A C S P

Summer Gazette

2020-2021 Edition

ENTERING 8TH GRADE

- CURRICULUM
- UNIFORMS
- CONTACT INFO

STUDENT NAME:

AcadeMir Charter School Preparatory

19185 SW 127 Ave.

Miami, Fl 33177

AcadeMir Charter School Preparatory
"Expect Excellence"

AcadeMir Charter School Preparatory is proud and excited to offer all students our summer assignments. This summer magazine contains all REQUIRED Reading, Mathematics, and/or Science project based learning activities for your child's incoming grade. Enclosed you will also find other pertinent information to help your family prepare for the upcoming school year. As always, use these assignments as a way to connect with your child and acclimate students to what will be expected next year. ALL magazines will be collected during the first week of school and will be evaluated for a participation grade. We hope you have a wonderful and restful summer.

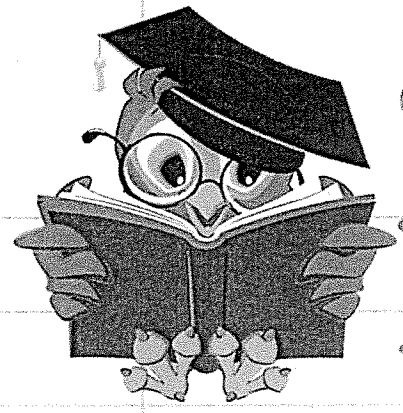
Sincerely,

M. Kristina Ledo Ed. D.
Principal

AcadeMir Charter School Preparatory está orgulloso y emocionado de ofrecer a todos los estudiantes nuestras asignaciones de verano. Esta revista de verano contiene todas las actividades de aprendizaje basadas en proyectos de Lectura, Matemáticas y / o Ciencias REQUERIDAS para el grado de su hijo. Adjunto encontrará también otra información pertinente para ayudar a su familia prepararse para el próximo año escolar. Como siempre, utilice estos proyectos como una manera de conectarse con su hijo y aclimatar a los estudiantes a lo que pueden esperar el próximo año. TODOS los proyectos se recogerán durante la primera semana de la escuela y serán evaluados para un grado de participación. Esperamos que tengan un maravilloso y tranquilo verano.

Sinceramente,

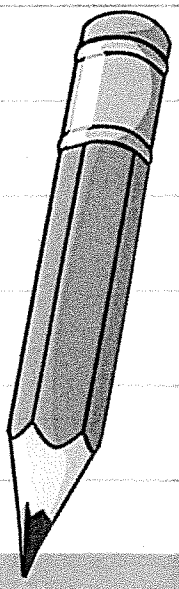
M. Kristina Ledo Ed. D.
Principal



School Ready

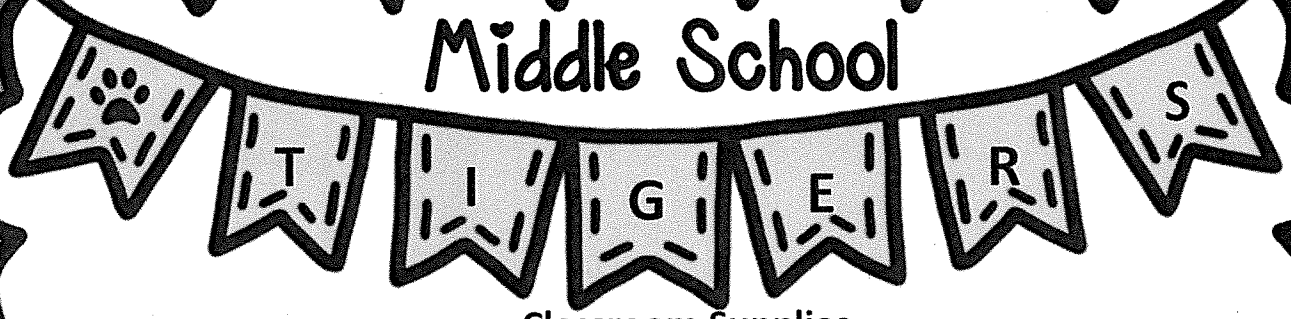
STRESS-FREE SUMMER & HASSLE-FREE BACK-TO-SCHOOL!

- ✓ NO WORRY OF OBTAINING SCHOOL SUPPLIES.
- ✓ NO WAITING IN LONG LINES.
- ✓ NO STRESS OVER SOLD-OUT ITEMS.
- ✓ ALL SUPPLIES SHIPPED IN ONE DELIVERY TO THE SCHOOL.
- ✓ ALL SUPPLIES LABELED WITH STUDENT NAME & CHARACTER.
- ✓ NO CARRYING OF BAGS OR BOXES.
- ✓ NO DELIVERY FEE.
- ✓ OPTION TO ORDER ONLINE
- ✓ OPTION TO BUY HEADPHONES SEPARATELY.
- ✓ OPTION TO BUY SUPPLY KITS BY CATEGORY.



WWW.SCHOOLREADYSUPPLIES.COM

Middle School



Classroom Supplies

General Supplies:

- ✓ #2 Pencils
- ✓ 2 Blue / Black Pens
- ✓ 2 Red Pens
- ✓ 2 Highlighters
- ✓ 2 Erasers
- ✓ Sharpeners with Covers

Homeroom Supplies:

- ✓ 1 Bottles of Hand Sanitizer
- ✓ 2 Tissue Boxes
- ✓ 1 Bottles of Lysol
- ✓ 1 Paper Towels
- ✓ 2 Dry Erase Markers (Black/ Blue/Red/Green)
- ✓ 2 Reams of Copy Paper (White)
- ✓ 1 Pack of Color Copy Paper
- ✓ 1 Pack of College Ruled Loose Leaf Paper

ELA/Reading:

- ✓ 1- 2inch Binder
- ✓ 1- Duo-tang folder w/pockets
- ✓ 2- Composition Notebooks
- ✓ 1- Pair of Headphones
- ✓ 1-8GB USB memory stick

Math:

- ✓ 1- Duo-tang folder w/pockets
- ✓ 2- Composition Notebooks

Science:

- ✓ 1- Composition Notebooks
- ✓ 1- Duo-tang folder w/pockets
- ✓ 6 Dividers with pockets plastic covers
- ✓ 12 Pack of color pencils

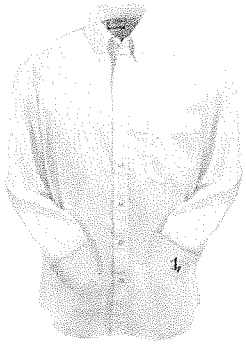
Please keep in mind that this is just a general supply list. Teachers will be including additional supplies in their syllabus that will be required. This will be given out during the first TWO days of school.

ease Note: If supply states "BOYS ONLY" only boys purchase this item. If supply states "GIRLS ONLY" only girls purchase this

AcadeMir Charter School Preparatory

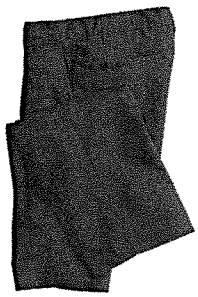
Unisex Polo Spandex

Polo Rugby

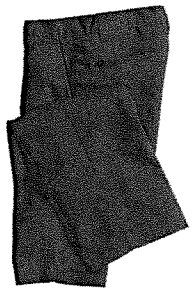


Oxford Gala

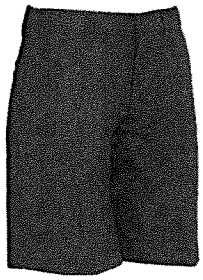
Polo Dress
$34.99 - $36.99



Flat Front Pant
$23.99

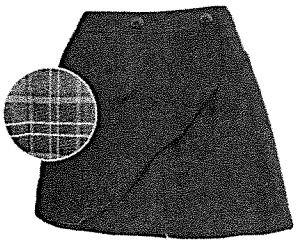


Flat Front Pant
$19.99



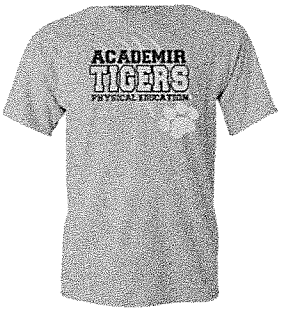
Flat Front Short
$14.99 - $19.99

Tie



Skort With Flap Plaid

Pe Short



Pe T-Shirt

Snap Fleece Jacket

V-Neck Cardigan

V-Neck Vest -Gala

Ibiley School Uniforms: 11530 SW 120th Street, Miami FL. 33176 - 305. 625. 8050

Dear ACSP Families:

Books can take your imagination to faraway places, on fantastic adventures, or back in time. You can learn about new things, meet new characters, and experience other cultures when you read. Reading can be relaxing, fun and rewarding - we know that people become better readers by reading!

This summer, we want you to take some time to *READ.* You can either enjoy the book on your own or read it with a grown-up. Our Grade Level Reading List can be found below. After you read your book, *complete the summer reading activity that has been assigned to your grade level.* Please bring your finished project in during the first week of school and give it to your teacher. It will be shared and displayed in class!

If you have any questions, please call our school office (305) 964-7542. Have a wonderful summer!

Grade Level	Book
Entering Kindergarten	All Are Welcome by Alexandra Penfold
Entering 1st grade	The Little Butterfly that Could by Ross Burach
Entering 2nd grade	Jabari Jumps by Gaia Cornwall
Entering 3rd grade	Ranger in Time: Hurricane Katrina Rescue by Kate Messner
Entering 4th grade	Ways to Make Sunshine by Renee Watson
Entering 5th grade	Key Hunters: The Mysterious Moonstone by Eric Luper
Entering 6th grade	I Survived the American Revolution, 1776 by Lauren Tarshis
Entering 7th grade	I Survived the Battle of Gettysburg, 1863 by Lauren Tarshis
Entering 8th grade	The Big Game by Tim Green

Students Entering Grades 1-3

- **In addition to the summer reading books above, students entering grades 1-3 will be required to complete 45 minutes Lexia weekly.**

Students Entering Grades 4-8

- **In addition to the summer reading books above, students entering grades 4-8 will be required to complete Reading Plus weekly.**

Total to be completed by August 1:

- 10 See Readers reading comprehension activities
- 10 Read Arounds vocabulary activities

Summer 2021

Character Analysis Essay:

ANALYZE A CHARACTER'S PERSONALITY, NEEDS, AND OBSTACLES.

- Analyzing key components of a character can you understand the important role character motivation plays in fiction writing. It will also get you to think about how motivation relates to the larger themes of any given piece of literature.
  - Step 1:
    - Pick a character from your summer reading book.
  - Step 2:
    - Answer the following focus questions to help you plan out your essay:
      - INTRODUCTION
        - How would you describe this character's personality? Is he or she brave, cowardly, nervous, unsure, and/or strong? Find examples from the book that prove these descriptions.
      - BODY PARAGRAPHS
        - What is the character's main goal throughout the book?
        - What are the obstacles that stand in their way of reaching their goal?
      - CONCLUSION
        - Does the character start off one way and then shift as the story progresses? If so, how?
        - How do they try to overcome those obstacles? Do they succeed?
  - Step 3:
    - Write a well-written 4-5 paragraph essay using these focus questions to guide you in your writing.
    - Make sure you have an introduction with a clear thesis statement, at least 2 body paragraphs, and a conclusion.
      - Please type your essays using 12 pt. Arial or Times New Roman font. Print it and turn it in with your summer magazine
      - Leave a space in between each new paragraph.
      - Spelling, punctuation, and grammar will count.
      - Please see the character analysis rubric – this will be used to score your essay.

