \theta = 1$ to solve for $\cos \theta$ in terms of $\sin \theta$.

$$\sin^2 \theta + \cos^2 \theta = 1$$

$$\cos^2 \theta = 1 - \sin^2 \theta$$

$$\cos \theta = \pm \sqrt{1 - \sin^2 \theta}$$

Suppose that $\sin \theta \approx 0.966$, where $0 < \theta < \frac{\pi}{2}$. Find $\cos \theta$.

$$\cos \theta = \pm \sqrt{1 - \sin^2 \theta}$$

$$= \pm \sqrt{1 - 0.966^2}$$

$$\approx \pm 0.259$$

$$\cos \theta \approx 0.259$$

θ lies in Quadrant I.
 $\cos \theta$ is positive.

Answer each of the following.

1. Suppose $\sin \theta \approx -0.883$, where $\pi < \theta < \frac{3\pi}{2}$. Find $\cos \theta$.

2. Use the identities to solve for $\sin \theta$ in terms of $\cos \theta$.

3. Suppose $\sin \theta \approx 0.588$, where $\frac{\pi}{2} < \theta < \pi$. Find $\cos \theta$.

4. Use the identities to solve for $\sin \theta$ in terms of $\cos \theta$ and $\tan \theta$.

5. Given that $\tan \theta \approx -1.732$, where $\frac{3\pi}{2} < \theta < 2\pi$, find the values of $\sin \theta$ and $\cos \theta$.

Environmental impacts of agricultural changes

By National Geographic Society, adapted by Newsela staff on 03.02.20

Word Count **819**

Level **1020L**



Image 1. Terraced rice fields in Bali, Indonesia. These layered fields work well for rice crops, which must be grown in a flooded area. This is one agricultural method. Photo by: Cyril Ruoso/NaturePL/Science Source

Agricultural, or farming, methods have intensified continuously since the 18th century. The Industrial Revolution brought new equipment and farming methods that increased food production. In the mid-20th century, scientists discovered ways to produce stronger crops that produce more food, which increased crop harvests even further.

The increases in food production allowed the global population to grow quickly. In fact, it quadrupled in the past century. As the human population grew, so did the amount of space dedicated to feeding it. In 2016, more than 7 million square kilometers (2.7 million square miles) were devoted to growing corn, wheat, rice and other grains. That's nearly half of all cropland on the planet.

In the coming decades, however, feeding a growing population will likely be more difficult. Changing climates linked to Earth's warming are altering many of the natural processes that make



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modern agriculture possible.

Modern agriculture itself is also partly responsible for its problems. Farmers rely on many methods that are not sustainable. Farming sustainably means meeting the current needs without compromising the ability for future generations to meet their needs. Farmers often boost productivity in ways that also cause harmful effects on the environment. Below are brief descriptions of three ways intensive agriculture threatens ecosystems.

Irrigation

Agriculture accounts for 70 percent of freshwater use worldwide. Much of this water is used for irrigation, or the practice of watering crops through pipes, canals and sprinklers. Irrigation is needed to support large harvests. Experts predict that agricultural water use may need to increase 15 percent or more by 2050 to feed the growing population.

Researchers and farmers are becoming more aware of the consequences of irrigation. One major consequence is the depletion of rivers and underground water systems; however, there are a number of other effects. When irrigation floods a particular area, the soil changes. It also creates conditions that poison plant roots. When there is too little water in area, soils can become too salty, which also harms plant growth.



In addition, irrigation causes increases in water evaporation. This affects air temperature and pressure, as well as moisture conditions. Recent studies have confirmed that cropland irrigation can influence rainfall patterns -- not only over irrigated areas but also thousands of miles away. Irrigation has also been connected to the erosion of coastlines.

Livestock Grazing

A huge amount of agricultural land is used for cattle and other livestock. In the western United States, hundreds of millions of acres are set aside for livestock grazing, which is when animals eat grass in pastures.

