

scientific inquiry

Mikel Delgado gives a squirrel a nut to see where the critter will store it.



Nutty Behavior

How do squirrels organize the nuts they find?

SQUIRRELS ARE BUSY LITTLE CREATURES.

You've probably seen them scampering up trees and hopping across lawns. The rodents are most active in the fall, collecting nuts to eat over the winter.

Squirrels bury their nuts in the ground. That keeps them hidden from other animals that might eat them. But

squirrels have to remember where the nuts are buried so they can recover them later. "It's an interesting problem," says Mikel Delgado. She's an animal behavior expert at the University of California, Davis.

Delgado wanted to know if there's any pattern in the way

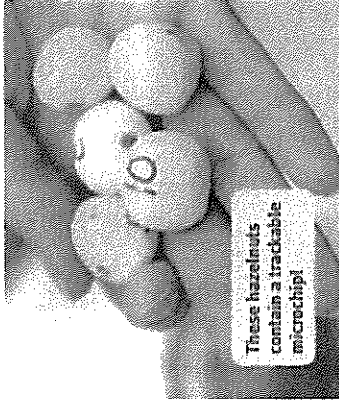
squirrels bury their nuts. She set out to investigate the question.

Going Nuts

Delgado and a team of researchers gave 45 wild squirrels in Berkeley, California, four kinds of nuts: almonds, hazelnuts, pecans, and walnuts.



Mikel Delgado



These hazelnuts contain a trackable microchip!

The team then watched the squirrels to see where they buried the nuts. They used a handheld GPS tracker—a device that uses satellites to track objects on Earth—to record each nut's location. The team used that data to make a map showing where each nut was buried.

Keeping Track

Delgado found that squirrels didn't just bury nuts randomly. They hid them in different spots depending on what type they were. For example,



squirrels put almonds in one place and walnuts in another. Delgado thinks the behavior might help squirrels remember where to find their meals. In a related study, Delgado set out to learn what happened to the nuts over time. She gave squirrels nuts containing microchips. Hungry squirrels

could eat the nut around the chip.) Delgado's team used a detector to track the buried nuts. She found that squirrels often move nuts from place to place. She's not sure why. "Animals do so many cool things that we don't realize," Delgado says.

—Alexa Katzke

Investigate It!

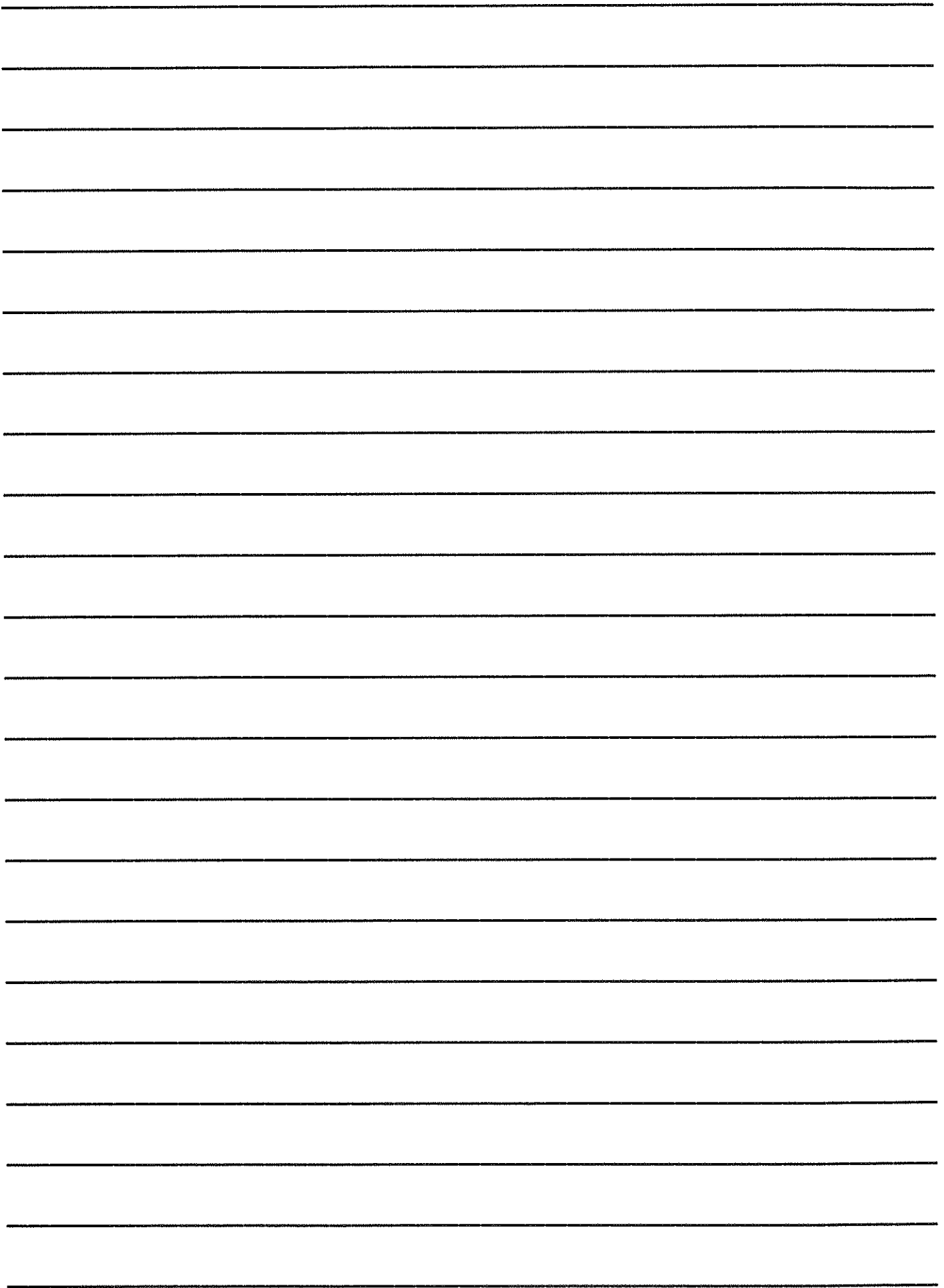
Think about how Mikel Delgado followed the steps of scientific inquiry. Then answer the questions.

