5th Grade AMI

April 20 - May 8

Weeks 4-6

We Miss You!!!

ARKANSAS AMI LEARNING GUIDE
Supporting Continuous Learning in Arkansas

Student Name:

Teacher's Name Morrell/Sallee Grade Level 5th

AMI PROGRESS REPORT- Self Reporting - Week 4 -6

PBS Programming:

We were able to watch:

- ❑ All 5 days of programs (Hour and ½ each day)
- ❑ 4 days
- ❑ 3 days
- ❑ 2 days
- ❑ 1 day
- ❑ Did not watch

Literacy Corner: 30 minutes each day

Mark the learning opportunities that your child completed:

- ❑ Presentation
- ❑ Create your own Animal Mascot
- ❑ Read Paired Text
- ❑ Character Description
- ❑ Write a Letter
- ❑ Compare and Contrast
- ❑ Brainstorm Synonyms
- ❑ Describe
- ❑ Letter to a Classmate
- ❑ Animal Perspective
- ❑ Working it OUT
- ❑ Writing Creativity
- ❑ Favorite Meal
- ❑ Nature Sounds
- ❑ Heroes
- ❑ Journal Writing
- ❑ FREE Choice

Math Mania: 30 minutes each day

Mark the math learning opportunities your child completed:

- ❑ Khan Academy 3 times or more this week (30 min each)
- ❑ Problem Solving
- ❑ Elapsed Time
- ❑ Working Backwards
- ❑ Patterns
- ❑ Body Measurements 1
- ❑ Body Measurements 2
- ❑ Designing a Restaurant
- ❑ Friends You Can Count On
- ❑ Cube Tower
    - ❑ Math Worksheets
    - ❑ Math Book
    - ❑ Case of the Superbad Superhero
    - ❑ Case of the Incredible Shrinking Garden
    - ❑ Case of the Hatcher Hotel Heist

THINK like a Scientist!

Mark the learning opportunities your child completed:

- ❑ Chromatography
- ❑ Riddles
- ❑ Solving Mysteries
- ❑ I Spy Birds
- ❑ Compare and Contrast
- ❑ Make a Prism
- ❑ Reflection

Upload, email, or turn in 2 pieces of your child's work from the week that shows their progress in completing the learning opportunities in literacy, math or science to your teachers.
brandy.sallee@norfork.k12.ar.us amy.morrell@norfork.k12.ar.us clay.hartje@norfork.k12.ar.us
tara.crowe@norfork.k12.ar.us Mrs. Crowe's cell number (870)405-8780

ARKANSAS AMI LEARNING GUIDE
Supporting Continuous Learning in Arkansas

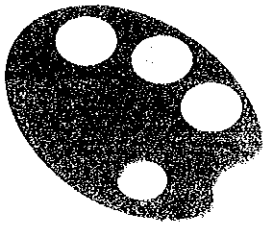
WEEKS 4-6th
April 20th- May 8th
5th grade

Please finish your novel that you are reading.

SciGirls	SciGirls showcases bright, curious, real tween girls putting science, technology, engineering and math (STEM) to work in their everyday lives.
Cyberchase	Cyberchase is an ongoing action-adventure children's television series focused on teaching basic STEM concepts.
Arthur	Arthur's goals are to help foster an interest in reading and writing, to encourage positive social skills, and to model age-appropriate problem-solving strategies.
Ready Jet Go	In READY JET GO! Jet Propulsion and his family leave their home planet of Boltron 7 to pose as earthlings and experience the planet up close.
Xavier Riddle and the Secret Museum	Xavier Riddle with his sister, Yadina Riddle, and their friend, Brad, go to the Secret Museum to time travel to the past, to observe, interact, and learn from historical heroes.
Odd Squad	The show focuses on two young agents, Olive and Otto, who are part of the Odd Squad, an agency whose mission is to save the day whenever something unusual happens in their town.

- **Presentation**: Time for your child to be the expert! Let him or her **make a presentation** using facts and pictures about something learned this week. This can be done on paper, poster, or computer. Present for family or friends at home or by video chat.
- **Create your own Animal Mascot**: Create a poster featuring the mascot. You may draw a picture or use crafts to design your poster and animal. Write a detailed description of your animal and explain why it would be a great mascot. Be sure to name your mascot and describe what makes them so special.
- **Read Paired Text**: Read "When Television became Colorful" and "A Brush with History" and answer the questions.
- **Character Description:** Pick a favorite character from a story or one of the shows. Write a character description. What do they look like? Act like? How did their actions impact the story?
- **Write a Letter**: Write a letter to a character from a story or an episode you watched this week. What problem did they face in their story? Explain to them other ways they could have solved their problem.
- **Compare and Contrast:** In *Arthur: The Squirrels*, they discussed things that were scary and not scary. Think of other antonyms (opposites) and compare and contrast the differences in the two. Provide examples of each.

- **Brainstorm Synonyms:** Brainstorm all of the words that are synonyms for the word **amazing**. You may use a dictionary, thesaurus, or the internet to discover more synonyms for the word **amazing.**



- **Describe**: In *Odd Squad: Running on Empty*, the watercolor artist was painting scenes from the desert. Paint or draw a picture of your favorite place to go for fun. Write a descriptive paragraph of your favorite place to go for fun. Make sure that you use plenty of descriptive words.

- **Letter to a Classmate:** Write a letter to one of your classmates this week. Be sure to include the date, greeting, body of the letter, closing and signature.

-

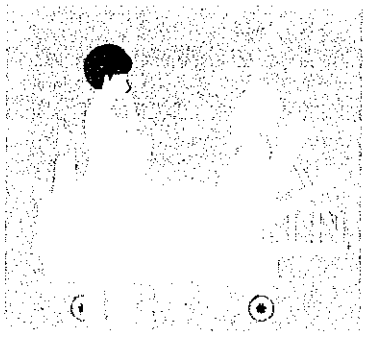
- **Animal Perspective**: There is some science behind what animals are thinking. Take a picture of an animal (pet or one outside) OR find a picture of an animal. Write a diary entry from the perspective of the animal in your picture. Consider how it speaks, its daily routine, and what it is thinking about you, other animals, and/or its surroundings. Extension: Create a meme using the picture to summarize or highlight an important part of the diary entry.

- **Working it OUT**: In the episode *Allow Yourself to Soar (6th grade AMI show)*, a series of stretches are taught. What is your workout and stretching routine? What motivates you to workout and stretch, and how does it help you? Consider how you feel prior to working or stretching to how you typically feel afterwards. Design a workout routine, identify the purpose of the workout and the intended outcomes.

- **Writing Creativity**: Select a short story, movie, play, or film that has an ending you would like to change. Write a different ending. Will it be a happier or sadder ending? Will it end on a cliffhanger? (Extension: Why did you want to change the ending to this short story, movie, play, or film?)

- **Favorite Meal:** Food is important to the culture of the communities. Describe one of your family's favorite meals. How is it made? Where did it come from? Is the recipe written down or is it memorized? Does this meal have cultural connections? Interview a family member about the recipe and its significance.

- **Nature Sounds**: Go outside and find a comfortable and safe place to sit and close your eyes for 1 minute. During that 1 minute, listen to the environment. After 1 minute is up, jot down notes about what you heard. What kind of nature sounds did you hear? What kind of city sounds did you hear? Repeat this exercise two more times. Then, examine your notes and write a poem or short narrative that is reflective of the sounds you heard. What story is unfolding with the sounds you heard? Feel free to be creative and consider using onomatopoeia (sound words) in your writing.



- **Heroes**: Heroes are all around us. Write about a hero or group of heroes in your family and/or community. What do they do? Why are they heroic in your eyes?

- **Journal Writing**: Begin keeping a daily journal or diary on the current pandemic.

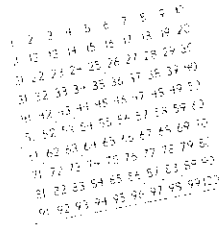
- **FREE Choice**- Ask your child about his or her interests? Let them choose something to read, write or learn more about today.

- **Khan Academy:**
  5th grade math__https://www.khanacademy.org/math/cc-fifth-grade-math

- **Problem Solving**: In *Cyberchase: Problem Solving in Shangri-La*, the CyberSquad must use problem solving techniques to beat Hacker and win the game. A variation to the game CyberSquad played against Hacker requires 16 items found around your home (15 items that are the same, 1 item that is different). Two players take turns removing 1, 2, 3, or 4 same items from the pile at a time. The player left with the different item during their turn will LOSE the game. Is there a winning strategy for either player? Play the game again but this time the one with the different item WINS the game. Is there a winning strategy for either player?

- **Elapsed Time**: In *Cyberchase: A Time to Cook*, Matt helps Digit cook three meals in order to beat Hacker and the clock to win the game show. Record the time (using minutes) it takes to do your chores, help a family member cook a meal, do school work, and play outside. Make a table of your times and practice recording your time on an analog clock.

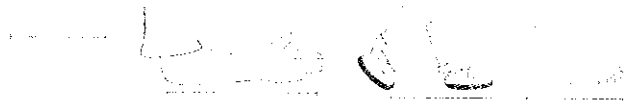
- **Working Backwards**: In *Cyberchase*, the CyberSquad must use problem solving techniques, including working backwards, to beat Hacker. Solve the following problems and talk to a family member about how you worked the problems. Try to stump a family member with your own "working backwards" problem.
  - If you add 4 to a number, then subtract 3, then add 9, you get 8. What's the number?
  - If you add 4 to a number, then subtract 4, then add 7, then subtract 7, you get 20. What's the number?
  - If you add 1 to a number, then add 3, then add 5, then subtract 7, you get 20. What's the number?



- **Patterns**: Ask a family member to join you in finding patterns. Use a hundreds chart and three different colors. Mark the boxes with multiples of 2 one color, multiples of 3 another color, and multiples of 6 the third color. What pattern do you notice? Can you find other patterns in the chart? Talk to a family member about the patterns.

- **Body Measurements 1**: In *Cyberchase: Ecohaven Case*, the CyberSquad must find the thief who stole the mighty beast, Choocroca, using only one clue - the thief's footprint. Cut a piece of string a little longer than your height. Start at the end of your string and mark off seven of your foot lengths using a marker. Use the string to measure the distance from your wrist to your elbow (forearm), the widest part of your wrist, around your forehead, the distance from your knee to your ankle, your arm span (your arms spread wide), and from head to toe. Record the number of foot lengths for each item. What do you notice about each measurement? Do you see a pattern? Do the activity with a family member. What do you notice? Do you see a pattern?

- **Body Measurements 2:** Many of the first units of measure were parts of the body. Measure and record items around your house using these measurements. Ask a family member to measure the same items. What do you notice? What do you wonder? Talk to a family member about why we no longer use parts of the body to measure.



- **Designing a Restaurant**: Create a menu for your restaurant. The menu must feature appetizers, main courses, desserts, beverages, and more. Each item must have a price listed and no two prices can be the same. Once the menu is finished, ask a family member to create an order and you calculate the total amount. If they paid with a $100 bill, what would be their change back?

- **Friends You Can Count On**: You and your friend went to get ice cream. The restaurant has a sign with the different kinds of ice creams, candies/cookies, and toppings. You and your friend wonder how many different blasts you can make. Find all the combinations you can make and explain how you know you have found all of them.

