



# **AcadeMir Charter Schools**

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**2024 SUMMER  
4<sup>th</sup> GRADE PACKET**

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## AcadeMir Charter School West 2024 Summer Learning Requirements

Dear Parent(s)/Guardian(s),

In preparation for the 2024 – 2025 school year and to ensure that our students maintain growth-oriented academia during the summer, the school curriculum team has created the following Summer Learning assignment for each student to complete by the first day of school. Each student must complete the Summer Learning Packet over the summer and turn it in to your classroom teacher by August 23, 2024.

### **Summer Reading**

ACSW students will be expected to read the novel from the reading list for their incoming grade level. For example, if your child is entering 1<sup>st</sup> grade in the fall, he/she would read the 1<sup>st</sup> grade novel and complete the activity. Please note that this assignment will be worth one grade for Reading and one grade for Language Arts.

### **Mathematics Activities**

ACSW students are required to complete the mathematics packet that pertains to their incoming grade level and/or assignment. For example, if your child is in the Accelerated Mathematics course in the elementary level, he/she needs to complete the Accelerated packet. For middle school, Algebra, Geometry, etc. is separated from the ELA, Science, and Social Studies packet. Please ensure that you do all the components.

Thank you for your partnership in ensuring your child continues to strive for excellence over the summer!  
We look forward to an outstanding 2024 – 2025 school year!

Sincerely,

Susie Bello, Principal  
AcadeMir Charter School West  
bello@academircharterschoolwest.com

# ACADEMIR CHARTER SCHOOLS



## ACADEMIR SUMMER READING 2023-2024

Summer provides a plethora of opportunities for students and their families to enjoy unforgettable books and create lifetime memories.

AcadeMir students entering K-8<sup>th</sup> grade are required to read from the summer reading lists developed by our Academic Team for the upcoming grade.

Creating lifelong readers is one of the greatest gifts that we can give our children. We want our students to have a fun summer break while also pursuing reading for enjoyment at the same time.

Research has shown that the single greatest factor in predicting reading success is whether a child is read to when they are young. All of our students are to read the selected book for their grade.

These assignments are for a grade and should be completed and turned in to your student's new ELA teacher by Friday, August 23<sup>rd</sup>.

Happy Reading and enjoy your summer break!!!



# ACADEMIR CHARTER SCHOOLS



## 2024 Summer Reading List

Grade	Summer Reading	Author	Book Synopsis	Front Cover
Kindergarten	Swimmy	Leo Lionni	Deep in the sea there lives a happy school of little fish. Their watery world is full of wonders, but there is also danger, and the little fish are afraid to come out of hiding . . . until Swimmy comes along. Swimmy shows his friends how—with ingenuity and teamwork—they can overcome any danger.	
First Grade	From Seed to Pumpkin	Wendy Pfeffer	Pumpkins can be baked in a pie, carved into jack-o'-lanterns, and roasted for a healthy snack. But how does a tiny seed turn into a big pumpkin? With clear text and detailed, colorful illustrations, this book explains what a pumpkin seed needs to help it grow!	
Second Grade	Mango, Abuela, and Me	Meg Medina	Mia's abuela has left her sunny house with parrots and palm trees to live with Mia and her parents in the city. The night she arrives, Mia tries to share her favorite book with Abuela before they go to sleep and discovers that Abuela can't read the words inside. Then Mia sees a parrot in the pet-shop window and has the perfect idea for how to help them all communicate a little better.	
Third Grade	The Boxcar Children	Gertrude Chandler Warner	The Aldens begin their adventure by making a home in a boxcar. Their goal is to stay together, and in the process, they find a grandfather.	
Fourth Grade	The Lion, the Witch and the Wardrobe	C.S. Lewis	Narnia... the land beyond the wardrobe door, a secret place frozen in eternal winter, a magical country waiting to be set free. Lucy is the first to find the secret of the wardrobe in the professor's mysterious old house. At first her brothers and sister don't believe her when she tells of her visit to the land of Narnia. wardrobe themselves.	