Livestock are responsible for a large proportion of global greenhouse gas emissions. Greenhouse gases trap heat in Earth's atmosphere, causing the Earth to warm. Methane and carbon dioxide are two major greenhouse gases. Cows and their manure are responsible for releasing huge amounts of methane. Land use and destruction also lead to the release of carbon dioxide into the atmosphere.

In addition, overgrazing is a major problem for environmental sustainability. In some places, land is grazed so heavily that grasses are unable to grow back, and some native plants are so damaged that the species dies off. Cattle often concentrate near streams and other water ways. The combination of overgrazing and animal waste can pollute water sources. Cattle and other large grazing animals can even damage soil by trampling on it, destroying the top layer of soil and causing erosion.

Chemical Fertilizers

Modern agriculture has become heavily dependent on chemical fertilizers, which can help plants grow. The fertilizers usually contain nitrogen and phosphorus. They are particularly effective on corn, wheat and rice crops. In large part, they are responsible for the explosive growth of grain cultivation in recent decades. China, with its rapidly growing population, has become the world's leading producer of nitrogen fertilizers.

Chemical fertilizers have helped double the rate of food production. They have also helped bring about a gigantic increase in nitrogen and phosphorus levels throughout the environment. These nutrients have become pollutants. Roughly half the nitrogen in chemical fertilizers escapes from the fields where it is applied. It finds its way into the soil, air and water.

Large amounts of nitrogen and phosphorus harm ecosystems. Ecosystems can become loaded with too many nutrients -- this process is called eutrophication. In water bodies, eutrophication can cause toxic algae, or water plants, to grow. When the algae decay, they consume oxygen in the water. This leaves very little oxygen for other plants and animals in the water. These areas of little to no oxygen are called "dead zones" because organisms die without oxygen. Dead zones often occur in parts of the Gulf of Mexico.

As the population continues to grow, agricultural productivity and environmental health will clash. We will have to find ways to feed people without harming the ecosystems that we need for growing food.

Environmental impacts of Agricultural Changes

Effects of Irrigation

Effects of Livestock Grazing

Effects of Chemical Fertilizers

Journal Writing Entry 1

Introduction: One way that we understand the past is by using **primary sources**, such as letters, diaries, newspapers, original pictures, recordings, speeches, and journals. Many years from now your descendants may want to know what life was like during a pandemic. They may wonder what you went through, how you felt, and how your life changed.

For this activity, you are going to help them learn about the 2020 pandemic by writing journal entries. For **Day 1**, the focus of the journal entry is going to be **YOU**.

Here are four **prompts** that can help you get started:

1. How are you spending your day?
2. How are you adapting to Distance Learning? In what ways are you finding it challenging?
3. What are you doing to keep yourself entertained?
4. What are you doing to protect yourself?

Write a paragraph in English about **one** of the prompts above.

- Your paragraph should include at least three complete sentences and should have a beginning, a middle, and an end.
- Use descriptions, details, and examples to make your writing interesting.
- Check your writing for correct grammar, capital letters, punctuation, and spelling.

Journal Entry-SAMPLE

Prompt: What are you doing to protect yourself?

It is April 8, 2020, there is a pandemic in the world, so people want to protect themselves from being infected. One thing I do to protect myself is wash my hands for at least 20 seconds with warm water. I also avoid touching my face. Something else I do is practice social distancing if I have to go outside. I stay six feet away from people at all times. Lastly, I wear a mask if I need to go places. Yesterday, I went to the supermarket with my mother and we made sure we had our masks on. I do not want to breathe any germs that might be in the air if someone coughs or sneezes. As you can see, I try to keep myself as safe as I can.