Character Analysis Essay Rubric

Domains	6	3	1
Thesis Statement	The thesis statement of the essay has a clearly listed character as its subject. The thesis statement appears at the end of the first paragraph.	The thesis statement possesses a clear character as its subject. The thesis statement appears at the end of the first paragraph.	The thesis statement has a character subject. The thesis statement appears in the first paragraph.
Body Paragraphs	The essay has at least 2 body paragraphs. Paragraphs must be at least five sentences long with one supporting example or quote from the text.	The essay has 1 body paragraphs that possess topic sentences. Each paragraph is at least five sentences long with a supporting example or quote present in each paragraph.	The essay has a body paragraph with a topic sentence somewhat related to the thesis statement. One quote is present in the paragraph and it is at least five sentences long.
Topic Sentences	Each body paragraph starts with a topic sentence that conveys the general subject of the paragraph. The subject of each topic sentence is taken directly from the thesis statement.	Each body paragraph starts with a topic sentence that conveys the general subject of the paragraph. The subject of the topic sentence contains a reference to the thesis statement.	Each body paragraph starts with a topic sentence that conveys the general subject of the paragraph.
Supporting Statements	All statements in the body paragraphs directly relate to the topic sentences of the paragraph.	Some statements in the body paragraphs are directly related to the topic sentences of the paragraph.	One statement in the body paragraphs has a sentence subject that directly relates to the topic sentence of the paragraph.
Spelling/Grammar	No spelling or grammar errors are present in the essay. The essay contains no occurrences of passive voice.	One-two spelling and/or grammar errors are present in the essay. Some instances of passive voice are present.	Multiple spelling and/or grammar errors are present along with multiple occurrences of passive voice.

SCORES ____/30

LESSON 7 Quiz

Read the passage and answer the questions that follow.

Not Just a Nose: The Amazing Star-Nosed Mole

1 The star-nosed mole may be the most recognizable small animal in the eastern United States. In many respects, it looks like any other small mole, with its dark-gray body and its shovel-like paws for digging. But where most moles have a small, pink, snuffling nose, the star-nosed mole has a snout that looks less like a nose than a waving anemone. Its nostrils are surrounded by twenty-two long, thin appendages that look almost like tentacles. These are constantly in motion, as the mole investigates its surroundings. It is a strange and astonishing sight—but this "star" allows the mole to do remarkable things.

The Fastest Forager

Like other moles, the star-nosed mole has a high metabolism and needs a great deal of energy to survive. To satisfy its enormous appetite, it must eat many times its weight every day in earthworms, insect larvae, and other small creatures found in the soil. It digs long, shallow tunnels, creating "mole hills" visible above the ground, as it searches for prey.

The mole works in darkness, and its eyesight is poor, so most moles hunt primarily by their sense of smell. But the star-nosed mole also uses its unusual star to sense whether something it comes across might be food. The star is not actually part of the nose; it does not give the mole a better sense of smell. It is closer to an enhanced sense of touch, about six times more sensitive than the human hand. The star rapidly conveys detailed sensory information to the mole's brain. This allows the star-nosed mole to decide whether something is edible at an incredibly fast speed—within about twenty-five milliseconds (or thousandths of a second). The *Guinness Book of World Records* has even named it the "world's fastest forager."

Sensing with the Star

This speed comes mainly from the way the mole's star and brain work together to process information. Scientist Kenneth Catania studied the star by using a scanning electron microscope to look for sensory cells, which relay sense information to the brain. He thought the star would look like skin, with sensory cells scattered here and there on the surface. Instead, he found that the star was more like the retina in the eye—made up entirely of sensory cells. And just as we move our eyes to <u>scan</u> something we are looking at, the mole "scans" the area around it, touching it many times with the appendages on its star, to "see" what it looks like.

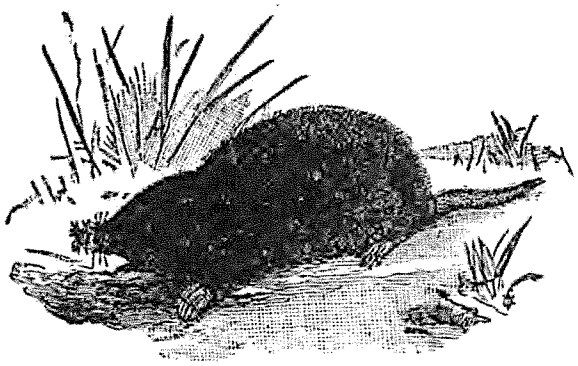
5 The star moves extremely quickly, touching twelve or more areas per second as the mole searches its environment for food. When the mole finds an object that could be prey, it then moves so that one particular pair of appendages can analyze it. These short appendages are in the bottom center of the star and are the most sensitive. They can relay the most detailed information to the brain. From the information that it gets from these and the other appendages, the brain puts together a complete picture of the object—in much more detail than a simple sense of touch could provide.

From the Star to the Brain

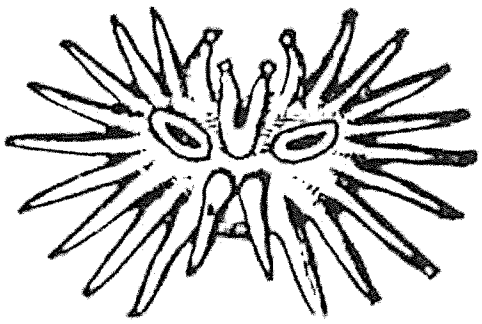
Catania has concluded that the star, and the information it provides, are central to the mole's survival. His studies have shown that one entire half of the mole's brain is devoted to processing information from the star. The sensory information from each appendage is directly mapped to a particular area of the brain. Amazingly, these areas of the brain are even arranged in the exact same pattern as the appendages of the star itself.