Ice Cream	Candy/Cookie	Topping
Vanilla	Snickers Bar	Gummy Bears
Chocolate	Oreo Cookie	Rainbow Sprinkles
Strawberry	M & M Candy	Hot Fudge
	Peanut Butter Cup	

- **Cube Tower Challenges:** *Material: Paper and pencil; Crayons/Markers (Optional)*
  Work with a partner. Both of you read the challenge and secretly draw the tower on your paper. Then compare to see if you have the same tower. If the towers don't match, work together to decide what the tower should look like. Optional: make a color drawing of the tower. Create your own Cube Tower Challenge.
  Challenge:
    - There are 5 cubes: 2 white, 1 green, 1 blue, and 1 red.
    - The top and bottom of the tower are the same color.
    - Blue is between the two whites, but blue does not touch white.
    - The red cube is above the blue cube.

- **Math Skills Sheets :**Attached worksheets

- **Math Book:** Work on skills in your math book that you understand or want to learn..

★ **Get active-** Have a dance party. Turn on the music and dance.

★ **Play** soccer or catch outside!

★ **Craft kits**- Do you have any craft or art kits? What can you make?

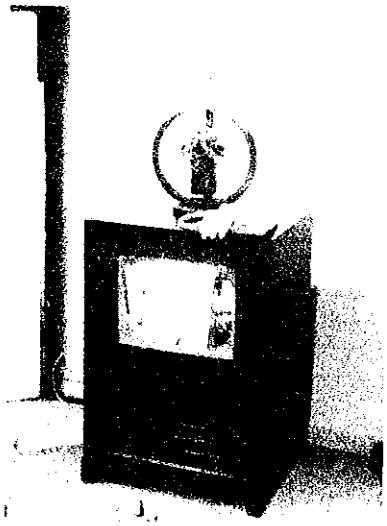
★ Check out the PBS kids for specific games and additional learning opportunities for each show. https://pbskids.org

★ Check out Mrs. Hartle's Art Activities!

Design and Problem-Solving

PAIRED TEXT (From ReadWorks.org)

When Television Became Colorful



Today, nearly all television programs are broadcast in color. If you turn on a baseball game, you can see that the grass on the field is green, or that the pitcher has a blue cap on. But when your grandparents were children, most people watching TV at home could not have seen any of those colors. Television programs were broadcast in black and white only.

Television sets that could broadcast in color have been around for a long time. An engineer named John Logie Baird invented a color TV set in the 1930s. But the picture on Baird's TV flickered, and was not clear. Companies would not sell a TV that was not good quality.

For many years, people worked to improve how color televisions worked. Over time, companies found ways to make the picture clearer. The improvements also meant that a user could turn a dial to add just the right amount of color to the picture. By the late 1960s, many people were buying color televisions. Soon, most TV shows were being broadcast in color, and most people in the U.S. had color TV sets.

Today, it's unusual to find any television show that is still broadcast in black and white. Now the world of television is full of color!

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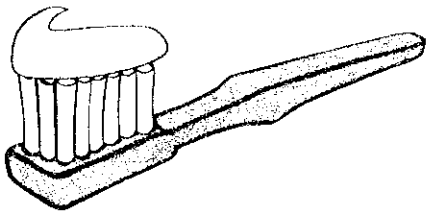
A Brush with History

You know it is important to brush your teeth with a toothbrush to keep them healthy. But how did people clean their choppers before toothbrushes were invented?



The first tooth cleaners were thin twigs called chew sticks. The sticks were fuzzy at one end. A person rubbed the chew stick against his or her teeth to keep them clean.

About two hundred years ago, William Addis invented something closer to today's toothbrush. He collected thick animal hairs called bristles. He attached the hairs to a handle made from animal bone. Addis found that lots of customers wanted his invention.

People still wanted to improve the tooth cleaner, however. Animal hairs did not feel great against human teeth! Finally, man-made bristles were created. They were made out of nylon. Then plastic was used for handles. Now toothbrushes could be made quickly and cheaply. Millions were sold.

About fifty years ago, the electric toothbrush was invented. It does a great job of cleaning teeth. Today, we have toothbrushes with soft or hard bristles. There are sizes for adults, children, and babies.

Tooth cleaners have come a long way since chew sticks. Who knows what kind of tooth cleaner will be invented in the future?

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Comprehension Questions

Use the article "A Brush with History" to answer questions 1 to 2.

1. Describe the tooth cleaner that William Addis invented. Be sure to mention what it was made from.

2. Why were man-made bristles created for the tooth cleaner? Support your answer with evidence from the article.

Use the article "When Television Became Colorful" to answer questions 3 to 4.

3. One problem with the color TV set that John Logie Bard invented was that it flickered. What was another problem with it?

4. What was an improvement made to color TVs? Support your answer with evidence from the article.

Use the articles "A Brush with History" and "When Television Became Colorful" to answer question 5.

5. How is the history of color television similar to the history of the toothbrush? Use evidence from the texts to support your answer.

Use the article "A Brush with History" to answer question 6.

6. Based on these two texts, why might people make changes to a product that already exists? Support your answer with evidence from both articles.

Week 4-6 Science Work
Week 4

matography is a technique for separating mixtures. Get 3 different kinds of pens/markers and a coffee filter. Cut the coffee filter into 3 s. Place a dot/line from one pen about ¼ the way up on one coffee filter strip and a dot/line from the other two pens on the other two e filter strips. Put water into a small clear container and place the end closest to the pen dot into the water, but don't let the dot/line go r water. You can hold the coffee filter strip or you can design a way to keep only one end of the paper in the water. Make a prediction of you will see. Then watch what happens as the water moves up the coffee filter. Record your observations.

les: I have soft fur, I have big feet and ears, I hop and I have a fuzzy tail. What am I? A rabbit! That was easy. Now you make up three riddles about your favorite animals or other topics. Try them out on your family members or call a d to see if they can solve your riddle.

ing Mysteries is fun. If you have the game "Clue", play it with your family and as you play, create an Evidence Board all your clues.

Birds: Go outside, make a list of all the birds you see with or without binoculars. Do this every day this week and record your results. To ify your birds, you can ask an adult or download the free app, Merlin Bird ID.

Week 5

like a Scientist!

Choose 2 science learning opportunities for the week.

ompare/Contrast: Draw a T-chart. On the left-side draw an image of a dog. On the right-side draw an image of a wolf. Compare and ontrast the differences in the two. Do research and look up images with the help of a parent if needed.

- **Make a prism** with commonly found objects. Use the sun as an alternate source of white light. Set a drinking glass half filled with water on the edge of a window sill and adjust its position to get the sunlight to make the prism effect on a sheet of white paper. You can also make a prism using a CD. Poke a small hole in a piece of aluminum foil and fold the foil over a flashlight. Shine the flashlight on the back of the CD and rotate until you see the prism effect. Record your observations in your science notebook.

eflection: Using different types of reflective materials like a mirror, place them in the garden and make observations of the reflections nd shadows cast by the different materials on the plants. Record in your science notebook.

Week 6- Please read the article on the next page and answer the questions.

Weekly Schedule
Week 4 Arkansas AMI
April 20-24
This is a proposed schedule. You do not have to follow it exactly, but it might help to self-monitor yourself and check off what you've done each day.

	Monday	Tuesday	Wednesday	Thursday	Friday
Math 30 minutes each day You choose from the PBS guide					
Reading each day	Read Number the Stars Please finish the novel.				
Literacy Activities 30 minutes per day Pick a PBS Activity or Reading Prompt					
Science PBS Activities Optional					

Art Optional					

Weekly Schedule
Week 5 Arkansas AMI
April 27- May 1
This is a proposed schedule. You do not have to follow it exactly, but it might help to self-monitor yourself and check off what you've done each day.

	Monday	Tuesday	Wednesday	Thursday	Friday
Math 30 minutes each day Choose something from the PBS guide					
Reading each day	If you haven't finished the novel, please finish the novel.				
Literacy Activities 30 minutes per day Pick a PBS Activity or Reading Prompt					
Science					

PBS Activities (Optional)					

Weekly Schedule
Week 6 Arkansas AMI
May 4 - 8
This is a proposed schedule. You do not have to follow it exactly, but it might help to self-monitor yourself and check off what you've done each day.

	Monday	Tuesday	Wednesday	Thursday	Friday
Math 30 minutes each day	This week is Project Based Learning. There are 3 Mysteries attached for you to complete during your 30 minutes each day.				
Reading each day	Please continue to read each day something that you enjoy.				
Literacy Activities 30 minutes per day	I think we all feel like we've been "lost" in this home quarantine these last several weeks. I found this fun activity where you pretend you are "Lost at Sea' at your house. It is fully explanatory. You will be able to do this inside your home and have fun with it. Complete the journal and turn in for me to see how you fared while Lost at Sea. The videos at the end are very interesting. I learned a lot from watching those. I'm excited to see how this activity goes. Please have someone snap a picture of your 'life boat' with you in it and send it to me. I'd love to see you! You may choose to do this in one				

	long setting during the week or you can break it up into different sections throughout the week! Have fun.
Science	Activities are provided by Mrs. Morrell for you to complete.

Name: _____

Subtracting: 3-Digits with Regrouping

Subtract to find the differences. Check by adding.

512 − 239	219 − 34	678 − 129
465 − 218	638 − 44	592 − 279
616 − 353	668 − 508	476 − 193
465 − 239	239 − 84	212 − 190
718 − 209	773 − 691	234 − 119

Name: _____ Addition: 4-Digit Addends

a. 5,280 + 4,203

b. 5,218 + 9,455

c. 1,500 + 700

d. 247 + 1,757

e. 3,498 + 8,419

f. 6,269 + 1,637

g. 2,937 + 446

h. 5,484 + 2,244

i. 43 + 3,838

j. 6,884 + 9,248

k. 4,324 + 274

l. 8,070 + 2,020

m. 5,757 + 5,886

n. 9,246 + 3,745

o. 9,999 + 9,999

Name: _____ Skill: Addition with 4 Addends (Up to 4 Digits)

Find the Mistakes

a. There is a mistake in the way this math problem was solved.

$$\begin{array}{r} {\scriptstyle 2\ \ 2\ \ 1} \\ 2{,}854 \\ 638 \\ 1{,}722 \\ +\quad 90 \\ \hline 5{,}104 \end{array}$$

Solve the math problem correctly.

Explain the error. _____

_____

_____

b. There is a mistake in the way this math problem was solved.

$$\begin{array}{r} {\scriptstyle 2\ \ \ 1} \\ 8{,}400 \\ 2{,}817 \\ 83 \\ +\ 146 \\ \hline 12{,}193 \end{array}$$

Solve the math problem correctly.