1 What question did Delgado want to answer?

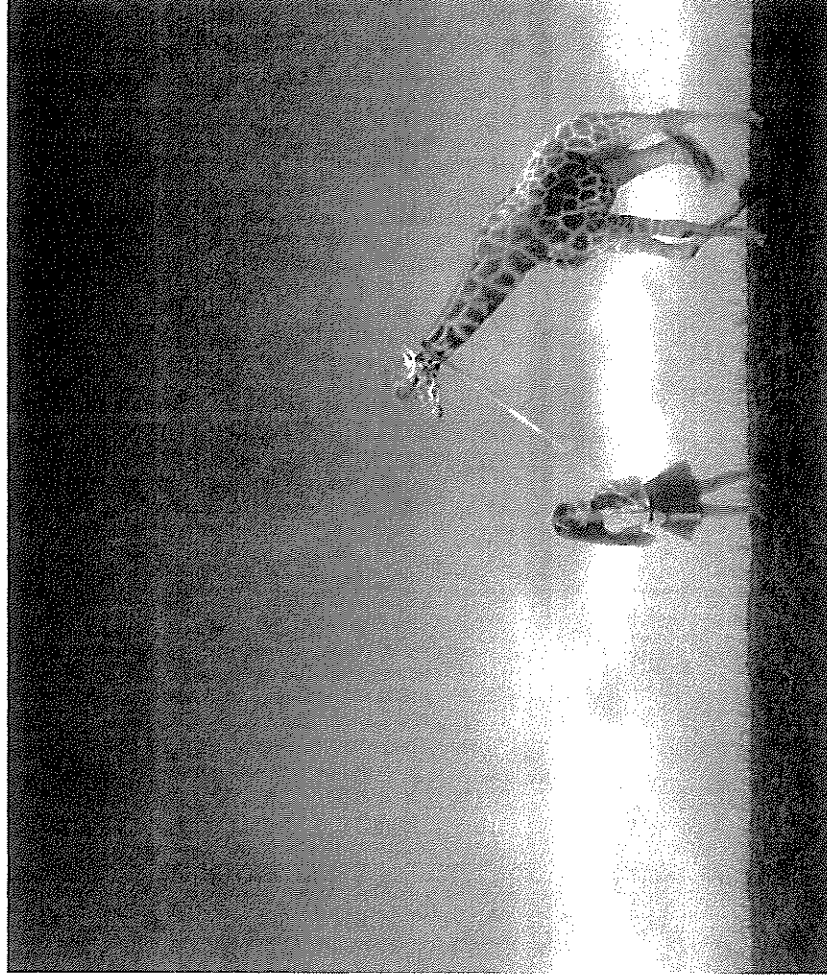
2 What pattern did Delgado notice in her data?