Let's take a closer look at the **paragraph**:

- **The paragraph includes a beginning, a middle, and an end.**

| | | |
|-------------|--------------|---|
| Beginning = | Introduction | It is April 8, 2020, there is a pandemic in the world, so people want to protect themselves from being infected. |
| Middle = | Body | One thing I do to protect myself is wash my hands for at least 20 seconds with warm water. I also avoid touching my face. Something else I do is practice social distancing if I have to go outside. I stay six feet away from people at all times. Lastly, I wear a mask if I need to go places. Yesterday, I went to the supermarket with my mother and we made sure we had our masks on. I do not want to breathe any germs that might be in the air if someone coughs or sneezes. |
| End = | Conclusion | As you can see, I try to keep myself as safe as I can. |



Let's take a closer look at the **middle/body** of the journal entry.

- The middle/body of the entry includes **main ideas** and **details**. -
- **Main ideas** are highlighted in green.
- **Details** are highlighted in red.

| | | |
|----------|------|--|
| Middle = | Body | <p>One thing I do to protect myself is wash my hands for at least 20 seconds with warm water. I also avoid touching my face. Something else I do is practice social distancing if I have to go outside. I stay six feet away from people at all times. Lastly, I wear a mask if I need to go places. Yesterday, I went to the supermarket with my mother and we made sure we had our masks on. I do not want to breathe any germs that might be in the air if someone coughs or sneezes.</p> |
|----------|------|--|

| Main Ideas | Details |
|--|--|
| 1. One thing I do to protect myself is wash my hands for at least 20 seconds with warm water. | |
| 2. I also avoid touching my face. | |
| 3. Something else I do is practice social distancing if I have to go outside. | <ul style="list-style-type: none"> ➤ I stay six feet away from people at all times. |
| 4. Lastly , I wear a mask if I need to go places. | <ul style="list-style-type: none"> ➤ Yesterday, I went to the supermarket with my mother and we made sure we had our masks on. ➤ I do not want to breathe any germs that might be in the air if someone coughs or sneezes. |

Here you can see that:

- you can add details, examples, descriptions to any main idea you want to write more about. Here the student wanted to add details for just main ideas 3 and 4. He added one detail for main idea #3 and two details for main idea #4.
- You need to add transition words (words that link ideas) for a smooth writing. In this paragraph, those words are:
 - One thing
 - Also
 - Something else
 - Lastly

Consider all these tips when you write your journal entry!



**“QUICK WRITE” RUBRIC
(Journal Entries)**

| RUBRIC | FOCUS | ORGANIZATION | SUPPORT AND ELABORATION |
|---------------|---|--|---|
| 4 | <ul style="list-style-type: none"> • Writing is focused on responding to the prompt. • Demonstrates deep understanding of key ideas. | <ul style="list-style-type: none"> • Ideas are introduced in a mostly logical and effective order. • Ideas can be easily understood by the reader. | <ul style="list-style-type: none"> • Perceptive and insightful opinions and interpretations. • Superior explanation of ideas. |
| 3 | <ul style="list-style-type: none"> • Writing is focused on responding to the prompt (may stray in areas, but gets back on topic). • Demonstrates understanding of key ideas. | <ul style="list-style-type: none"> • Ideas are introduced in a generally logical and effective order. • Ideas can be understood by the reader. | <ul style="list-style-type: none"> • Logical opinions and interpretations. • Sufficient explanation of ideas. |
| 2 | <ul style="list-style-type: none"> • Somewhat focused on responding to the prompt (may have difficulty getting back on topic or may stray often) • Demonstrates gaps in understanding of key ideas. | <ul style="list-style-type: none"> • Ideas are introduced in a seldom logical order. • Ideas can be sometimes understood by the reader. | <ul style="list-style-type: none"> • Some logical opinions and interpretations. • Somewhat limited explanation of ideas. |
| 1 | <ul style="list-style-type: none"> • No attempt or focus on the prompt or substitutes a different task. • Demonstrates little or no understanding of key ideas. | <ul style="list-style-type: none"> • Ideas are randomly presented or merely listed. | <ul style="list-style-type: none"> • Illogical opinions and interpretations. • Little or no attempt at explanation of ideas. |

ELD: Speaking

Summarize an Academic Presentation

Directions: You are going to listen to some information about how raindrops are formed. You will hear the information only once. You may take notes as you listen. When the presentation ends, you will summarize the information that you heard. You will explain how raindrops are formed, include all the steps and use relevant details and clear language using English to someone in your home or practice with yourself how you would summarize and present the information to your class.