Explain the error. _____

_____

_____

Name: _____

Multiplication Practice

8 x 4	4 x 6	3 x 5	8 x 7	4 x 2	8 x 10	2 x 5	8 x 5	5 x 8	4 x 3
4 x 9	4 x 5	5 x 6	10 x 8	8 x 6	6 x 3	2 x 4	3 x 7	7 x 10	6 x 5
2 x 7	6 x 7	5 x 4	3 x 2	5 x 7	2 x 2	3 x 9	8 x 9	9 x 5	8 x 8
7 x 9	3 x 3	2 x 10	4 x 8	7 x 5	4 x 7	7 x 6	7 x 7	9 x 7	6 x 6
2 x 9	9 x 4	3 x 4	10 x 9	4 x 4	4 x 10	6 x 10	10 x 7	6 x 9	3 x 10

Time: _____ minutes **Score:** _____ out of 50

Created by Mrs. Crowe using the Basic Multiplication Worksheet Generator on
Super Teacher Worksheets (www.superteacherworksheets.com)

Name: _____

Division Practice

$5\overline{)15}$	$6\overline{)12}$	$10\overline{)20}$	$10\overline{)70}$	$6\overline{)30}$	$2\overline{)4}$	$8\overline{)48}$	$10\overline{)100}$	$9\overline{)36}$	$9\overline{)72}$
$8\overline{)64}$	$7\overline{)14}$	$6\overline{)42}$	$2\overline{)8}$	$8\overline{)16}$	$2\overline{)18}$	$9\overline{)90}$	$5\overline{)20}$	$10\overline{)60}$	$3\overline{)24}$
$4\overline{)16}$	$7\overline{)21}$	$8\overline{)40}$	$3\overline{)21}$	$7\overline{)63}$	$6\overline{)18}$	$10\overline{)80}$	$7\overline{)28}$	$4\overline{)12}$	$4\overline{)24}$
$8\overline{)24}$	$5\overline{)10}$	$9\overline{)54}$	$7\overline{)70}$	$2\overline{)6}$	$7\overline{)56}$	$9\overline{)81}$	$10\overline{)30}$	$7\overline{)35}$	$5\overline{)25}$
$8\overline{)72}$	$2\overline{)20}$	$4\overline{)32}$	$8\overline{)80}$	$8\overline{)56}$	$4\overline{)40}$	$3\overline{)30}$	$10\overline{)40}$	$6\overline{)48}$	$5\overline{)45}$

Time: _____ minutes **Score:** _____ out of 50

Created by Mrs. Crowe using the Basic Division Worksheet Generator on
Super Teacher Worksheets (www.superteacherworksheets.com)

Name: _____

Bloomin' Awesome!

NOTE: In each section, do NOT connect the last point back to first point.

(X, Y)
(12, 16)
(11, 17)
(11, 19)
(12, 20)
(14, 20)
(15, 19)
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(12, 16)
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(9, 14)
(7, 11)
(6, 9)
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(18, 20)
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(18, 16)
(15, 17)
STOP
(15, 1)
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STOP

(X, Y)
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STOP

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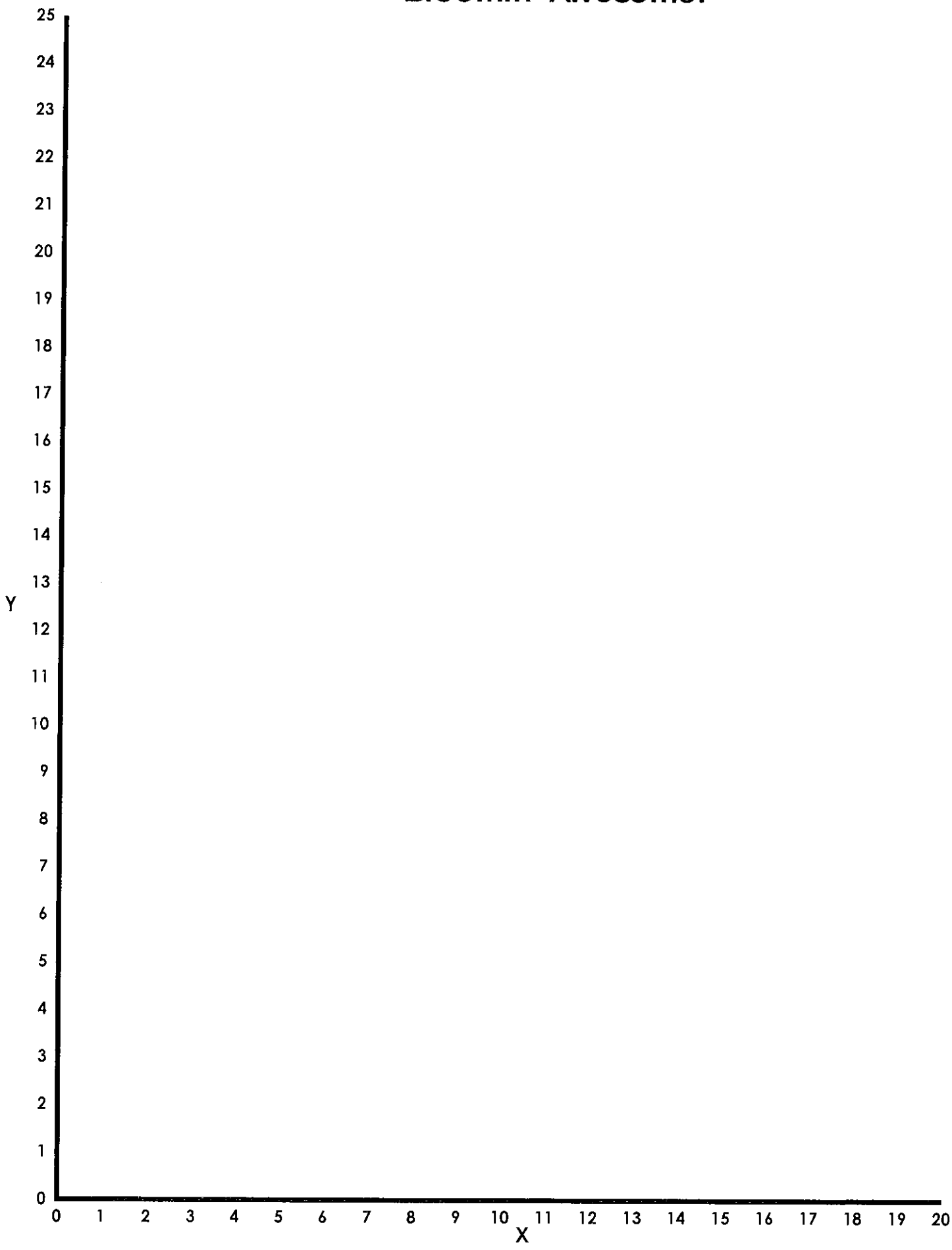
(12, 8)
(12, 9)
(13, 10)
(14, 10)
STOP
(10, 13)
(8, 11)
(7, 9)
(7, 1)
STOP
(18, 16)
(18, 15)
(16, 13)
(15, 13)
STOP
(18, 20)
(18, 21)
(16, 23)
(15, 23)
STOP
(14, 16)
(15, 13)
(14, 12)
(12, 12)
(11, 13)
(12, 16)
STOP
(16, 5)
(16, 1)
STOP

Now color your picture

Name: _____

Bloomin' Awesome!



Name _____ Date _____

My Hundreds Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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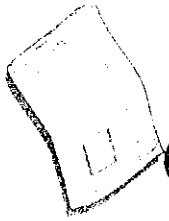


MATH MYSTERY:

CASE OF THE SUPER BAD SUPERHERO

Date: _____

It is no secret that many superheroes reside on the island of Mathhattan. They usually help fight against crime and provide protection for us all. Sadly, something has changed and someone with superpowers is beginning to cause lots of trouble. This super bad superhero has begun to scare, intimidate and kidnap citizens! The police are powerless, and are unsure as to which superhero we can truly trust anymore...it could be any one of them! People no longer feel safe and are concerned this antihero is unstoppable.

Patrick, the Mayor of Mathhattan, addressed the public earlier this morning with the following speech:

"***Stay inside your homes, shut your windows and lock your doors, keep your phones handy for help and be wary of anyone wearing a mask. The MBI (Mathhattan Bureau of Investigation) and other secret sources have recently confirmed that this villain is actually one of who we call superheroes of Mathhattan. It is a mystery to us which superhero to trust and who we cannot. It is going to take some of our finest math detectives to work with the MBI on this serious case; no superhero can be involved. Hopefully, if we can discover who this terrible superhero is, we can put a stop to this chaos and release all of the captured citizens. Until we can reveal who is behind this, we ask that you hand over any evidence or information that you come across to help solve this mystery.***"

As the mayor stepped off the podium, a large puff of smoke blasted out of nowhere! As the smoke began to settle a shadowy silhouette took hold of the mayor and before anyone could do anything, . . "POOF!" They both disappeared. The Mayor is now a prisoner of this super bad superhero.

MATH DETECTIVE NEEDED TO REVEAL THE SUPER BAD SUPERHERO!

The chaos continues throughout the town: the disguised antihero is doing a good job at keeping his/her identity hidden while scaring and capturing citizens. Everyone in Mathhattan is counting on you to take a closer look at all those we call superheroes and unveil the phony! Upon discovery, alert the good superheros as to who the villain is so that they can help with the arrest and rescue the trapped mayor and citizens!

Be careful not to become a victim yourself!

Name: _____

Mrs J's Resource Creations

POSSIBLE SUSPECTS

Superhero Name	Main Superpower	Extra Superpower	Gender M/F	Hair Color	Weakness
Lion Man	Super Speed	Shape Shifting	Male	Orange	Cookies
Dare Girl	Invisibility	Super Strength	Female	Purple	Silver
Mega Mage	Teleportation	Poisonous Burps	Male	Green	Cookies
Owl Man	Invisibility	Shape Shifting	Male	Purple	Sunlight
Blitzfire	Energy Blasts	Super Strength	Female	Orange	Silver
Thunder Hawk	Super Speed	Sonic Scream	Male	Purple	Sunlight
Razor	Energy Blasts	Sonic Scream	Male	Orange	Cookies
Starlight	Invisibility	Flight	Female	Green	Sunlight
Lady Bug	Teleportation	Shape Shifting	Female	Purple	Silver
The Giggler	Mind Control	Poisonous Burps	Male	Green	Cookies
Captain Nucleus	Super Speed	Flight	Male	Orange	Silver
Mrs. Amazing	Mind Control	Sonic Scream	Female	Purple	Sunlight
Doctor Bolt	Mind Control	Super Strength	Male	Orange	Silver
Splash	Energy Blasts	Poisonous Burps	Male	Orange	Cookies
Zapman	Teleportation	Flight	Male	Purple	Silver
Pizza Peter	Super Speed	Poisonous Burps	Male	Green	Sunlight
Titanicus	Energy Blasts	Super Strength	Male	Green	Cookies
Typhoon	Super Speed	Sonic Scream	Female	Orange	Silver
Blinker	Teleportation	Poisonous Burps	Female	Purple	Silver
Major Fury	Super Speed	Flight	Male	Green	Sunlight
Colossal Crush	Invisibility	Super Strength	Male	Green	Cookies

Solve the clues and then cross the suspect rows off the list until only one suspect remains! The last suspect remaining is the Super Bad Superhero behind the trouble in Mathhattan!
Whole rows must be eliminated at a time

CONVERT DECIMALS FROM EXPANDED FORM (Using Fractions) — CLUE 1

[illegible]

The first one has been done for you.