3 How did Delgado and her team collect data about their question?

4 What does Delgado think her findings suggest about squirrels' behavior?



Question time!



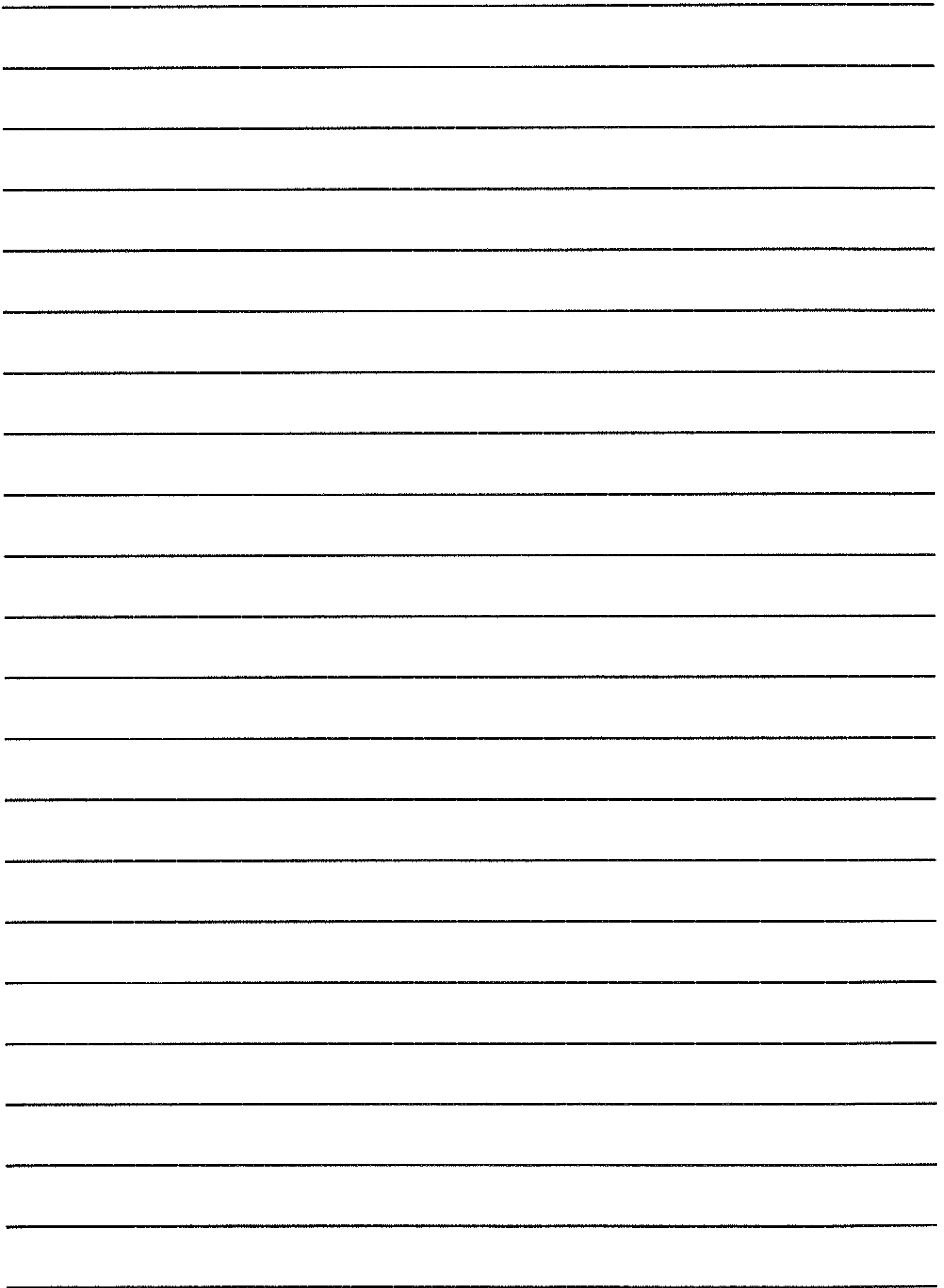
- ▶ How did their friendship start?
- ▶ Where do you think they met?
- ▶ Why have they become such close friends?
- ▶ What do you think the girl has taught the giraffe?
- ▶ What has she been preparing him for?
- ▶ Where do you think she is leading him?
- ▶ How do you think they are both feeling?