# ACADEMIR CHARTER SCHOOLS



## 2024 Summer Reading List

Grade	Summer Reading	Author	Book Synopsis	Front Cover
Fifth Grade	The City of Ember	Jeanne DuPrau	Many hundreds of years ago, the city of Ember was created by the Builders to contain everything needed for human survival. It worked...but now the storerooms are almost out of food, crops are blighted, corruption is spreading through the city and worst of all— the lights are failing. Soon Ember could be engulfed by darkness...	
Sixth Grade	Hatchet	Gary Paulsen	Brian is on his way to Canada to visit his estranged father when the pilot of his small prop plane suffers a heart attack. Brian is forced to crash-land the plane in a lake--and finds himself stranded in the remote Canadian wilderness with only his clothing and the hatchet his mother gave him as a present before his departure.	
Seventh Grade	Old Yeller	Fred Gipson	At first, Travis couldn't stand the sight of Old Yeller. The stray dog was ugly, and a thieving rascal, too. But he sure was clever, and a smart dog could be a big help on the wild Texas frontier, especially with Papa away on long cattle drive up to Abilene.	
Eighth Grade	The Swiss Family Robinson	John David Wyss	The Robinsons leave their home in Switzerland planning to settle half a world away. But things do not turn out as they had expected. The sole survivors of a terrible shipwreck, they wash ashore to learn that the danger has only begun. Their new world will test their courage, cleverness, endurance, and faith as they struggle to survive and create a civilization of their own in the wilderness.	
Ninth Grade	1984	George Orwell	The scene is London, where there has been no new housing since 1950 and where the city-wide slums are called Victory Mansions. Science has abandoned Man for the State. As every citizen knows only too well, war is peace. To Winston Smith, a young man who works in the Ministry of Truth (Minitru for short), come two people who transform this life completely.	



# AcadeMir Charter Schools

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## ELA

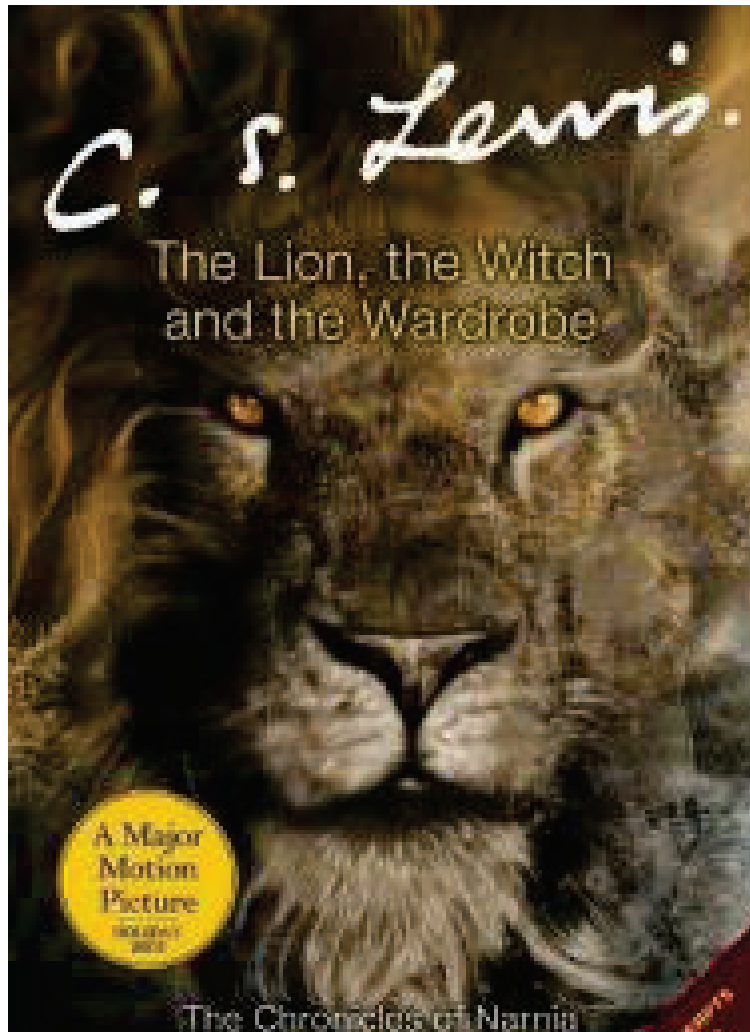
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# ACADEMIR CHARTER SCHOOLS



## Fourth Grade



Narnia... the land beyond the wardrobe door, a secret place frozen in eternal winter, a magical country waiting to be set free.