T									

					T			

Expanded Decimal Form	Standard Decimal Form	Letter
$1 \times 1 + 8 \times \frac{1}{10} + 2 \times \frac{1}{100}$	1.82	T
$6 \times 1 + 1 \times \frac{1}{10} + 5 \times \frac{1}{100}$		I
$8 \times 1 + 7 \times \frac{1}{10} + 8 \times \frac{1}{100}$		E
$7 \times \frac{1}{10} + 5 \times \frac{1}{100}$		A
$4 \times 1 + 9 \times \frac{1}{100}$		F
$4 \times 1 + 1 \times \frac{1}{10} + 5 \times \frac{1}{100}$		H
$7 \times 1 + 8 \times \frac{1}{10} + 8 \times \frac{1}{100}$		N
$3 \times 1 + 7 \times \frac{1}{10}$		Y
$2 \times 1 + 4 \times \frac{1}{100}$		O
$5 \times \frac{1}{10} + 3 \times \frac{1}{100}$		C
$1 \times 1 + 6 \times \frac{1}{10} + 2 \times \frac{1}{100}$		V
$5 \times 1 + 1 \times \frac{1}{10}$		L

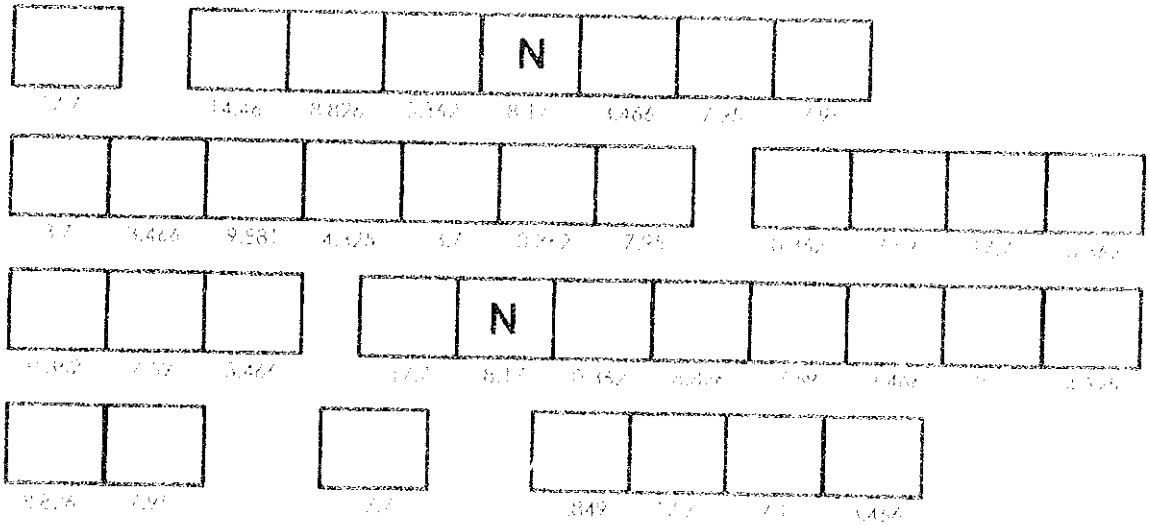
Name: _____

Mrs J's Resource Creations

ADDING DECIMALS – CLUE 2

Solve another important clue by completing the addition questions. Use your answers from after and place the letters in the boxes to reveal the clue. Put the letter in every box that matches your answer in (there may be more than one).

The first one has been done for you.



				N			
12.7	14.46	8.826	0.362	8.17	3.466	7.95	7.95

3.7	3.466	9.581	4.325	3.7	0.362	7.95		0.362	7.95	12.7	0.362

					N						
0.362	7.95	3.466		12.7	8.17	0.362	8.826	7.95	3.466	7.95	4.325

8.826	7.95		7.7	.849	12.7	7.1	3.466

7.12	4.61	5.97	1.63	8.29
+ 1.05	+ 3.34	+ 1.62	+ 2.07	+ 9.41
8.17				
N	S	H	R	A

2.944	5.723	3.451	7.938	6.462
+ 1.381	+ 3.103	+ 0.015	+ 1.943	+ 7.998
O	I	E	P	W

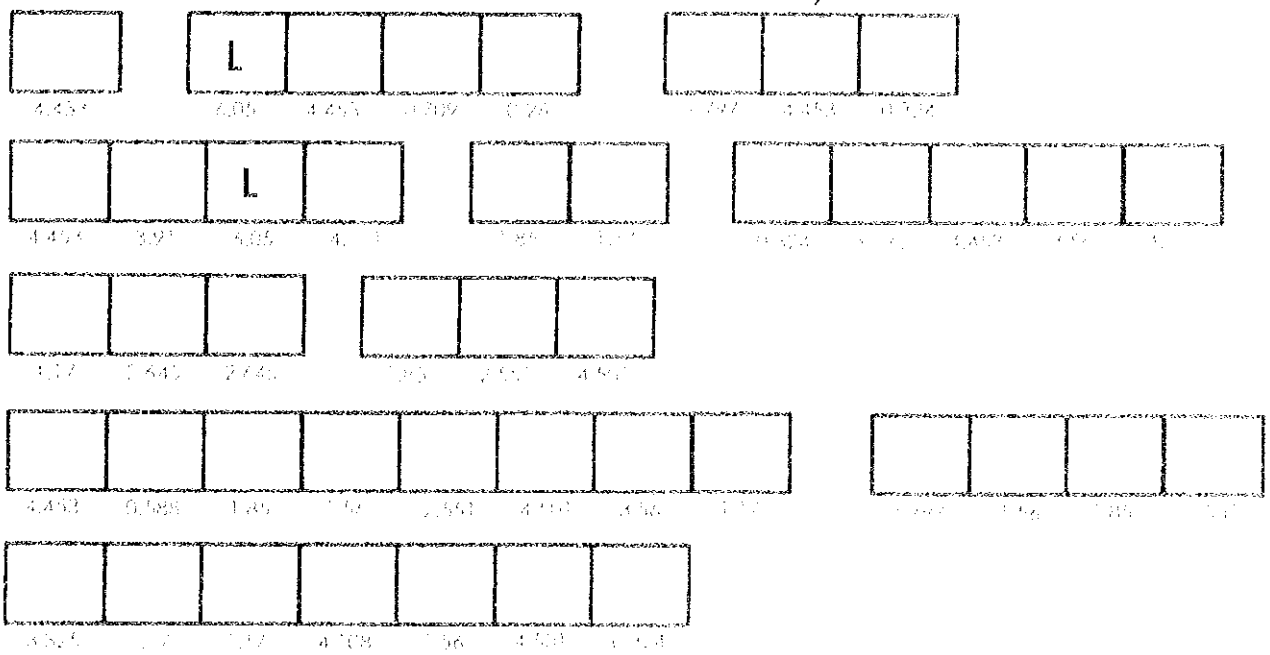
0.357	4.875	1.709
+ 0.005	+ 2.225	+ 4.140
T	L	M

Name: _____ Mrs J's Resource Creations

SUBTRACTING DECIMALS – CLUE 3

Solve another important clue by completing the subtraction questions. Use your answers to find and shade the letters in the boxes to reveal the secret message. (Not all letters will be used. Some answers in the key may be more than once.)

The first one has been done for you.



9.26	3.97	4.76	9.58	5.45	1.89
− 3.21	− 2.12	− 0.85	− 6.02	− 5.19	− 0.33
6.05					
L	T	B	R	Y	I

8.215	7.276	2.046	6.904	2.799	4.65
− 6.418	− 4.631	− 1.722	− 2.451	− 0.248	− 1.325
W	F	S	A	H	C

1.27	6.591	0.904	7.542	8.789
− 0.561	− 2.483	− 0.316	− 3.041	− 7.619
D	K	N	E	O

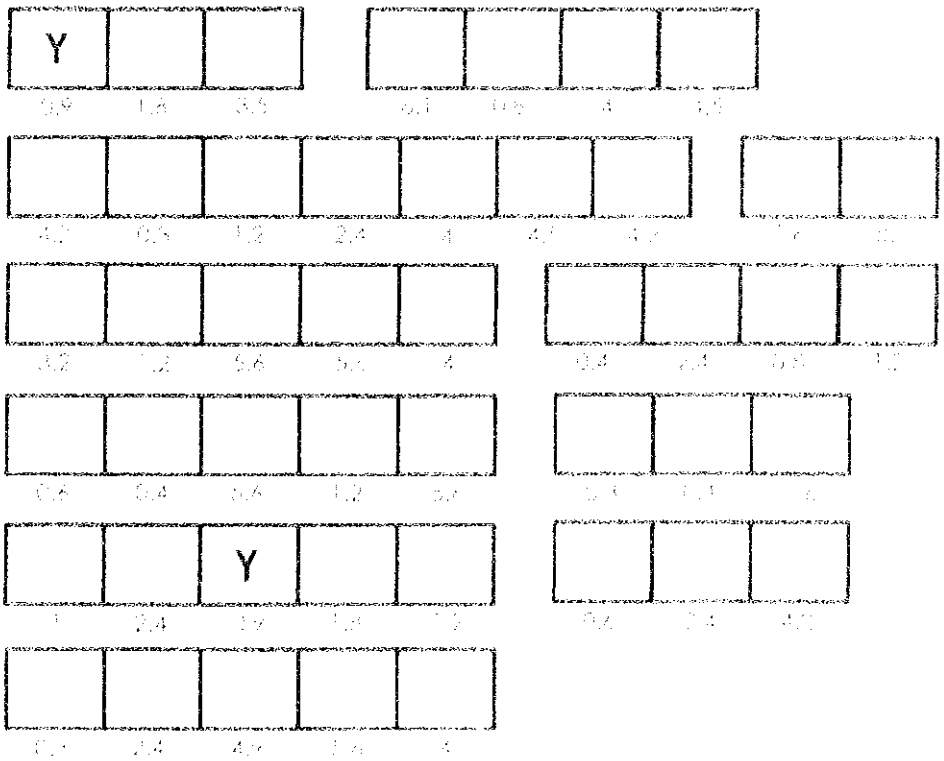
Name: _____

Mrs J's Resource Creations

MULTIPLYING WITH DECIMALS – CLUE 4

Solve another important clue by completing the multiplication questions, as you solve, work to match and place the letters in the boxes to reveal the clue. Put the letter in every box that matches your answer (there may be more than one!)

The first one has been done for you.



Y															
0.9	1.8	3.5	6.1	0.6	4	4.5									
4.2	0.3	1.2	2.4	4	4.2	4.2	1.6	0.2							
3.2	1.2	5.6	5.6	4	0.4	2.4	0.8	1.2							
0.6	0.4	5.6	1.2	5.6	0.3	1.4	6								
		Y													
1	2.4	1.9	1.8	1.2	0.6	2.4	4.0								
0.3	2.4	4.6	1.6	4											

3 X 0.3 = 0.9 Y

4 X 0.2 = _____ I

2 X 0.3 = _____ W

9 X 0.5 = _____ D

5 X 0.7 = _____ U

6 X 0.2 = _____ R

7 X 0.7 = _____ K

7 X 0.1 = _____ T

4 X 0.6 = _____ A

8 X 0.5 = _____ N

2 X 0.9 = _____ O

5 X 0.2 = _____ M

8 X 0.7 = _____ E

6 X 0.7 = _____ S

4 X 0.8 = _____ G

9 X 0.9 = _____ F

2 X 0.2 = _____ H

DIVIDING NUMBERS ENDING IN ZEROES – CLUE 5

[illegible]

The super bad Superhero uses invisibility to shock people with sudden energy blasts coming out of nowhere. **5,000**	[illegible] **500**	[illegible] energy blasts to make victims stick to the floor and uses mind control to make them walk back to wherever the strange imprisonment is. **6,000**	[illegible] **20,000**
The super bad Superhero uses poisonous burps to weaken victims, then teleports to make a fast get away. **3,000**	The super bad Superhero uses super strength to lift cars with people in them and then uses the power of invisibility to make them disappear. **300**	The super bad Superhero uses invisibility to stealth through the streets and uses super strength to keep everyone away. **700**	The super bad Superhero uses electric energy blast to destroy walls and then teleports victims inside to somewhere strange. **7,000**
The super bad Superhero uses poisonous burps to make people faint and then casts mind control to make them walk to the hidden prison. **30**	The super bad Superhero uses super speed to catch victims without no one else noticing, then teleports them somewhere secret. **10,000**	[illegible] **900**	The super bad Superhero [illegible] and then shape shifts into human form to cast poisonous burps on [illegible] **2,000**

5,000 ÷ 1

5,600 ÷ 8

4,000 ÷ 2

60,000 ÷ 6

24,000 ÷ 4

900 ÷ 3

160,000 ÷ 8

270 ÷ 9

42,000 ÷ 7

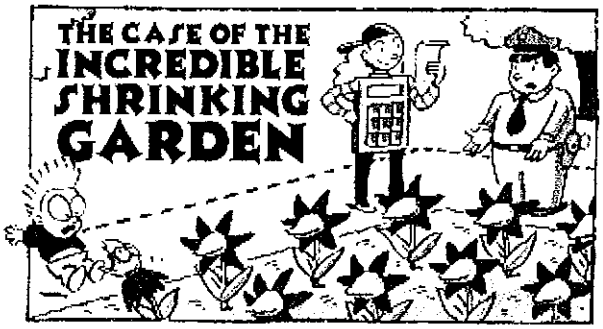
2,500 ÷ 5

7,200 ÷ 8

MATH MAVEN'S MYSTERIES

Name: _____

Date: _____



The Case of the Incredible Shrinking Garden

Hello, super sleuths! I definitely need your math smarts to crack this latest case. It all started the other afternoon as I was walking down Main Street. The birds were chirping and the scent of spring flowers filled the air. Suddenly I noticed a noisy crowd gathering in the town park near the famous rose garden. There was a buzz of shock and dismay:

"Oh, it's just awful! Our beautiful garden is disappearing!"