Sick sentences!

These sentences are 'sick' and need help to get better. Can you help?! The girl led the giraffe He was brown and yellow He had long legs. They felt sad.

Perfect picture!

Think about where the girl is leading the giraffe. Can you draw where he will end up?



engineering

Trash Collector

Meet the litter-gobbling machine in Baltimore's harbor

SOMETHING WAS BOTHERING John Kelleff. Every day for 37 years, he had walked across a bridge on his way to work as an engineer in Baltimore, Maryland. And every day, he saw trash floating in the river below. That trash was harming local wildlife.

Kelleff wanted to help, but he didn't know what to do. Then inspiration struck. Kelleff came up with an idea for a solution: a trash collecting machine powered by the river's current. As the water wheel spun, it would scoop up the trash flowing toward the ocean.

Today, Kelleff's invention is hard at work in Baltimore's harbor. Since it was installed in 2014, the device, known as Mr. Trash Wheel, has collected more than 600,000 kilograms

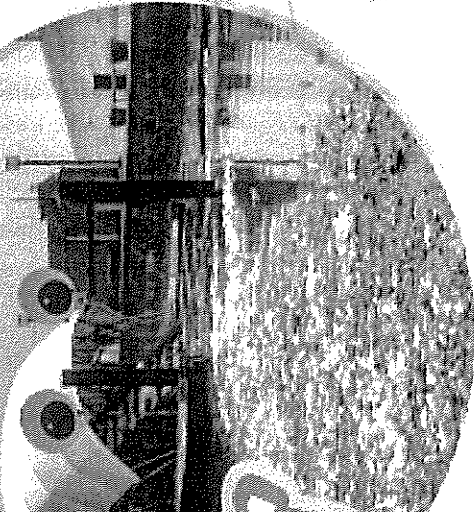
The wheel was doing its job! There was just one problem: The harbor had much more trash than anyone expected. The wheel was not big enough to handle it all. "The concept worked well," says Kelleff, "but we realized we needed something bigger, stronger, and faster."

Eye-Opener

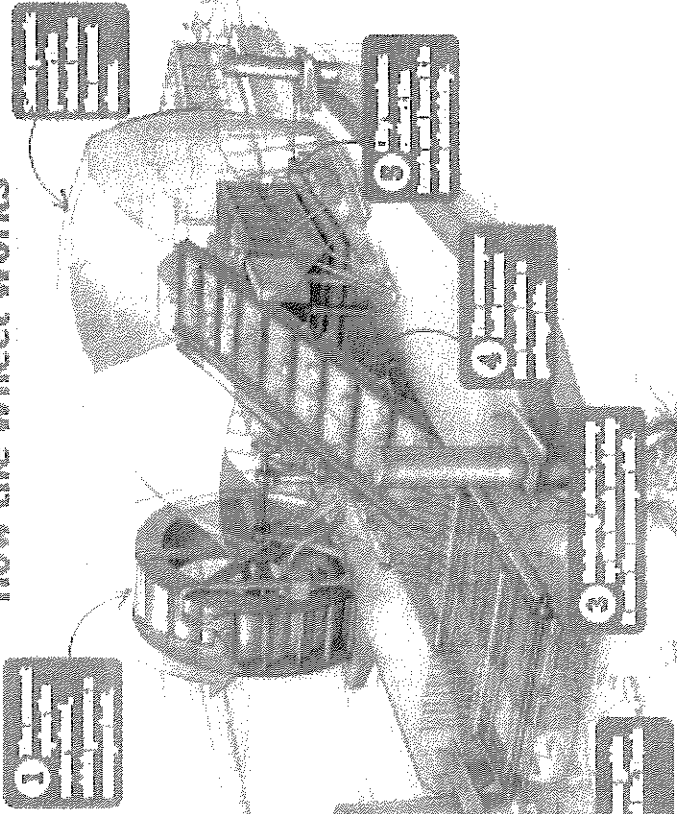
Kelleff teamed up with the Baltimore Waterfront Partnership (BWP), a group that works to improve the harbor. BWP helped Kelleff raise the money to build a second version of the wheel. This larger version had a 4-meter (14-foot) diameter.