Lucy is the first to find the secret of the wardrobe in the professor's mysterious old house. At first her brothers and sister don't believe her when she tells of her visit to the land of Narnia. wardrobe themselves.



# ACADEMIR CHARTER SCHOOLS



**WRITE A COMPLETE RESPONSE FOR THE FOLLOWING QUESTIONS**

**Students Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Title of book and authors name:**

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**Describe the setting of the book:**

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**State the main character's name and describe the character:**

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**What does that character value?**

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**What is that character's personality like?**

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# ACADEMIR CHARTER SCHOOLS



**On a scale from 1-10 (10 being the best book you've ever read), how would you rate this book? Explain your reasoning.**

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**List the sequence of events in the story. Circle the conflict, highlight in yellow the main idea, underline the resolution, and highlight in orange the main characters.**

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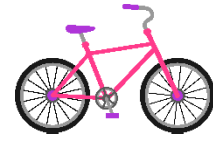
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**Summarize the story on a separate sheet of paper.**

# Cursive passages: The Bicycle

## Cursive Writing Worksheet



Trace and copy the passage:

Emma has a new bicycle. It is bright pink and shiny. It was a gift from her uncle. He hid it behind a bush to surprise her.

When Emma looked behind the bush and saw the bicycle, she jumped for joy. It was just what she wanted. She gave her uncle a big hug.

Blank cursive writing lines for practice, consisting of multiple sets of three horizontal lines (top, middle, bottom) with a dashed midline.





# AcadeMir Charter Schools

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# MATH

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Name \_\_\_\_\_

## Add Dollars and Cents

Find the sum.

$$\begin{array}{r} \phantom{1} \phantom{1} \phantom{1} \\ 1. \quad \$58.36 \\ + \$ 5.87 \\ \hline \$64.23 \end{array}$$

$$\begin{array}{r} 2. \quad \$7.96 \\ + \$3.08 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad \$98.45 \\ + \$ 4.76 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad \$14.66 \\ + \$30.76 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad \$26.71 \\ + \$ 5.09 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad \$30.25 \\ + \$27.42 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad \$54.01 \\ + \$85.23 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad \$42.49 \\ + \$30.73 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad \$ 7.76 \\ + \$54.02 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad \$21.06 \\ + \$63.48 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad \$34.59 \\ + \$ 7.45 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad \$53.97 \\ + \$60.00 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad \$71.25 \\ + \$ 5.90 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad \$40.39 \\ + \$17.25 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad \$14.99 \\ + \$ 5.23 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad \$22.85 \\ + \$40.25 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad \$ 5.23 \\ + \$30.55 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad \$43.32 \\ + \$86.85 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad \$31.26 \\ + \$88.90 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad \$83.77 \\ + \$60.35 \\ \hline \end{array}$$

## Problem Solving



21. The bill for tonight's dinner is \$56.85. Mr. Asham adds a \$10.50 tip. How much does Mr. Asham pay in all?

\_\_\_\_\_

22. Maria buys a video game for \$25.99 and batteries for \$7.30. What is the total cost for these two items?

\_\_\_\_\_

Name \_\_\_\_\_

## Subtract Dollars and Cents

Find the difference.

$$\begin{array}{r} 12 \\ 7\cancel{2}16 \\ 1. \quad \$58.\cancel{36} \\ - \$26.87 \\ \hline \$31.49 \end{array}$$

$$\begin{array}{r} 2. \quad \$3.05 \\ - \$1.18 \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad \$9.43 \\ - \$7.08 \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad \$6.25 \\ - \$4.88 \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad \$15.20 \\ - \$9.47 \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad \$64.66 \\ - \$3.85 \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad \$80.00 \\ - \$9.99 \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad \$52.03 \\ - \$7.46 \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad \$73.18 \\ - \$18.42 \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad \$21.64 \\ - \$10.95 \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad \$48.57 \\ - \$20.69 \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad \$60.35 \\ - \$39.54 \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad \$91.32 \\ - \$8.79 \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad \$23.06 \\ - \$6.97 \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad \$58.30 \\ - \$9.41 \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad \$41.45 \\ - \$7.59 \\ \hline \end{array}$$