"Who could do such a thing?"

I pushed my way through the crowd and froze at the sight. Our precious rose garden that used to stretch 40 feet across the park was shrinking right before our eyes!

Just then Police Chief Billy Jay Cyprus ran over to me. "Math Maven, we need your help. I'm afraid this little prank is the work of that botanical rascal Ima Grubb."

You see, Ima was the top plant specialist for the town park. But last month she ran an experiment in which she crossed Venus-flytraps with violets and created pretty little purple flowers that snapped at people passing by. Needless to say, Mayor Rhett Angle fired her immediately -- and rumor had it that Ima was out for revenge!

"We found this stuck on one of the rose thorns." Chief Cyprus handed me a note written in flowery script:

SO MAYOR ANGLE REJECTED ME?
"A DANGER TO THIS TOWN!" SAID HE.

A CLEVER PLAN I HAVE DEVISED,
TO CUT YOUR GARDEN DOWN TO SIZE.

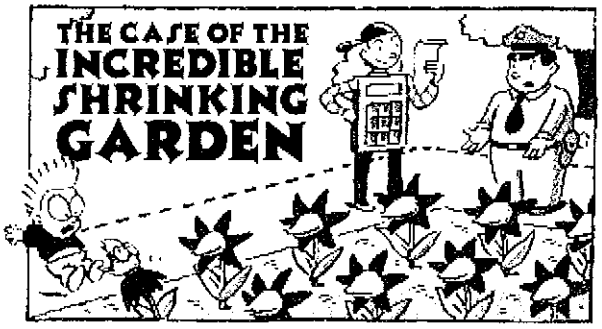
Notes:

MATH MAVEN'S MYSTERIES

Name: _____

Date: _____

The Case of the Incredible Shrinking Garden



WHAT ONCE WAS 800 SQUARE FEET IN ALL,
WILL SOON BE 100 TIMES AS SMALL!

TO SAVE YOUR BLOOMS, USE YOUR MIND:
THE NEW DIMENSIONS YOU MUST FIND.

WRITE THE NUMBERS ON MY MAGIC HOE,
AND WATCH YOUR PRECIOUS GARDEN GROW!

"I don't even know where to begin!" cried Chief Cyprus. "Math Maven, can you help me?"

"Don't worry, Chief," I said. "My Math Detectives will get right on it."

Notes:

MATH MAVEN'S MYSTERIES

Name: _____

Date: _____

Solve the Mystery!

OK, Math Detectives. Your job is to find the new length and width measurements of the shrunken garden. It's the only way to restore the garden to its original dimensions. Remember, the garden is a rectangle. The area of a rectangle is found by multiplying its length by its width. The new area of the shrunken garden is 100 times smaller than the original area.

Here's a Math Maven Hint: Even though the garden shrunk, the proportions did not change—so the length to width ratio is the same.

What are the dimensions of the garden after Ima Grubb shrunk it?
Circle the correct answer:

A. 1 foot wide, 8 feet long

B. 2 feet wide, 4 feet long

C. 5 feet wide, 2 feet long

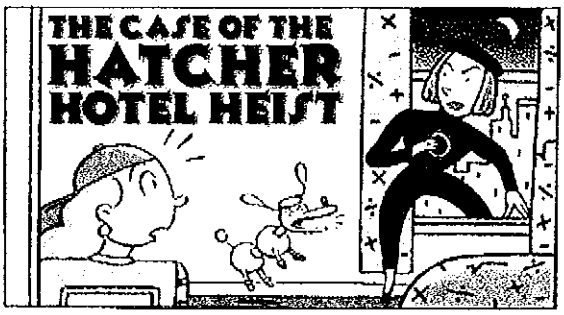
D. 20 feet wide, 40 feet long

Use this space to show your work:

MATH MAVEN'S MYSTERIES

Name: _____

Date: _____



The Case of the Hatcher Hotel Heist

Calling all math detectives! Math Maven here, at the world-famous Hatcher Hotel, the scene of our latest crime. This glitzy hotel is a favorite vacation spot for celebrities, but today some sneaky scoundrel has been stealing valuables from the hotel rooms.

The first robbery occurred early this morning in room 356. Lexy Lashes, the national beauty queen, was missing her diamond tiara.

"Math Maven, thank goodness you're here!" cried Lexy. "I need my crown. I can't attend this evening's ball without it!"

"Don't worry, Lexy," I assured her. "We'll track down the thief and recover your tiara." Just then, I noticed the number 213 written in lipstick on the bathroom mirror.

Suddenly, I received a call from Colonel Crumbottom in room 569. His rare cufflinks had been stolen while he was in the shower. "I say, Math Maven," exclaimed the colonel when I arrived. "You really must put a stop to this! Those were my lucky derby cufflinks. Each solid gold link was in the shape of a race horse."

"Never fear, Colonel Crumbottom," I told him. "I think I may have found another clue." Someone had placed three of the colonel's playing cards in a row on the coffee table. The numbers read 3-2-4.

Suddenly, there was a loud shriek. In room 245, we found Mrs. Periwinkle gaping into an empty jewelry box. "My precious pearl earrings are gone!" she cried. "The thief even spilled baby powder all over my dresser!" In the white mess, someone had written the number 542.

What could these numbers mean? I thought.

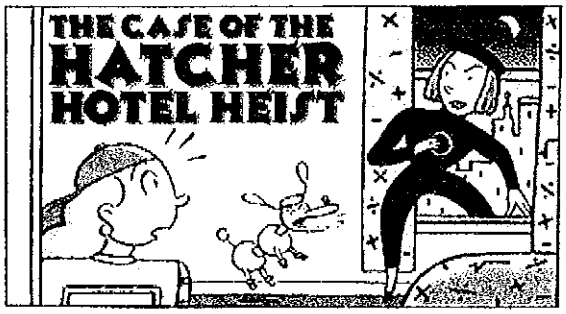
Notes:

MATH MAVEN'S MYSTERIES

Name: _____

Date: _____

The Case of the Hatcher Hotel Heist



Then it hit me—Tanya Trailblazer must be behind these rotten robberies! She always leaves a sneaky number clue at the scene of her crime. But how can we use these numbers to catch her in the act?

Just then, we heard a dog barking. We rushed to find Fluffy the Famous Poodle yipping loudly in room 787 - and Tanya Trailblazer sneaking out the window with Fluffy's ruby collar! "You'll never catch me, Math Maven!" snickered Tanya. "My clues are too clever!"

We noticed Fluffy had stopped barking and was about to eat the next clue! Tanya had arranged the number 183 out of dog food.

Notes:

MATH MAVEN'S MYSTERIES

Name: _____

Date: _____

Solve the Mystery!

Okay, Super Sleuths. We don't have much time. Which room is Tanya Trailblazer heading to now? If we get there before her, we can catch her in the act!

Here's a Math Maven Hint: Tanya Trailblazer especially likes to add and subtract numbers.

A. Room 183
B. Room 604
C. Room 970

Use this space to show your work:

Hello Students,

I have received some of your work as texted pictures and have enjoyed seeing your progress. I have also enjoyed helping some of you with the work. I know this is different, but different is not always easy or comfortable.

Those of you working in Google classroom, keep up the good work!

Please remember that I will not be seeing paper copies (ever) so text me pictures of your work if you want credit, feedback or help. Text the pictured work to 972-571-3032. If you are having trouble, you can text your question or request to 817-995-5012, or contact me using my school email. (clair.hartle@norfork.k12.ar.us) I have a spreadsheet that I am using to give students credit for their work.

I assigned a project for each grade level before we left school. I do expect you to do these. I also expect to see these emailed or texted as well. They are not difficult, treat them as fun. I have included a paper copy for fifth grade and an alternate copy for 6th grade students who were absent on Friday, March 13th. These are also in Google classroom.

We had a really good year and I have seen a lot of progress in your math skills. Complete the projects and all the AMI work. Keep the learning going over all the summer. Make or build something using measuring, cook using a recipe, plan,calculate the cost and time to cook a meal for your family.Then do it. Take up a new sport or hobby. Mostly read. I have finished 5 novels so far. I have built a bookshelf for Mrs. Hartle's rock collection and a saddle stand, began learning Tai Chi and playing the native flute. All these things keep your brain growing.

Looking forward to seeing your work and hearing about how fun and/or frustrating the work is. Text of email me.

Mr.Hartle

5th Grade students-

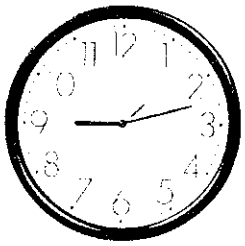
You still have a project due that was assigned when school let out.

When you finish your project paper you can text a picture of it to Mr. Hartle at 972-571-3032

Math Module

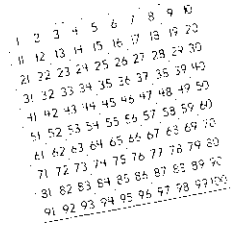
- **Khan Academy:** If you have internet access, it is recommended that your child utilize the Khan Academy modules with built-in instruction to support math learning at least 3 days a week. Select your grade level or type in the web address and select the GET STARTED button. (Counts as one each day) If needed students may select a different grade, regardless of age.
  - 2nd grade math https://www.khanacademy.org/math/cc-2nd-grade-math
  - 3rd grade math https://www.khanacademy.org/math/cc-third-grade-math
  - 4th grade math https://www.khanacademy.org/math/cc-fourth-grade-math
  - 5th grade math https://www.khanacademy.org/math/cc-fifth-grade-math
  - 6th grade math https://www.khanacademy.org/math/cc-sixth-grade-math

- **Problem Solving**: In *Cyberchase: Problem Solving in Shangri-La*, the CyberSquad must use problem solving techniques to beat Hacker and win the game. A variation to the game CyberSquad played against Hacker requires 16 items found around your home (15 items that are the same, 1 item that is different). Two players take turns removing 1, 2, 3, or 4 same items from the pile at a time. The player left with the different item during their turn will LOSE the game. Is there a winning strategy for either player? Play the game again but this time the one with the different item WINS the game. Is there a winning strategy for either player?