The mole's brain processes information from the star at a very high speed—perhaps the fastest in the animal kingdom. The nerve cells in the mole's brain analyze this information in only twelve milliseconds or less. In another five milliseconds, the brain sends instructions back to the star. If the object is edible, the mole instantly captures and eats it. This rapid process allows the mole to find and eat prey at the rate of five per second.

At first, the star-nosed mole may seem like just an ordinary mole with a strange-looking nose. But with its unusual sensory organ and specialized brain, the star-nosed mole has an amazing ability to process information at remarkable speeds. As someone who has studied these moles for many years, Catania believes there is still much to be learned from this astonishing animal about the connection between the senses and the brain.



Star-nosed mole



Star-nosed mole snout

1. Which is the BEST summary of the passage?

   A. The star-nosed mole must eat a lot of food to survive. Its star is made up of twenty-two appendages. Scientists have studied the mole's star and its brain.

   B. The star-nosed mole's star is not a nose but a sense of touch. It rapidly sends detailed information to the brain. This helps it find prey very quickly.

   C. The star-nosed mole can find prey very quickly by using its star. It must find large amounts of food to eat. It digs tunnels underground as it searches for food.

   D. The star-nosed mole has been studied by scientists like Kenneth Catania. He studied the appendages of the mole and how they mapped onto areas of the mole's brain.

2. Which BEST matches the meaning of <u>scan</u> as it is used in this passage?

   A. to look at or sense

   B. to make a digital copy

   C. to glance at without noticing detail

   D. to investigate quickly and thoroughly

3. The author structures paragraph 6 by

   A. describing a solution for a problem the mole faces.

   B. comparing and contrasting the mole's star and its brain.

   C. stating Catania's conclusion and providing details to support it.

   D. explaining the process in the mole's brain by listing the steps in order.

4. Which of the following pieces of evidence is an example of a research result?

   A. "His studies have shown that one entire half of the mole's brain is devoted to processing information from the star."

   B. "It is closer to an enhanced sense of touch, about six times more sensitive than the human hand."

   C. "The nerve cells in the mole's brain analyze this information in only twelve milliseconds or less."

   D. "Like other moles, the star-nosed mole has a high metabolism and needs a great deal of energy to survive."

5. Read this sentence from the passage.

The mole's brain processes information from the star at a very high speed—perhaps the fastest in the animal kingdom.

Which would provide sufficient evidence to support this statement?

A. a comparison with the speeds of other animals' brains

B. research results showing how fast the mole's brain works

C. a list of other animals who also process information quickly

D. the testimony of someone who saw the mole working quickly

6. Which reference could you use to find an antonym for specialized?

A. a dictionary

B. a thesaurus

C. a magazine

D. an encyclopedia

7. Read this sentence from the passage.

As someone who has studied these moles for many years, Catania believes there is still much to be learned from this astonishing animal about the connection between the senses and the brain.

This is an example of which type of evidence?

A. an example

B. a case study

C. an expert opinion

D. a direct quotation

8. What kinds of information does each section of this passage tell you about the star-nosed mole? Use details from the passage to support your answer.

Read the passage and answer the questions that follow.

Running Out of Water

1 The changes in the landscape have been hard to ignore: many of the world's great rivers are drying up. In the United States, the Rio Grande and the Colorado River are running dry. So are other great rivers of the world: the Indus in Pakistan, the Ganges in Bangladesh, and the Yellow River in China. These were once reliable sources of freshwater for the people along their banks; now, those resources are all but gone.

Many aquifers, too, are running low. These underground chambers of water squeezed into tiny crevices of rock hold much of the freshwater available for our use. But now the Florida aquifer is relatively low, resulting in more sinkholes at the surface as the now dry rock caves in. The Ogallala Aquifer in the Midwest has fallen so low that wells for the farmers in the areas have run dry. To all appearances, it looks like we could be running out of water.

A High Demand

Surprisingly, the total amount of freshwater on Earth has changed very little over the course of human existence. Nature's water cycle is highly efficient at maintaining water levels through a complex system of precipitation, water filtering, and water storage. But people are beginning to remove far more water from reservoirs, wells, and underground aquifers than nature can replace through the water cycle.

The demand for water continues to increase, even more than could be expected from the world's growing population. According to the World Water Council, while the population has tripled in the twentieth century, the use of water resources has grown six-fold. Until now, the natural water cycle has mostly managed to balance our growing demand for water. But today, more than 1.1 billion people do not have access to safe drinking water. And even areas where water was once widely available are facing "water stress" as their water use increases.

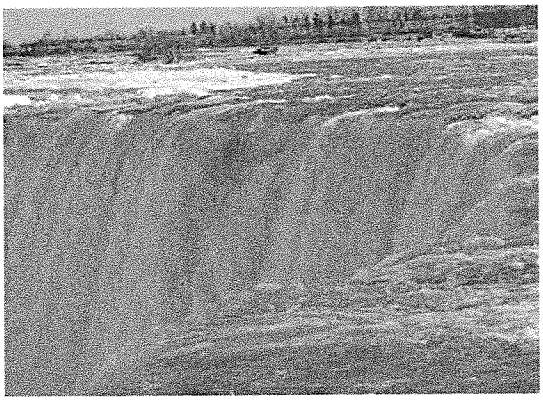
5 Water stress means that there is an imbalance between people's use of water in an area and the actual water resources available. It usually occurs in an area naturally prone to drought. But it can also happen when resources that people once counted on, such as large rivers and aquifers, begin to dry up from overuse. Often, the problem makes itself worse; a smaller water supply may become too salty or may be more easily contaminated, making an area's once-reliable water source unusable.