$$\begin{array}{r} 17. \quad \$34.20 \\ - \$18.15 \\ \hline \end{array}$$

$$\begin{array}{r} 18. \quad \$56.20 \\ - \$20.50 \\ \hline \end{array}$$

$$\begin{array}{r} 19. \quad \$43.17 \\ - \$30.09 \\ \hline \end{array}$$

$$\begin{array}{r} 20. \quad \$95.44 \\ - \$78.56 \\ \hline \end{array}$$

### Problem Solving



21. A soccer ball costs \$17.99. Karla hands the cashier \$20.00. How much change does she get back?

\_\_\_\_\_

22. Hal earned \$56.50 dog sitting last month. Liz earned \$87.00. How much more did Liz earn than Hal?

\_\_\_\_\_



Name \_\_\_\_\_

## Order of Operations

Follow the order of operations to find the value of the expression. Show each step.

1.  $3 + (18 \times 2) \div 3$

$$\begin{array}{r} 3 + 36 \div 3 \\ 3 + 12 \\ \hline 15 \end{array}$$

2.  $(20 - 8) \times 2$

\_\_\_\_\_

3.  $(48 \div 6) + 5$

\_\_\_\_\_

4.  $(9 \times 4) + 6$

\_\_\_\_\_

5.  $(10 + 5) \times 9$

\_\_\_\_\_

6.  $(40 \div 10) + 11$

\_\_\_\_\_

7.  $5 + (21 \div 3) \times 5$

\_\_\_\_\_

8.  $7 \times 4 + (15 \div 3)$

\_\_\_\_\_

9.  $6 + (24 \div 8) - 3$

\_\_\_\_\_

10.  $43 - 28 + (12 \div 2)$

\_\_\_\_\_

11.  $(13 \times 2) - 2 - 5$

\_\_\_\_\_

12.  $15 + 6 \times (8 \div 4)$

\_\_\_\_\_

## Problem Solving

13. Each carton has 12 eggs. There are 2 full cartons in the refrigerator. Margot uses 3 eggs to make a quiche. How many eggs are left?

\_\_\_\_\_

14. There are 6 rows in the parking lot. Each row has 12 parking spaces. At 9 o'clock the lot is full. An hour later, there are 15 empty spaces. How many cars are in the lot an hour later?

\_\_\_\_\_

Name \_\_\_\_\_

## Divide by Multiples of Ten

Divide. Use a pattern to help.

1.  $1,500 \div 30 = \underline{50}$       2.  $2,000 \div 20 = \underline{\hspace{2cm}}$       3.  $4,000 \div 80 = \underline{\hspace{2cm}}$

$15 \div 3 = 5$ , so  $150 \div 30 = 5$ .

$1,500 \div 30 = 50$

4.  $6,000 \div 30 = \underline{\hspace{2cm}}$       5.  $9,000 \div 30 = \underline{\hspace{2cm}}$       6.  $8,000 \div 40 = \underline{\hspace{2cm}}$

7.  $1,000 \div 20 = \underline{\hspace{2cm}}$       8.  $3,500 \div 50 = \underline{\hspace{2cm}}$       9.  $8,100 \div 90 = \underline{\hspace{2cm}}$

10.  $6,400 \div 80 = \underline{\hspace{2cm}}$       11.  $2,400 \div 60 = \underline{\hspace{2cm}}$       12.  $6,000 \div 60 = \underline{\hspace{2cm}}$

13.  $2,100 \div 70 = \underline{\hspace{2cm}}$       14.  $5,400 \div 90 = \underline{\hspace{2cm}}$       15.  $2,700 \div 30 = \underline{\hspace{2cm}}$

## Problem Solving



16. A food bank has 3,600 boxes of food. The boxes will be loaded equally onto 60 trucks. How many boxes of food will be on each truck?