How Do Raindrops Form?

The clouds floating overhead contain water vapor and cloud droplets, which are small drops of condensed water. These droplets are way too small to fall as precipitation, but they are large enough to form visible clouds. Water is continually evaporating and **condensing** in the sky. If you look closely at a cloud, you can see some parts disappearing (evaporating) while other parts are growing (condensation). Most of the condensed water in clouds does not fall as precipitation because their fall speed is not large enough to overcome updrafts, which support the clouds

For precipitation to happen, first tiny water droplets must condense on even tinier dust, salt, or smoke particles, which act as a nucleus. Water droplets may grow because of additional condensation of water vapor when the particles collide. If enough collisions occur to produce a droplet with a fall velocity, which exceeds the cloud updraft speed, then it will fall out of the cloud as precipitation.



This is not a trivial task since millions of cloud droplets are required to produce a single raindrop. A more efficient mechanism for producing a precipitation-sized drop is through a process, which leads to the rapid growth of ice crystals at the expense of the water vapor present in a cloud. These crystals may fall as snow, or melt and fall as rain.



On a separate sheet of paper, summarize the information you heard. Read your summary to a friend and/or to someone in your house.

Be sure to include the following in your summary:

- explain how raindrops are formed,
- include all steps, and
- use relevant details and clear language

SPEAKING Summarize an Academic Presentation

In this task type, the student listens to a recording of an academic presentation while looking at a related picture or pictures. The student is then asked to summarize the main points of the presentation. A symbol of a pointing finger is included to indicate where, during an actual administration, the Test Examiner points to specific parts of the picture or pictures. During an actual administration of this task type, students may take notes in their Test Book.

Aligned 2012 ELD Standards: PI.C.9, PI.B.5, PII.A.2, PII.B.3, PII.B.4, PII.B.5, PII.C.6, PII.C.7

Rubric

| Score | Descriptors |
|----------|---|
| 4 | <ul style="list-style-type: none"> • A full response includes a clear summary of the main points and details of the presentation. • Ideas are cohesive and connected. • Grammar and word choice are varied and effective; errors do not impede meaning. • Pronunciation and intonation do not impede meaning. • Speech is usually smooth and sustained. |
| 3 | <ul style="list-style-type: none"> • Response includes a mostly clear summary of some of the main points of the presentation with partial/basic details. • Ideas are usually cohesive and connected. • Grammar and word choice are adequate; errors occasionally impede meaning. • Pronunciation and/or intonation occasionally impede meaning. • Speech is fairly sustained, though some choppiness or halting may occur. |
| 2 | <ul style="list-style-type: none"> • Response includes a partial summary of at least one of the main points of the presentation and may lack an understanding of the main points. • Ideas are sometimes cohesive and connected. • Grammar and word choice are simple and repetitive; errors often impede meaning. • Pronunciation and/or intonation often impede meaning. • Speech may be slow, choppy, or halting. |
| 1 | <ul style="list-style-type: none"> • Response includes an attempt to reference the presentation/picture but conveys little relevant information. • Ideas are rarely cohesive and connected. • Grammar and word choice are limited and impede meaning. • Pronunciation and/or intonation often impede meaning. • Speech may consist of isolated word(s) or phrase(s) related to the picture. |
| 0 | <ul style="list-style-type: none"> • Response is not relevant. • Response contains no English. • No response, "I don't know," or is completely unintelligible. |

Notes:

- Minor factual inaccuracies or omissions are acceptable as long as the student expresses a clear summary of the presentation.
- Do not penalize for mispronunciation of any word that does not interfere with meaning.