Managing Our Water

One obvious solution to this problem is to move the water where it is needed. However, this can be an enormous project. The North-South China Water Transfer Project is a good example. This system of pipes and canals will bring water from the huge Yangtze River to those in the much drier areas north of the river. But the cost may go as high as $62 billion, and the amount of water needed is daunting. One newspaper article in the *New York Times* compared it to "channeling water from the Mississippi to meet the drinking needs of Boston, New York, and Washington."

Such projects also leave behind a costly environmental burden for the people living near the original water source. A paper published recently in a scientific journal found that depleting a water source by more than 20 percent will have harmful consequences. In changing the delicate balance of the ecosystems around a water source, people can change the way the water cycle operates in that area. As a result, water may be much less plentiful, fisheries may fail, and people's lives can be drastically affected.

Scientists are still looking for a feasible solution. For now, they are beginning to keep very careful track of where water is plentiful—and where it is used. That way, they can better understand the true scope of the problem. Recently, researchers created a map of the world's water use and water resources. They calculated how much water was being used for agriculture, industry, and homes in an area. Then, they compared that amount to how much water was still flowing into that area's rivers, lakes, and aquifers each year. In nearly half of the places they examined, more than 40 percent of the renewable water supply was already being depleted. Based on their research, the question may not be if we will run out of water, but when.



9. Which is the BEST summary of the passage?

   A. Rivers and aquifers are drying up. This shows we are running out of water. High demand causes water stress in areas where not enough water is available.

   B. Demand for water is increasing, and more areas need water, but moving water is difficult and costly. Scientists are tracking water use and seeking a solution.

   C. We may be running out of water. Some countries have piped water from rivers to areas where there is water stress, but it is difficult and harms the environment.

   D. Many people live in areas of drought or do not have access to safe drinking water. Scientists are keeping track of where water is being used and where it is needed.

10. How does the author structure paragraph 5?

   A. by telling events in sequence

   B. by comparing two similar terms

   C. by defining a term and then explaining it

   D. by giving an argument and evidence to support it

11. The author uses many types of evidence in the passage. Which of the following is an example of statistics?

   A. "In the United States, the Rio Grande and the Colorado River are running dry."

   B. "One obvious solution to this problem is to move the water where it is needed."

   C. "But today, more than 1.1 billion people do not have access to safe drinking water."

   D. "Recently, researchers created a map of the world's water use and water resources."

12. Read this sentence from the passage.

   One newspaper article in the *New York Times* compared it to "channeling water from the Mississippi to meet the drinking needs of Boston, New York, and Washington."

   This is an example of

   A. an anecdote.

   B. a case study.

   C. an example.

   D. a direct quotation.

13. Read this sentence from the passage.

According to the World Water Council, while the population has tripled in the twentieth century, the use of water resources has grown six-fold.

Which BEST explains why this evidence is credible?

A. It lists specific numbers.

B. It is about recent history.

C. It is information from a reliable source.

D. It is the opinion of an important group.

14. Read this sentence from the passage.

Scientists are still looking for a feasible solution.

Based on the passage, which BEST expresses the meaning of feasible?

A. possible to do

B. quick and easy to put into place

C. able to be done in many places around the world

D. possible to do without high costs or harmful consequences

15. Which reference could you use to find a synonym for depleted?

A. a magazine

B. a thesaurus

C. a dictionary

D. an encyclopedia

16. What is the problem that the author outlines in the passage? What is one solution that the author gives to solve this problem? Use details from the passage to support your answer.

LESSON 3

Solving Equations

TRY YOUR SKILLS

Circle the letter of the correct answer.

1. Which expression is equivalent to the following?

$$-5x + 6 + 2x + 5$$

A. $-3x + 11$

B. $2x + 6$

C. $7x + 11$

D. $8x$

2. Which equation shows the correct use of the Distributive Property?

A. $5(2n - 5) = 5(2n) + 5$

B. $5 + (2n \bullet 5) = (5 + 2n)(5 + 5)$

C. $5(2n - 5) = 5(2n) - 5(5)$

D. $5 + (2n \bullet 5) = 5(2n) + 5(5)$

3. What is the value of y when $y + 6 = 14$?

A. $y = 7$

B. $y = 8$

C. $y = 12$

D. $y = 20$

4. What is the solution to the equation?

$$\frac{d}{6} = 30$$

A. 5

B. 24

C. 36

D. 180

5. Which of the following statements gives a correct method for solving the equation?

$$6 - 3x = 18$$

A. Add 6 to both sides and then divide both sides by 3.

B. Subtract 6 from both sides and then divide both sides by -3.

C. Add 3 to both sides and then divide both sides by 6.

D. Divide both sides by -3 and then subtract 6 from both sides.

6. What is the solution to $4(x + 2) = 12$?

A. $x = 1$

B. $x = 2.5$

C. $x = 5$

D. $x = 10$

Simplifying Expressions and Equations

Simplify Equations by Combining Like Terms

Think About It

What is a simpler form of $3x + 7 + 2x = 17$?

The expression on the left side of the equation has 3 terms.

A **term** is a number, a variable, or the product of a number and variables.

$3x$ and $2x$ are **like terms** because they have the same variable with the same exponent.

The exponent of x is 1.

You can combine like terms to simplify an expression.

$\underline{3x} + 7 + \underline{2x} = 17$ Underline the like terms.

$3x + 2x + 7 = 17$ Use the Commutative Property to reorder the terms on the left side of the equation.

You use the Distributive Property to combine like terms: $3x + 2x = (3 + 2)x$

$5x + 7 = 17$ Combine like terms.

So, $5x + 7 = 17$ is a simpler form of the equation $3x + 7 + 2x = 17$.

What is a simpler form of $13 = 4n + 7 - 6n$?