\_\_\_\_\_

17. A stadium has a seating capacity of 8,000. Suppose it is divided into 20 equal sections. How many seats are in each section? **Explain.**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

## Model Division with 2-Digit Divisors

Use base-ten blocks to divide.

1.  $154 \div 11$

2.  $48 \div 16$

3.  $95 \div 19$

4.  $288 \div 16$

14

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5.  $120 \div 15$

6.  $140 \div 10$

7.  $132 \div 12$

8.  $204 \div 12$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

9.  $250 \div 10$

10.  $154 \div 11$

11.  $39 \div 13$

12.  $165 \div 11$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Problem Solving



13. A theater has 126 seats. The theater has 14 rows with the same number of seats in each row. How many seats are in each row?

\_\_\_\_\_

14. Leila has \$360 in twenty-dollar bills. How many twenty-dollar bills does she have?

\_\_\_\_\_



Name \_\_\_\_\_

## Decimals and Place Value

Read and write the decimal in two other forms.

1. 7.32

seven and thirty-two  
hundredths;  $7 + 0.3 +$   
0.02

2. two and six tenths

\_\_\_\_\_  
\_\_\_\_\_

3.  $20 + 5 + 0.8 + 0.01$

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. 86.04

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Write the value of the underlined digit.

5. 6.24

\_\_\_\_\_ 0.04

6. 3.2

\_\_\_\_\_

7. 9.07

\_\_\_\_\_

8. 0.48

\_\_\_\_\_

9. 1.65

\_\_\_\_\_

10. 0.9

\_\_\_\_\_

11. 5.13

\_\_\_\_\_

12. 10.82

\_\_\_\_\_

## Problem Solving

Use the table below for 13 and 14.

Three runners finished a foot race with the following times.

Foot Race Times

Runner	Time (in seconds)
Erika	15.46
Andre	14.89
Conner	15.08

13. Which runner finished the race with a time that has the digit 8 in the hundredths place?

\_\_\_\_\_

14. What is Erika's time written in expanded form?

\_\_\_\_\_

Name \_\_\_\_\_

## Round Decimals

Round to the nearest dollar or to the nearest whole number.

1. \$3.18

\_\_\_\_\_

2. 4.7

\_\_\_\_\_

3. \$7.02

\_\_\_\_\_

4. 8.55

\_\_\_\_\_

5. \$1.89

\_\_\_\_\_

6. 0.2

\_\_\_\_\_

7. \$0.75

\_\_\_\_\_

8. 9.09

\_\_\_\_\_

9. \$9.51

\_\_\_\_\_

10. 1.01

\_\_\_\_\_

11. \$8.49

\_\_\_\_\_

12. 6.35

\_\_\_\_\_

13. \$0.85

\_\_\_\_\_

14. 5.9

\_\_\_\_\_

15. \$1.05

\_\_\_\_\_

16. 4.5

\_\_\_\_\_

17. \$4.15

\_\_\_\_\_

18. 3.65

\_\_\_\_\_

19. \$1.99

\_\_\_\_\_

20. 5.52

\_\_\_\_\_

## Problem Solving



21. Camden spends \$18.25 at the range. How much money did Camden spend, rounded to the nearest dollar?

\_\_\_\_\_

22. Jolie bought 3.75 pounds of turkey at the deli. About how many pounds of turkey did Jolie buy?

\_\_\_\_\_

Name \_\_\_\_\_

## Place Value to Compare Decimals

Compare the decimals. Write  $<$ ,  $>$ , or  $=$ .

1.  $2.12 \bigcirc 2.2$

2.  $2.6 \bigcirc 2.64$

3.  $2.08 \bigcirc 2.8$

4.  $2.73 \bigcirc 2.77$

5.  $2.4 \bigcirc 2.40$

6.  $2.89 \bigcirc 2.876$

7.  $2.98 \bigcirc 2.09$

8.  $2.57 \bigcirc 2.75$

9.  $0.38 \bigcirc 0.34$

10.  $46.2 \bigcirc 46.20$

11.  $0.8 \bigcirc 0.88$

12.  $25.09 \bigcirc 25.48$

Use a place-value chart to order the decimals from least to greatest.