- **Elapsed Time**: In *Cyberchase: A Time to Cook*, Matt helps Digit cook three meals in order to beat Hacker and the clock to win the game show. Record the time (using minutes) it takes to do your chores, help a family member cook a meal, do school work, and play outside. Make a table of your times and practice recording your time on an analog clock.

- **Working Backwards**: In *Cyberchase*, the CyberSquad must use problem solving techniques, including working backwards, to beat Hacker. Solve the following problems and talk to a family member about how you worked the problems. Try to stump a family member with your own "working backwards" problem.
  - If you add 4 to a number, then subtract 3, then add 9, you get 8. What's the number?
  - If you add 4 to a number, then subtract 4, then add 7, then subtract 7, you get 20. What's the number?
  - If you add 1 to a number, then add 3, then add 5, then subtract 7, you get 20. What's the number?



- **Patterns**: Ask a family member to join you in finding patterns. Use a hundreds chart and three different colors. Mark the boxes with multiples of 2 one color, multiples of 3 another color, and multiples of 6 the third color. What pattern do you notice? Can you find other patterns in the chart? Talk to a family member about the patterns.

- **Body Measurements 1**: In *Cyberchase: Ecohaven Case*, the CyberSquad must find the thief who stole the mighty beast, Choocroca, using only one clue - the thief's footprint. Cut a piece of string a little longer than your height. Start at the end of your string and mark off seven of your foot lengths using a marker. Use the string to measure the distance from your wrist to your elbow (forearm), the widest part of your wrist, around your forehead, the distance from your knee to your ankle, your arm span (your arms spread wide), and from head to toe. Record the number of foot lengths for each item. What do you notice about each measurement? Do you see a pattern? Do the activity with a family member. What do you notice? Do you see a pattern?

- **Body Measurements 2:** Many of the first units of measure were parts of the body. Measure and record items around your house using these measurements. Ask a family member to measure the same items. What do you notice? What do you wonder? Talk to a family member about why we no longer use parts of the body to measure.

- **Designing a Restaurant**: Create a menu for your restaurant. The menu must feature appetizers, main courses, desserts, beverages, and more. Each item must have a price listed and no two prices can be the same. Once the menu is finished, ask a family member to create an order and you calculate the total amount. If they paid with a $100 bill, what would be their change back?

Project

The assignment is to create a wanted poster for a number of your choice. You must have all of the components listed on the checklist. Your poster must be neat, and easy to read. See an example of a similar poster attached to this packet. The attached example is missing several components, yet shows the basic idea for your design.

Wanted Poster Assessment Checklist

I have created a rough draft of my poster and had the draft approved.

Do you have the number in standard form?

Do you have the number in word form?

Did you correctly identify the number as prime or composite?

Did you correctly identify the number as odd or even?

Did you correctly list the first five multiples of the number?

Did you correctly list the factors of the number?

Did you correctly list the prime factorization of the number?

Did you correctly list the prime factorization of the number in exponent form?

Did you correctly write the number in expanded form?

Did you include at least one fun fact about the number?

Did you correctly answer each question explaining how you found your answers to the questions above? (Questions on back)

Is my poster neat, easy to read, colorful, and creative?

Questions

How did you know if your number is prime or composite?

How did you know if your number is even or odd?

Explain what the difference is between the standard, expanded and written form of a number.

Explain how you find the factors of a number.

Explain how you find the prime factors of a number.

Explain how you find the first five multiples of a number.

Level B

LOST AT SEA

This

JOURNAL

belongs to:

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PART 1

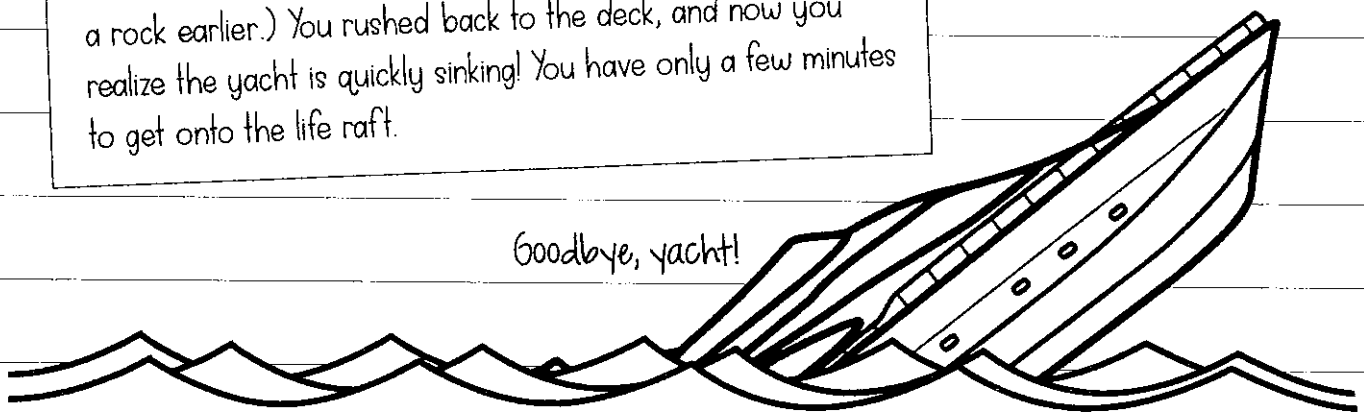
UH OH!

Two hours ago, you took your brand new **luxury yacht** out for a spin in the ocean. Alone. On the way out of the **harbor**, you heard a loud screeching sound from below deck, but it didn't worry you. Once you had steered the yacht far enough that you could no longer see land, you went below deck for a quick nap. But that's when you saw the water gushing into the boat from a large crack in the **hull**. (You had scraped against a rock earlier.) You rushed back to the deck, and now you realize the yacht is quickly sinking! You have only a few minutes to get onto the life raft.

luxury yacht: a big, fancy, expensive boat

harbor: a parking lot for boats

hull: the bottom shell of a boat

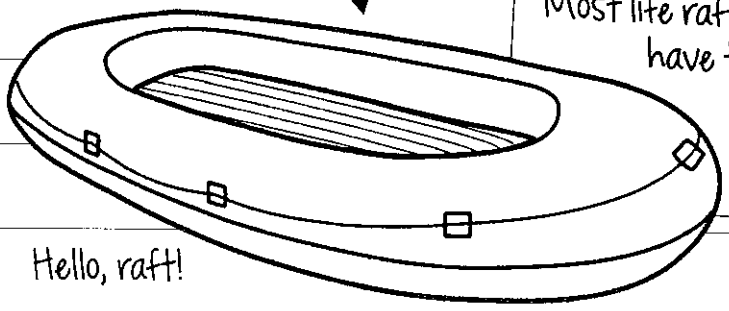


Goodbye, yacht!

DO THIS ⇨ Create the life raft: Choose a spot and spread a blanket on the floor. (Since you will be on the blanket for awhile, be sure you get your spot approved.) Do not choose a spot near a television. To complete the raft, put a chair on the blanket.

Here is an example of an inflatable raft. "Inflatable" means the raft gets filled with air. Have you ever been on an inflatable raft?

Most life rafts inflate automatically so you don't have to blow air into it yourself. (That would take forever!) Rafts like this are often only 10-15 feet long.



Hello, raft!

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PART 2

LOAD THE RAFT!

The yacht is sinking quickly. You have very little time to gather supplies and get onto the life raft. Better hurry!

DO THIS⇨ Gather supplies: You need to load certain "must have" items onto your blanket-raft. You then have five additional minutes to choose "bonus items" to bring onto your raft as well. Use the checklists below to keep track of what you bring onto the raft.

Must-Have Items:

- [x] 1 chair
- [ ] 2-3 bath towels or blankets *ask permission
- [ ] 2-3 pillows
- [ ] 1 packaged snack *ask permission
- [ ] 1 bottle of water with lid *ask permission
- [ ] 3-5 cardboard boxes *ask permission (like an empty cereal box or tissue box)
- [ ] string or yarn (A shoelace will also work.)
- [ ] 1 pair of scissors
- [ ] 1 empty cup (NOT glass)
- [ ] tape (optional)
- [ ] 2 pencils
- [ ] THIS JOURNAL!

Bonus Items:

No Electronics

- [ ] 2-5 Books
- [ ] Choice #1: _____
- [ ] Choice #2: _____
- [ ] Choice #3: _____
- [ ] Choice #4: _____
- [ ] Choice #5: _____

What is something you wanted to take but decided not to?

Overall, how do you feel about your supplies? Do you have what you need?

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PART 3

ALL ALONE

You are now on your life raft with the supplies you gathered. You watch as your yacht sinks below the surface of the water. Thankfully, you are safe. For now, at least. You look around and see nothing but water in every direction. You are all alone on your small raft, with no motor or sail, floating in the middle of the ocean. You let that sink in for a moment, and then you get to work.

DO THIS ⇨ Get settled. You are now "stuck" on your blanket-raft.

You may only get off the raft to use the bathroom, or if you get permission first. Take time to organize your supplies, with these rules in mind:

Raft Rules:

- Do not cut your cardboard boxes. You'll need them later.
- Your scissors MUST stay in the empty cup when not in use. Keep the scissors-cup on a corner of your blanket OR on the chair (so you don't accidently poke yourself).
- You must keep all supplies from touching the floor. That means you can't make your raft larger, and you can't set any of your supplies in the "ocean."

After you have your raft organized, draw a diagram below. Label as many things as you can.

BLANKET-RAFT DIAGRAM

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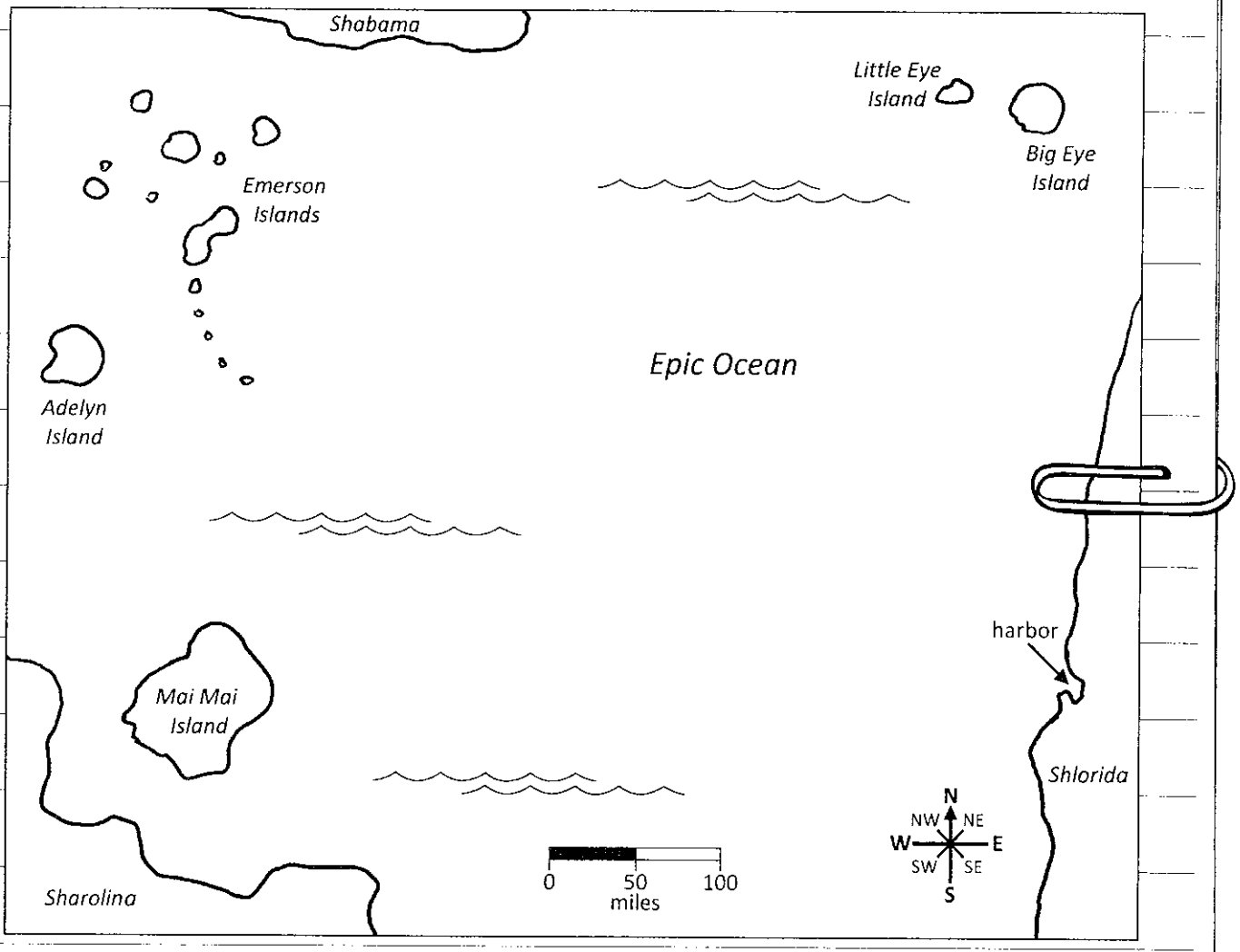
PART 4