$13 = 4n + 7 - 6n$

$13 =$ _____ Use the Commutative Property to reorder the terms on the right side of the equation.

$13 =$ _____ Combine like terms.

A simpler form of $13 = 4n + 7 - 6n$ is _____.

Try It

Simplify each equation by combining like terms.

1. $3x + 4 + 2x = 14$ _____

2. $4 + 2x - 8 = 15$ _____

3. $2 - 4x + 3 = 7$ _____

4. $7 + 2x - 5x + 7 = 0$ _____

Simplify Equations by Using the Distributive Property

Think About It

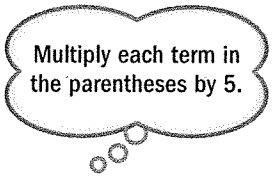
What is a simpler form of $5(x + 4) = 25$?

To simplify, use the Distributive Property.

$5(x + 4) = 25$

$5 \bullet x + 5 \bullet 4 = 25$

$5x +$ _____ $= 25$



A simpler form of $5(x + 4) = 25$ is $5x + 20 = 25$.

What is a simpler form of $7(2a - 5) = 49$?

$7(2a - 5) = 49$

$7 \bullet 2a - 7 \bullet 5 = 49$ Use the Distributive Property.

_____ − _____ $= 49$ Simplify.

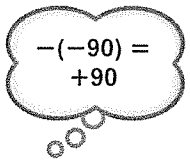
A simpler form of $7(2a - 5) = 49$ is $14a - 35 = 49$.

Simplify $-6(k - 15) = 36$.

$-6(k - 15) = 36$

$-6 \bullet k - (-6) \bullet 15 = 36$ Use the Distributive Property.

_____ $= 36$



A simpler form of $-6(k - 15) = 36$ is _____.

Try It

Use the Distributive Property to simplify each equation.

1. $3(2x + 5) = 18$ _____

2. $6(w - 9) = 60$ _____

3. $-2(4y + 5) = -10$ _____

4. $3(z - 6) = -12$ _____

Now use what you already know and what you learned to answer the questions on the next page.

Use What You Learned

Example

Here are some steps for answering the question at the right. Choose the correct answer.

Step-by-Step

1. Use the Distributive Property.

   _____ • x + _____ • 5 = _____

2. Simplify. _____

Circle the letter of the correct answer.

What is the simplified form of $-2(x + 5) = 12$?

A. $-2x + 5 = 12$

B. $-2x - 10 = 12$

C. $-2x + 10 = 12$

D. $-2x - 10 = -24$

Read each question. Circle the letter of the correct answer.

1. Which equation is equivalent to $3a - 7 + 2a = 11$?

A. $-a = 11$

B. $a + 7 = 11$

C. $3a - 5 = 11$

D. $5a - 7 = 11$

2. Simplify the expression.

$$5b - 3 - 2b - 5$$

A. $2b + 2$

B. $3b - 8$

C. $7b - 8$

D. $7b + 2$

3. Which of the following shows the correct use of the Distributive Property to simplify the equation below?

$$5(4x + 7) = 18$$

A. $20x + 7 = 18$

B. $20x + 12 = 18$

C. $20x + 35 = 18$

D. $20x + 35 = 90$

4. Which of the following is equivalent to the equation shown?

$$15 = -3(x - 2)$$

A. $15 = -3x - 2$

B. $15 = -3x - 5$

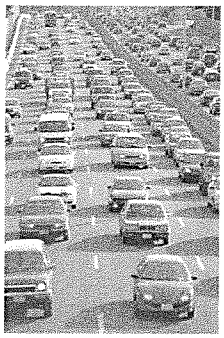
C. $15 = -3x - 6$

D. $15 = -3x + 6$

e-News

Jamming on the Way to Work

Posted by MonsterMathBlogger



Most people can't wait to learn how to drive. Driving seems to provide so much freedom and independence. Many people drive to get to work. They spend hours in the car, stuck in traffic. And traffic is not going away anytime soon.

The Texas Transportation Institute researches traffic all over America. Their latest report concludes that traffic is getting worse all over the United States. It costs our economy about $78 billion dollars every year. The cost of traffic includes wasted time and fuel. Drivers spent 4.2 billion hours sitting in traffic, when they could have been working. They also burned an extra 2.9 billion gallons of fuel to crawl along our nation's highways at a snail's pace.

The United States is not the only country with traffic problems. São Paulo, in Brazil, is known for having some of the world's worst traffic jams. On May 9, 2008, the city set a new record for the longest traffic jam in history. Cars were lined up for 166 miles!

COMMENT

What do you think of this article?

Solve It

Kris drives 30 miles to work. For the first x miles, he drives 40 miles per hour. Then he is stuck in traffic and averages only 3 miles per hour the rest of the way. This expression can be used to find the total time Kris spends commuting: $40(x) + 3(30 - x)$.

Simplify the expressions.

1. $3(30 - x)$

Trip Use your answer to 1.

2. $40(x) + 3(30 - x)$

Solving One-Step Equations

Review Simplifying Equations

You have learned how to simplify equations using the Commutative and Distributive Properties.

Simplify $5b + 8 - 7b = 14$.

Step 1: Use the Commutative Property to reorder terms.

_____ = 14

Step 2: Combine like terms.

_____ = 14

So, a simpler but equivalent form of $5b + 8 - 7b = 14$ is _____.

Simplify $11(n - 3) + 5n = 33$.

Step 1: Use the Distributive Property to rewrite the equation without parentheses.

_____ = 33

Step 2: Use the Commutative Property to reorder terms.

_____ = 33

Step 3: Combine like terms.

_____ = 33

So, a simpler but equivalent form of $11(n - 3) + 5n = 33$ is _____.

Simplify each equation. Show your work.