Baltimore locals quickly embraced the trash wheel. But staff at the BWP wanted to spread the word even further.

Mr. Trash Wheel cleans up Baltimore's harbor after a construction.



How the Wheel Works



Investigate It!

Think about how John Kelleff and his partners at the BWP used the engineering design process to build Mr. Trash Wheel. Use that information to answer the questions.

- 1 What problem did Kelleff and his partners face, and what information is shown to answer the questions?

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- 2 What problem did Kelleff and his partners face, and what information is shown to answer the questions?

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- 3 What constraints did the BWP help Kelleff overcome?

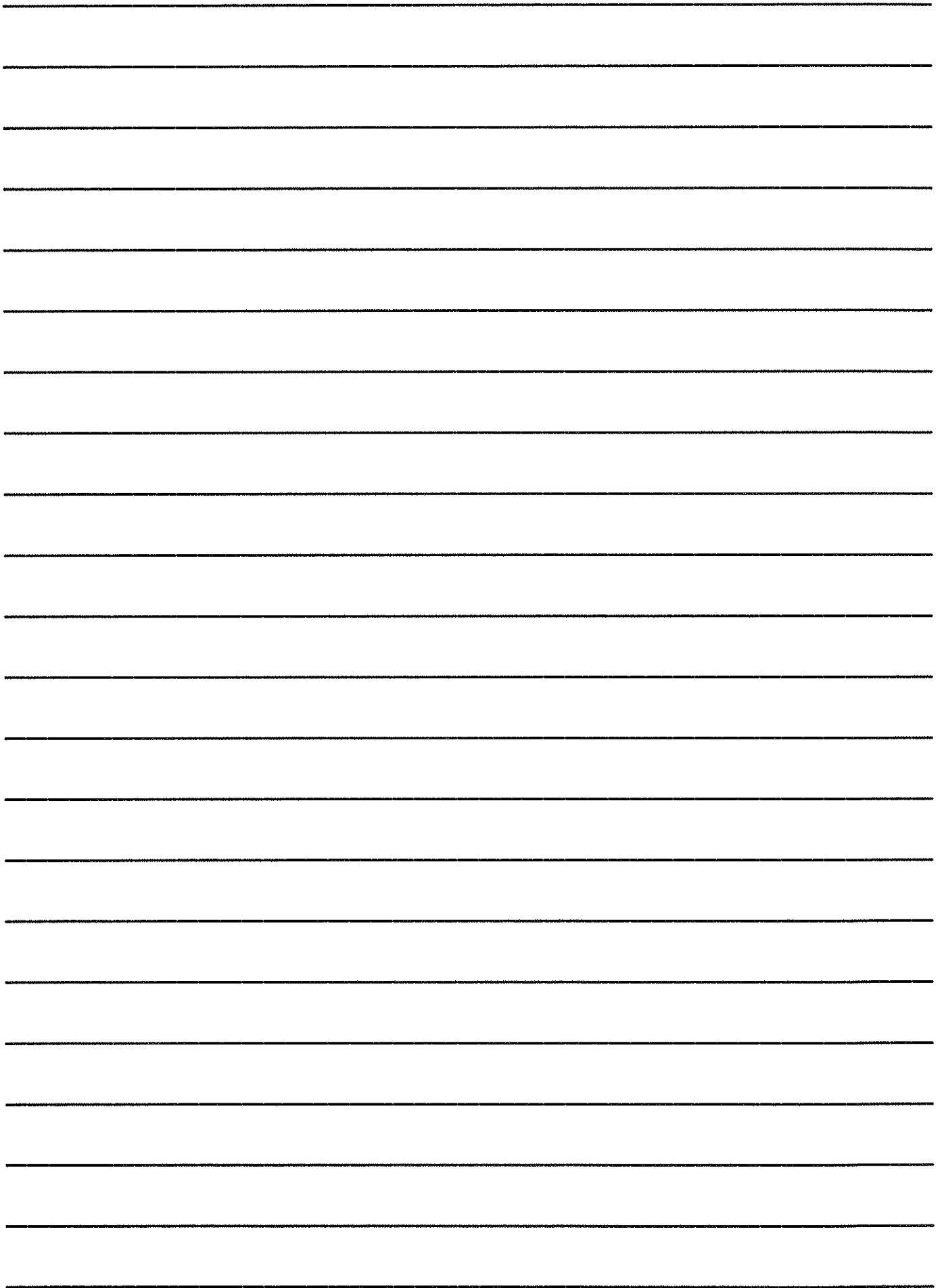
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- 4 How did Kelleff and the BWP improve the wheel?