13. 0.41, 0.49, 0.45

14. 8.95, 8.98, 8.9

15. 2.7, 2.77, 2.07

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16. 1.23, 1.27, 1.25

17. 9.9, 9.99, 9.94

18. 3.4, 3.04, 3.44

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### Problem Solving



19. Veronica drank 0.5 liter of water. Hector drank 0.3 liter of water. Who drank less water?

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20. Abby spent \$6.36 on her lunch and Colby spent \$6.63 on his lunch. Who spent less money on lunch—Abby or Colby?

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Name \_\_\_\_\_

## Number Patterns

Describe the pattern. Then find the next two numbers in the pattern.

1. 4, 12, 36, 108, 324, 972  
Multiply by 3.

2. 14, 28, 56, 112, \_\_\_\_\_, \_\_\_\_\_  
\_\_\_\_\_

3. 2, 8, 32, 128, \_\_\_\_\_, \_\_\_\_\_  
\_\_\_\_\_

4. 1, 5, 25, 125, \_\_\_\_\_, \_\_\_\_\_  
\_\_\_\_\_

Determine the pattern and use it to fill in the blanks.

5. 1, 6, 36, \_\_\_\_\_, 1,296

6. 2, 6, \_\_\_\_\_, 54, \_\_\_\_\_

7. 3, \_\_\_\_\_, 48, \_\_\_\_\_, 768

8. \_\_\_\_\_, \_\_\_\_\_, 36, 108, 324

9. \_\_\_\_\_, 2, 4, 8, \_\_\_\_\_

10. 5, 20, \_\_\_\_\_, 320, \_\_\_\_\_

## Problem Solving



11. Pippen works at an aquarium. Each month, she counts the number of fish in one of the aquariums. She records the total number of fish in the table below. If the pattern continues, how many fish will be in the aquarium in Months 6 and 7?

Month	1	2	3	4	5
Number of Fish	4	8	16	32	64

\_\_\_\_\_

Name \_\_\_\_\_

## Add Related Fractions

Add. Use fraction strips to help.

1.  $\frac{1}{2} + \frac{1}{8} =$   $\frac{5}{8}$

The diagram illustrates the addition of  $\frac{1}{2}$  and  $\frac{1}{8}$  using fraction strips. On the left, a strip of length 1 is divided into 2 equal parts, with the left part shaded and labeled  $\frac{1}{2}$ . An arrow points to the right, where a strip of length 1 is divided into 8 equal parts. The first five parts are shaded, and the total shaded area is labeled  $\frac{5}{8}$ . Brackets below the second strip indicate that the first four parts (equivalent to  $\frac{1}{2}$ ) and the fifth part (equivalent to  $\frac{1}{8}$ ) are shaded.

2.  $\frac{1}{3} + \frac{2}{9} =$  \_\_\_\_\_

3.  $\frac{2}{10} + \frac{1}{5} =$  \_\_\_\_\_

4.  $\frac{2}{3} + \frac{1}{6} =$  \_\_\_\_\_

5.  $\frac{2}{8} + \frac{1}{4} =$  \_\_\_\_\_

6.  $\frac{4}{12} + \frac{2}{3} =$  \_\_\_\_\_

7.  $\frac{4}{10} + \frac{1}{2} =$  \_\_\_\_\_

8.  $\frac{1}{2} + \frac{3}{6} =$  \_\_\_\_\_

## Problem Solving

9. The Lin family bought a dozen bagels. They ate  $\frac{1}{4}$  of the bagels today and  $\frac{5}{12}$  of the bagels yesterday. What fraction of the bagels did they eat in all? Explain how you found your answer.

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10. The Smith family ate  $\frac{3}{5}$  of a pizza for dinner and  $\frac{2}{10}$  of the pizza for lunch the next day. How much of the pizza did they eat in all? Explain how you found your answer.

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**AcadeMir  
Charter Schools**

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**SOCIAL  
STUDIES**

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Name \_\_\_\_\_

Date \_\_\_\_\_

# Name the 13 Colonies

Use the word bank below to label the map of the 13 colonies.