ADRIFT

Since it has no motor or sails, your raft is **adrift**. That means your raft drifts with the **current** of the ocean. A current is the flow of water, caused by wind and water temperature. You think about making a paddle with items from the raft, but you realize no land is close enough to which you could paddle. So you decide to save your energy and let the raft drift.

DO THIS ⇨

Before the yacht sank, you clipped a map to your notebook. Now that you are settled on your raft, take time to look at it more closely. *Use the map to answer the questions on the next page.



Cut out the ruler. You will need it to answer the questions on the next page.

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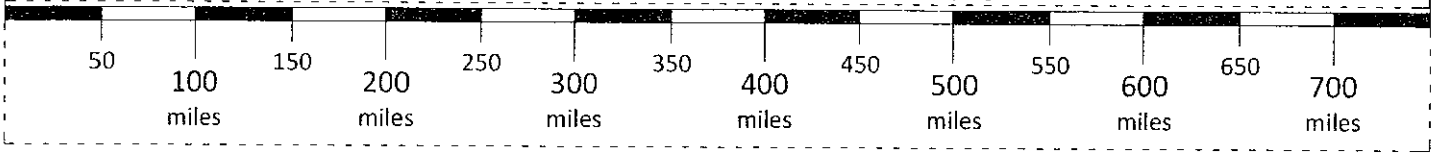


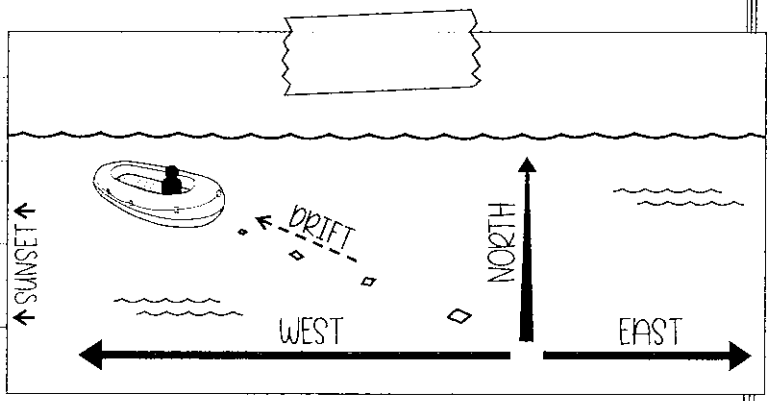
As the sun sets on the first day adrift, you use the map to try to figure out which direction you are drifting and when you might reach land.

PART 4
-CONTINUED-

DO THIS ⇨ Use the map and ruler on the previous page to answer the following questions.

1. You believe the yacht sank about 50 miles west of the harbor. Mark this location on the map with an **X**.

2. To find the direction of the current, you tear off small pieces of paper and drop them off the back of your raft, one at a time. As your raft drifts with the current, the paper leaves a floating trail behind you. Since you know the sun sets in the west, which direction is the current taking you?



Circle one: **a.** WEST **b.** NORTHWEST **c.** NORTH **d.** NORTHEAST

3. If you continue drifting in the same direction, where might be your best chance to hit land? Circle it on the map.

4. About how many miles is your circled location from the X? _____ miles

5. You estimate that you are drifting at about 2 miles per hour. At this speed, how many miles will you drift in one day (24 hours)? Round your answer to the nearest 10.

_____ miles

6. Using your answers to question 4 and 5, about how many days should it take to reach the location you circled?

_____ days

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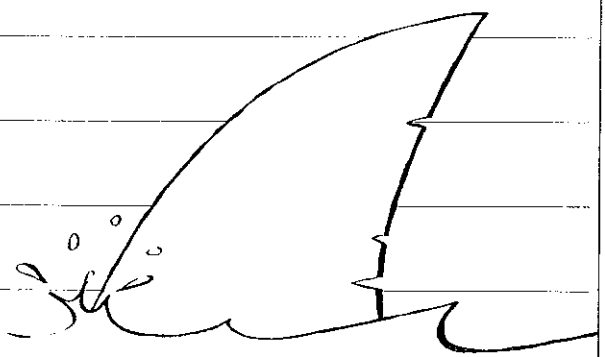
PART 5

SHARK!

The next morning, you spot a shark swimming near your raft.

DO THIS ⇨ Write a journal entry about the shark. How big is it? Is it curious about you? Does it bump your raft? Are you afraid? Describe what you see happen, what you do, and how you feel about it.



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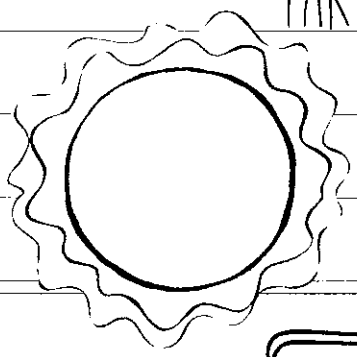
PART 6

THE SUN BEATS DOWN

Overhead, the sun beats down on you all day. You need a way to protect yourself from the sun's harsh, burning rays.



DO THIS ⇨ Build shade: Using materials already onboard, create an area on your raft protected from the sun. (*Do not cut apart any cardboard boxes for this step. You'll need them later.)

Make a drawing of your shaded area. ➜

FLOTSAM

While resting in the new shaded area of your raft, you spot a piece of **flotsam**. Flotsam is any floating junk left behind from other ships, like trash, unwanted **cargo**, or even pieces of **wreckage**. You know that even other people's garbage could have value to you, but the flotsam is not quite close enough to reach. So, you make sure there are no sharks in the area, and you jump into the water to get it.

cargo: the contents of a shipment

wreckage: the broken pieces from a wreck

DO THIS ⇨ Retrieve the flotsam: Step off your blanket-raft and bring back one additional item. Try to choose something to help your shaded area work better or be more stable.

1. What item did you bring on board?

2. How will you use this item?

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PART 7

WATER

You need water. Humans can only survive a few days without water. You might be thinking, "I'm in the middle of the ocean—I have plenty of water." But the ocean is made of *salt water*, and that's a problem. Drinking salt water will actually cause you to **dehydrate** faster than drinking nothing. Why? In order to process the salty seawater, your **kidneys** would need to pull in extra water from the rest of your body, drying you out even faster.

Luckily, you brought some fresh water with you from the yacht. But it won't last very long. Since you may be adrift for days, your main source of fresh water will be... rain! To be prepared, you decide to set up a system to collect rainwater *before* it starts to rain.

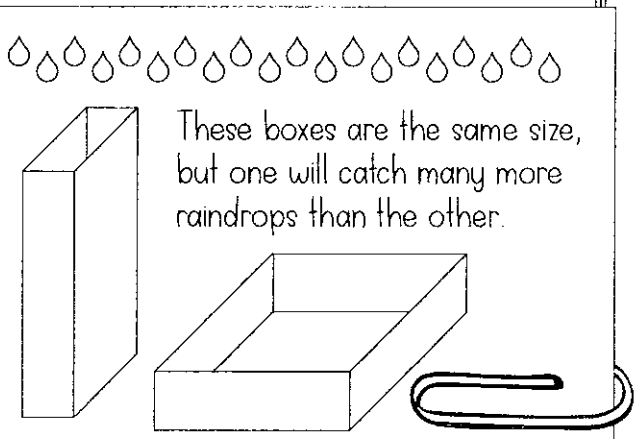
dehydrate: to dry out

kidneys: two organs in your body that make urine. (Urine is pee.) It may sound gross, but your kidneys are very important.

DO THIS ⇨

Build a rainwater collection system:

1. Turn ONE of your cardboard boxes into a rain collector. (Do not pour real water into it.) Think about how to use the box to catch the most possible raindrops.
2. Using other items on your raft, design at least one more way to collect rainwater.



These boxes are the same size, but one will catch many more raindrops than the other.

Describe your entire rain collection system. How does it work?

Good news! A rain shower passes through. (You may go refill your water bottle with real water.)

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PART 8

FISHING

Now that you have a way to collect drinking water, you turn your attention to food. Some types of fish seem to like the shade underneath your raft. You've also noticed that smaller fish seem to attract bigger fish. Now you just need a way to catch some. In a survival situation, you must be resourceful with the items you have on the raft.

DO THIS ⇨ Catch a "fish": Your packaged snack will act as the fish you try to catch. (If you already ate your snack, ask permission for another one, like a granola bar, pack of fruit snacks, or baggie of pretzels.)

1. Set your snack in the "ocean," about two large steps from your raft.
2. Use ONE cardboard box and string to create a way to "catch" your snack.

If catching your snack seems easy, try moving it farther away.

Make a drawing of what you made to catch "fish."

EATING

Unfortunately, you do not have a way to cook the fish you catch. However, most fish in the open ocean can be eaten **raw**. The best way is to cut long, thin strips. Then lay the strips out to dry in the sun. The dried fish meat will last several days before **spoiling**.

raw: not cooked

spoiling: going bad; you couldn't eat it without getting sick

DO THIS ⇨ Eat some of your snack, but save some for later. Lay out your saved snack on a clean area of your raft (or use the snack wrapper), like you are laying out strips of raw fish to dry in the sun.

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PART 9

RADIO!

While moving some things around, you discover a small compartment in your raft you hadn't noticed before. Inside is a sealed plastic bag. And inside the bag is... a radio! It's an old-fashioned short-wave radio. You don't know much about it, but you do see a button on it with a Morse Code key beside it.

DO THIS⇨ Pretend your third cardboard box is the radio.

Morse Code is a way to communicate using combinations of short and long signals. The key to the right shows how to form each letter of the alphabet.

- • A **dot** equals a short signal: On the radio, tap the button to send a short "beep."
- ▬ A **dash** equals a longer signal: Hold the button down longer to send a "beeeeeep."

You create a message to send out on the radio. (To see the message you plan to send, finish recording the letters of the Morse Code below.)

••• ▬▬▬ •••

S O S

"SOS" is known around the world as a call for help.