1. $4w - 3 + 2w = 9$ _____

2. $-3(2x + 5) = -12$ _____

3. $8(y - 4) - 5 = 12$ _____

4. $7 + 3z - 9 = 10$ _____

Solve One-Step Equations Using Addition and Subtraction

What value of x makes $x + 5 = 8$ true?

To solve the equation, use inverse operations.

Inverse means *opposite*.

To undo addition, you _____.

To undo subtraction, you _____.

You have to subtract the same quantity from both sides of the equation to keep it balanced.

The inverse of adding 5 is _____.

$x + 5 = 8$

$x + 5 - \mathbf{5} = 8 - \mathbf{5}$ Subtract 5 from both sides of the equation.

$x =$ _____ Simplify.

The equation $x + 5 = 8$ is true when $x = 3$.

$3 + 5 = 8$

Solve $y - 7 = 5$.

The inverse of subtracting 7 is _____.

$y - 7 +$ _____ $= 5 +$ _____ Add 7 to both sides of the equation.

$y =$ _____ Simplify.

$12 - 7 = 5$

The solution is $y =$ _____.

What is the solution to $9 + z = -11$?

$9 + z = -11$ is equivalent to $z + 9 = -11$.

The inverse of adding 9 is _____.

$9 + z -$ _____ $= -11 -$ _____ Subtract 9 from both sides of the equation.

$z =$ _____ Simplify.

The solution is $z = -20$.

$9 + (-20) = -11$

Tip Remember to check that your solution makes the sentence true.

Explain how to solve each equation.

1. $a - 10 = 3$

_____

2. $5 + b = 13$

_____

Solve each equation.

3. $c + 4 = 11$ _____

4. $d - 6 = 12$ _____

Solve One-Step Equations Using Multiplication and Division

What is the solution to $3v = 15$?

$3v$ means $3 \bullet v$.

What is the opposite of multiplying by 3? _____

To undo multiplication, you _____.

To undo division, you _____.

Multiplication and division are inverse operations.

$3v = 15$

$3v \div \mathbf{3} = 15 \div \mathbf{3}$ Divide both sides of the equation by 3.

$v = 5$ Simplify.

Tip Check your solution: $3(5) = 15$

What value of x makes $\frac{x}{3} = 15$ true?

What is the opposite of dividing by 3? _____

$\frac{x}{3}$ means $x \div 3$.

$\frac{x}{3} = 15$

$\frac{x}{3} \bullet 3 = 15 \bullet 3$ Multiply both sides of the equation by 3.

$x = 45$ Simplify.

Does $\frac{45}{3} = 15$?

Solve $55 = -11y$.

$\frac{55}{\square} = \frac{-11y}{\square}$ Divide both sides of the equation by -11.

_____ $= y$ Simplify.

Does your solution make the sentence true?

Describe how to solve each equation.

1. $\frac{a}{4} = 20$

_____

2. $6b = 12$

_____

Solve each equation.

3. $8c = 32$ _____

4. $\frac{d}{5} = -10$ _____

Solving Multi-Step Equations

Solve Two-Step Equations

Think About It

What is the solution to $3n + 5 = 8$?

On the left side of the equation, n is multiplied by 3, then 5 is added to the result.

You need to use two inverse operations to solve for n.

To solve, subtract 5 from both sides. Then divide both sides by 3.

$3n + 5 = 8$

$3n + 5 - 5 = 8 - \_\_\_\_\_$ Subtract 5 from both sides of the equation.

$3n = 3$

$\frac{3n}{3} = \frac{3}{\square}$ Divide both sides of the equation by 3.

$n = 1$

The solution to $3n + 5 = 8$ is 1.

Tip Remember to check that $3(1) + 5 = 8$.

Try It

What two steps are needed to solve each equation?

1. $4 = \frac{v}{4} + 6$

_____

2. $-2w - 3 = -21$

_____

Solve each equation.

3. $2x + 5 = 13$ _____

4. $\frac{y}{6} - 1 = 0$ _____

Think About It

What value of x makes $4(x - 2) = 16$ true?

$4(x - 2) = 16$

$4 \bullet x - 4 \bullet 2 = 16$ Use the Distributive Property to simplify.

$4x - 8 = 16$

$4x - 8 + \_\_\_\_\_ = 16 + \_\_\_\_\_$ Add 8 to both sides of the equation.

$4x = 24$

$\frac{4x}{\_\_} = \frac{24}{\_\_}$ Divide both sides by 4.

$x = 6$

So, $4(x - 2) = 16$ is true when $x = 6$.

What is the solution to $9y + 4 - 2y = 18$?

First, simplify the equation by combining like terms.

$9y + 4 - 2y = 18$

$9y - 2y + 4 = 18$ Use the Commutative Property to reorder the terms.

$\_\_\_\_\_ + 4 = 18$ Combine like terms.

$7y + 4 - \_\_\_\_\_ = 18 - \_\_\_\_\_$ Subtract 4 from both sides of the equation.

$7y = 14$

$\frac{7y}{7} = \frac{14}{7}$ Divide both sides by 7.

$y = \_\_\_\_\_$

So, $y = 2$ is the solution to $9y + 4 - 2y = 18$.

Try It

Solve each equation.

1. $3(p - 2) = 3$ _____

2. $4q + 3 + 2q = +9$ _____

3. $7 + 2r - 4 = 11$ _____

4. $6(s + 7) = 42$ _____

Use What You Learned

Circle the letter of the correct answer.

1. Which steps could be used to solve the equation $\frac{n}{5} - 7 = -2$?

   A. Add 7 to both sides, then divide both sides by 5.

   B. Add 7 to both sides, then multiply both sides by 5.

   C. Divide both sides by 5, then add 7 to both sides.

   D. Multiply both sides by 5, then add 7 to both sides.

2. What is the solution to the equation $4x + 14 = 26$?

   A. $x = 3$

   B. $x = 8$

   C. $x = 10$

   D. $x = 48$

3. What is the value of x that makes the equation true?

   $$\frac{x}{3} - 4 = 8$$

   A. 4

   B. 12

   C. 20

   D. 36

4. Find the value of x that makes the equation $2(x - 4) = 10$ true. Which of the following equations is true for the same value of x?