A map of the eastern United States showing the 13 colonies. Each colony is a different color and has a line pointing to an empty rectangular box for labeling. The boxes are arranged as follows: one on the far left; two on the left side; one on the top left; one on the top right; one on the right side; one on the bottom right; and two on the bottom left.

**Word Bank:**

- Connecticut
- Delaware
- Georgia
- Maryland
- Massachusetts
- New Hampshire
- New Jersey
- New York
- North Carolina
- Pennsylvania
- Rhode Island
- South Carolina
- Virginia

During the age of exploration - a new land was discovered by the Europeans. Although there were people already living on this continent, the Europeans wanted to colonize this land for a number of reasons. Some people were searching for religious freedom, some kings wanted the resources that this new land had to offer and others just wanted a new opportunity and some adventure. The 13 colonies were the result and years later these colonies came together to form the United States of America.





**AcadeMir  
Charter Schools**

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**SCIENCE**

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Name \_\_\_\_\_

Date \_\_\_\_\_

## Atmospheric Pressure & Light

Planet Earth is the only known planet that has conditions suitable enough for living organisms to grow, and reproduce and survive. These conditions are a combination of non-living components like water, sunlight, temperature and living components like micro-organisms, plants and animals. The non-living components (forces) of a particular environment that make the conditions ideal for sustenance of life are known as the **A-biotic factors**.



Some of the important abiotic factors that affect living organisms are:

### Light

Light is the main source of energy for many organisms. Natural light plays an important part in the life of most plants as they utilize it in the process of photosynthesis. During photosynthesis, light energy is converted into chemical energy and into complex organic substances that are vital for growth, flowering and germination. Plants are a food source that indirectly transfers energy to animals. For animals, the intensity of light affects their skin color, sensitivity, and sight

### Atmospheric Pressure

Because of the gravitational force of the earth, atmospheric gases are pulled towards the surface of the earth. Many organisms can only survive in particular ranges of atmospheric pressure and when air pressure is low, especially in higher altitudes some may find it difficult to breathe. This is due to the insufficient amount of oxygen present at a certain height. Deep underwater in an ocean the atmospheric pressure increases as the depth of the water increases and again this causes only certain kinds of plants and animals to survive in certain specific ocean regions.

Name \_\_\_\_\_

Date \_\_\_\_\_

## **Atmospheric Pressure & Light Multiple Choice Questions**

- 1. Light (sunlight) helps in the process of**
  - a) Photosynthesis
  - b) Reproduction
  - c) Survival
  - d) None of these
  
- 2. Intensity of light affects the \_\_\_\_\_ of animals.**
  - a) Skin color
  - b) Sensitivity
  - c) Sight
  - d) All of the above
  
- 3. The non-living components (forces) of environment that makes survival possible are known as \_\_\_\_\_**
  - a) Biotic Factors
  - b) A-Biotic Factors
  - c) Non-Biotic Factors
  - d) None of these
  
- 4. Atmospheric gases are pulled towards the surface because of**
  - a) Atmospheric pressure
  - b) Gravitational Forces
  - c) High temperature
  - d) All of these

# ACADEMIR CHARTER SCHOOLS



## 4<sup>th</sup> Grade Summer Science Activity

### “The Power of Air Pressure”

#### Introduction

Air pressure is a powerful force. Here’s a small, but significant example of how you can use air pressure to exert force on an object.

#### Materials

- 1 Raw potato
- 1 to 3 sturdy drinking straws

#### Procedures

1. Hold the straw without blocking the hole at the top.
2. Stab the potato with a straw. Were you able to pierce the potato with the straw?
3. Stab the potato with a straw again, BUT this time make sure you block the whole with your thumb. Were you able to pierce the potato with the straw this time?
4. Try Step #2 and Step #3 again. Did you get a different result?



#### Your task

On a separate sheet of paper, write your name and explain what happened when you tried step #2. Now write about what happened when you tried step #3. Give your reasoning why you think the results were different for step #2 and step #3.

#### Explanation

When you covered the hole with your thumb and stabbed the potato, you could push the straw deeper than before. This is because your thumb trapped the air inside the straw and created enough pressure to stab the potato successfully.