• •▬▬• •• ▬•▬•

▬▬▬ ▬•▬• • •▬ ▬•

___ ___ ___ ___ ___ ___ ___ ___ ___ ___

▬•• •▬• •• ••▬• ▬ •• ▬• ▬▬•

▬• •▬▬

___ ___ ___ ___ ___ ___ ___ ___ ___ ___

DO THIS⇨ Make a Morse Code "button" on your box radio. (You could draw it or cut a flap to "press.") Then send the message using dots (short beeps) and dashes (long beeps).

International Morse Code

A	•▬
B	▬•••
C	▬•▬•
D	▬••
E	•
F	••▬•
G	▬▬•
H	••••
I	••
J	•▬▬▬
K	▬•▬
L	•▬••
M	▬▬
N	▬•
O	▬▬▬
P	•▬▬•
Q	▬▬•▬
R	•▬•
S	•••
T	▬
U	••▬
V	•••▬
W	•▬▬
X	▬••▬
Y	▬•▬▬
Z	▬▬••

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PART 10

PASSING TIME

Several days have passed since you found the radio. You continue sending out your Morse Code message each day, hoping someone with a radio will hear it. It has rained a few times, so you've been able to collect and store fresh water. You have also caught several fish over the last few days.

DO THIS ⇨ Write a journal entry by answering the questions below. (Make sure you are pretending to have been at sea for several days.)

1. What **negative feelings** do you have? Scared? Frustrated? Bored? Hopeless? Explain.

2. What **positive feelings** do you have? Confident? Relaxed? Proud? Hopeful? Explain.

3. In your opinion, how likely is a rescue?

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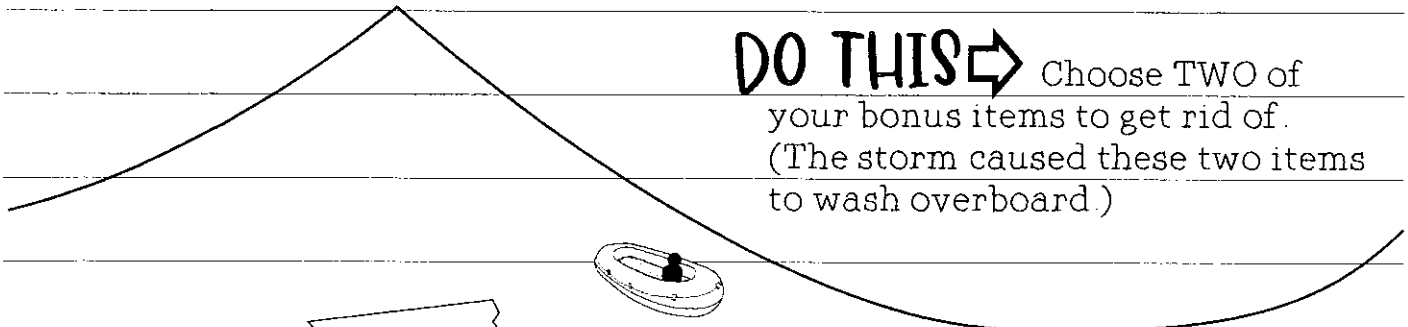
PART II

STORM!

One night, a huge storm passes overhead. Thunder and lightning seem to be everywhere, and the rain pounds down. Strong winds cause huge waves. Ocean water sloshes into the raft and you fight for hours **bailing water** and trying to keep your items (and yourself) from washing overboard.

bailing water: scooping water out of a boat



DO THIS ⇨ Choose TWO of your bonus items to get rid of. (The storm caused these two items to wash overboard.)

CALM

When the storm is finally over, you lay in your raft, exhausted. The clouds clear and you look up to see a beautiful night sky filled with stars. You wonder if any of your family or friends might be looking at the exact same stars at the exact same time.

DO THIS ⇨ Write a journal entry about someone you miss. Explain what you miss about this person.

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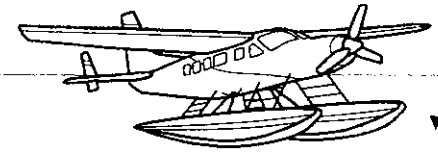
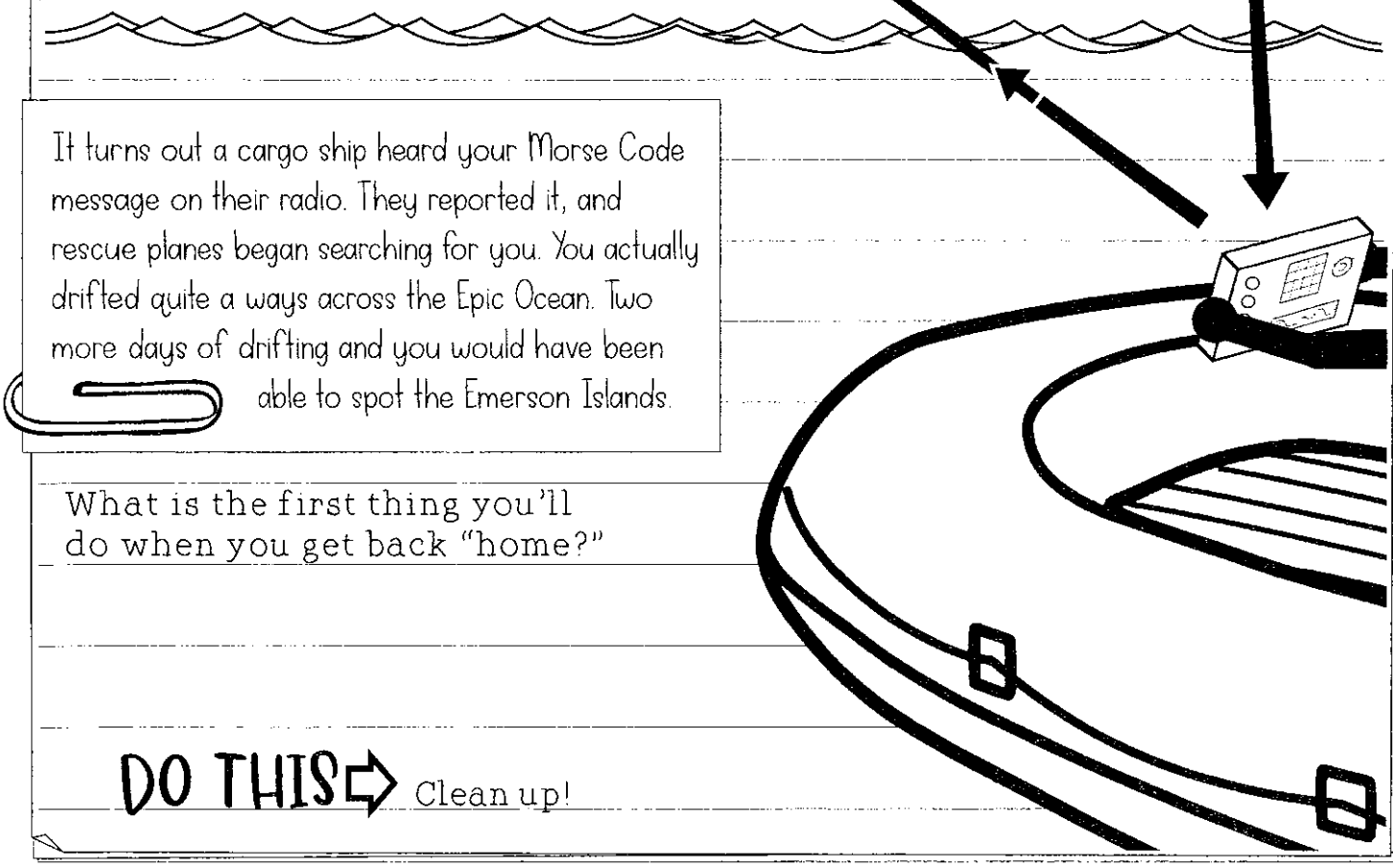
PART 12

PLANE!

You awake the next morning to the sound of a motor. You see a plane far in the distance! You're not sure if it has spotted you yet, so you grab the radio and turn it so the sunlight reflects off the shiny metal surface. You twist it back and forth, trying to attract the pilot's attention with the reflection. Suddenly, the plane turns and heads right toward you. It's a sea plane, so it lands right on the water nearby. Rescued at last!





It turns out a cargo ship heard your Morse Code message on their radio. They reported it, and rescue planes began searching for you. You actually drifted quite a ways across the Epic Ocean. Two more days of drifting and you would have been able to spot the Emerson Islands.

What is the first thing you'll do when you get back "home?"

DO THIS ⇨ Clean up!

When word spreads about your experience at sea, a newspaper contacts you with interview questions. Choose 5 of the questions to answer. Label your answers with the matching question number.

(When answering, remember to pretend that you survived for several days on a *real* life raft on the *real* ocean.)

Interview Questions (Choose 5):

1. What was the hardest part about this experience?
2. What surprised you the most?
3. What did you miss the most?
4. What are some items you are thankful you had on the life raft?
5. What are some items you wish you had on the life raft?
6. What advice would you give others who own a yacht?
7. What advice would you give others who become lost at sea?
8. Will you ever get in a boat again? Why or why not?
9. What did you learn about yourself because of this experience?
10. How has this experience changed you?

Interview Answers:

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Interview Answers (continued):

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SIMULATION SELF CHECK-UP

Name: _____

Journal Check (Level B)

		YES	NO
Part 1	(Nothing to write or draw)	-	-
Part 2	Did I answer the questions?		
Part 3	Did I draw a detailed diagram with labels?		
Part 4	Did I answer the questions?		
Part 5	Did I write my journal entry in complete sentences with details?		
Part 6	Did I make a detailed drawing?		
	Did I answer the questions?		
Part 7	Did I answer the question?		
Part 8	Did I make a detailed drawing?		
Part 9	Did I write the Morse Code message?		
Part 10	Did I write my journal entry in complete sentences with details?		
Part 11	Did I write my journal entry in complete sentences with details?		
Part 12	Did I answer the question?		
Interview	Did I answer at least 5 questions in complete sentences?		
	Did I label my answers with the question number?		

Overall

	Totally	Mostly	Could have done better
During the simulation, did I read the journal pages carefully and follow the directions?			
Did I remain on my raft, except when approved to step off?			
Was I resourceful with the items I had? (Did I use materials creatively and wisely?)			
Did I clean up the raft afterward? Did I put away the items?			

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RELATED YOUTUBE VIDEOS

Get permission before watching.

"What's Inside A Life Raft?" (3 minutes)
https://www.youtube.com/watch?v=274b17Fdr74
Takes you inside a real life raft and shows you the standard supplies that come with it.

"8 Great Tips for Survival at Sea" (6 minutes)
https://www.youtube.com/watch?v=W4AOdOhERYo
Animated video with tips to survive in the ocean.

"7 Days Living in a Life Raft" (7 minutes)
https://www.youtube.com/watch?v=k1sUtxdJ6ik
A video diary of a former army medic who spent seven days aboard a life raft. (He eats a fish eye at 4:30 you might want to skip over.)

"30 Hour Life Raft Exercise" (7 minutes)
https://www.youtube.com/watch?v=fte9xtZrEDI
12 people spend 30 hours in a life raft in order to learn more about saving people in real-life survival situations. (Some parts are spoken in Swedish, with English subtitles.)

Unbelievable Tales of Shipwreck & Survival at Sea" (12 minutes)
https://www.youtube.com/watch?v=mlSTIK2dfZM
A recount of 9 true stories of sea survival.