   A. $x + 1 = 8$

   B. $x - 1 = 8$

   C. $2x - 4 = 10$

   D. $2x + 8 = 10$

5. What value of y makes the equation true?

   $$6y - 18 + 3y = 18$$

   A. -1

   B. 0

   C. 4

   D. 12

6. What is the solution to $6(a + 4) = 12$?

   A. $a = -2$

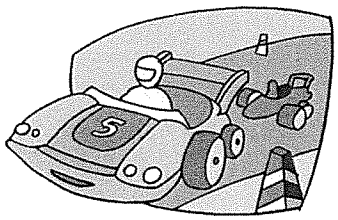
   B. $a = \frac{1}{3}$

   C. $a = 6$

   D. $a = 8$

No Limits!

Posted by MonsterMathBlogger



In Germany, some commuters drive on the Autobahn to get to work. The Autobahn is a system of roads. It is famous all over the world for its quality and engineering. Many people also believe that there are no speed limits on the Autobahn.

This is not entirely true. Parts of the Autobahn have permanent speed limits. Other parts of the Autobahn have speed limits posted on electronic signs. This allows administrators to change the speed limit at any time depending on road conditions, weather, or traffic. For example, in a sudden fog administrators can lower the speed limit to help keep drivers safe.

Even when there is no posted speed limit, the German government posts an advisory speed limit of 130 kilometers per hour (81 miles per hour). However, this is only a suggestion! People can drive as fast as they want to on these parts of the Autobahn. There have been calls for lower speeds on the Autobahn for both safety and environmental reasons. For now, though, drivers can go to Germany to push the pedal to the metal.

COMMENT

What do you think of this article?

Solve It

1. Max drove 185 miles on the Autobahn. He drove for 2 hours at 65 miles per hour, and then sped up to 110 miles per hour for the last part of his trip. Solve this equation for t to find out how many hours Max drove at 110 miles per hour.

$185 = 65(2) + 110t$

2. Karl drove for 4 hours. For part of the trip he drove at 50 miles per hour. For the rest of the trip he drove at 100 miles per hour. All together he drove 250 miles. Solve this equation for h to find out how many hours he drove at 50 miles per hour.

$250 = 50h + 100(4 - h)$

8th Comprehensive Science Course 3 or Physical Science

Nature of Science

Standard: SC.8.N.1.1: Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

Help scientists find the most effective vaccine for Zombie Virus vaccine by effectively analyzing and summarizing experimental data. In this interactive tutorial, you will write a scientific question, a claim, supporting evidence and an explanation of what happened during the experiment.

Interactive Tutorial Lesson:

1. Visit: https://www.floridastudents.org/PreviewResource/StudentResource/126035
2. Start the tutorial: **Stop the Zombie Virus by Interpreting Graphs**
3. Complete each practice question.
4. Print the certificate of completion.

Standard: SC.8.N.1.3: Use phrases such as "results support" or "fail to support" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.

Learn how to write a valid conclusion from a scientific investigation. In this interactive tutorial, you will also learn how to answer questions using scientific reasoning.

Interactive Tutorial Lesson:

1. Visit: https://www.floridastudents.org/PreviewResource/StudentResource/171781
2. Start the tutorial: **Science Research: Writing a Conclusion**
3. Complete each practice question.
4. Print the certificate of completion and submit to your Science teacher.

8th Comprehensive Science Course 3 or Physical Science

Nature of Science

Standard: SC.8.N.1.4: Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.

Learn how to write an effective hypothesis with sharks as a focus in this interactive tutorial. A hypothesis should be testable and falsifiable.

Interactive Tutorial Lesson:

1. Visit: https://www.floridastudents.org/PreviewResource/StudentResource/173394/
2. Start the tutorial: **Science Research: Developing a Hypothesis**
3. Complete each practice question.
4. Print the certificate of completion and submit to your Science teacher.

Standard: SC.8.N.1.6: Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence

Learn how science relies on creative and innovative thinking as we explore the science of discovering exoplanets in this interactive tutorial. Science is a problem-solving endeavor as we try and figure out and learn new things. The answers are hard to find, but if we keep asking questions and building on what we know, then we can solve problems to things we once were thought were impossible!

Interactive Tutorial Lesson:

1. Visit: https://www.floridastudents.org/PreviewResource/StudentResource/173500
2. Start the tutorial: **Scientific Discovery and Innovation: The Hunt for Exoplanets**
3. Complete each practice question.
4. Print the certificate of completion and submit to your Science teacher.

8th Comprehensive Science Course 3 or Physical Science

Nature of Science

Student Name: _____ Student ID: _____

Week	Interactive Tutorial Lesson	Date Completed
1	Stop the Zombie Virus by Interpreting Graphs	
2	Writing a Conclusion	
3	Science Research: Developing a Hypothesis	
4	Scientific Discovery and Innovation: The Hunt for Exoplanets	

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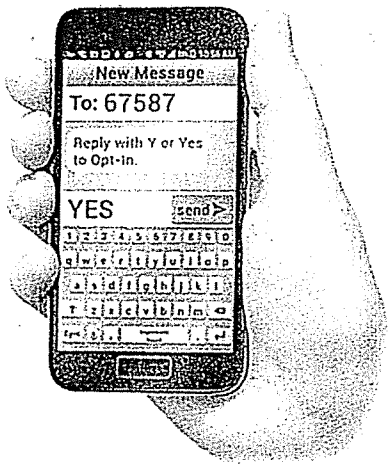

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