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So in 2015, they attached poorly eyes to the device and gave it a silly name: Mr. Trash Wheel. The machine became a hit on social media. Its popularity has brought attention to the need to clean up the world's waterways.

Since then, two more wheels—Professor Trash Wheel and Captain Trash Wheel—have joined the cleanup effort. Kelleff is currently working to set up similar garbage-collecting devices in other communities.

Journalist Suzanne



BIG DEBATE

ARE YOUTH SPORTS TOO INTENSE?

Ten-year-old

Rogan Miller spends

nearly all of his free time playing basketball. Just

about every day after school,

Rogan practices at the gym near

his home in Oklahoma City. He

spends hours shooting three-pointers, working on his

defense, and copying the moves of his favorite professional

players. On weekends, he

sometimes travels hours to compete in tournaments and

plays as many as five games. One website lists Rogan as the

24th-best basketball player in the U.S. among fifth-graders.

"I know one day if I keep practicing," says Rogan, "I can

make it to the NBA."

Rogan is one of countless young athletes across the U.S.

who dream of one day going pro. Many kids train and compete

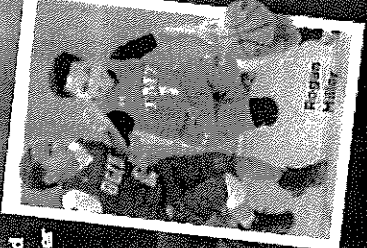
year-round in sports such as soccer, gymnastics, and tennis.

However, not everyone thinks all that intense competition

is a good idea. Some people say it puts too much pressure

on kids and takes the fun out of playing.

Here are two views about youth sports.



Rogan Miller

TEEN

Sports should be about having fun.

Youth sports can seem like a full-time job for many kids. Weekends and school breaks often revolve around traveling to faraway tournaments. That can mean giving up time with friends and family. Being so focused on one sport forces many young athletes to give up their hobbies and leaves them with little time to explore other interests. Also, training to become a star athlete can be expensive. Parents pay for their kids to join top travel teams and hire personal coaches. Many people worry that kids and their parents are setting unrealistic goals. The chances of playing a sport professionally are extremely slim. Many young athletes end up pushing themselves too hard and get injured. Others burn out from all the pressure. In fact, 7 out of 10 kids who play organized sports quit by age 13, according to the National Alliance for Youth Sports.

"When playing sports becomes a job or an obligation, kids lose interest," says Mark Hyman, a professor at George Washington University who has written three books about youth sports.

BY THE NUMBERS
Only **1** out of every **1,300** high school athletes make it to the pros.

Source: National Alliance for Youth Sports

Serena Williams

3 years old

Age when she began playing tennis

14 years old

Age at which she turned pro

\$92.5 million*

Her career earnings to date

*Source: Women's Tennis Association



PROFESSIONAL ADJECTIVE

related to being paid to do something others do for fun, such as playing sports

COLLEGE noun, a duty something a person feels he or she must do

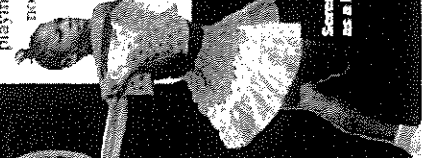
NOT There's nothing wrong with working hard to reach your goals.

Many people argue that playing sports is similar to playing piano, chess, or anything else: To be your best, you must practice. They point out that top athletes like Serena Williams began serious training at a young age. Many kids know that facing the best competition often requires traveling to tournaments. They say it's also a great way to bond with teammates and meet kids from other states.

In addition, a lot of parents say they'd rather see their kids playing sports than spending their free time on their phones or playing video games. They say as long as kids are having fun and not being pushed too hard, where's the harm?

"I love the game," Rogan says. "It doesn't feel like work." Plus, kids who are serious about sports learn the importance of hard work and determination, which can help them succeed as adults—and not just in sports.

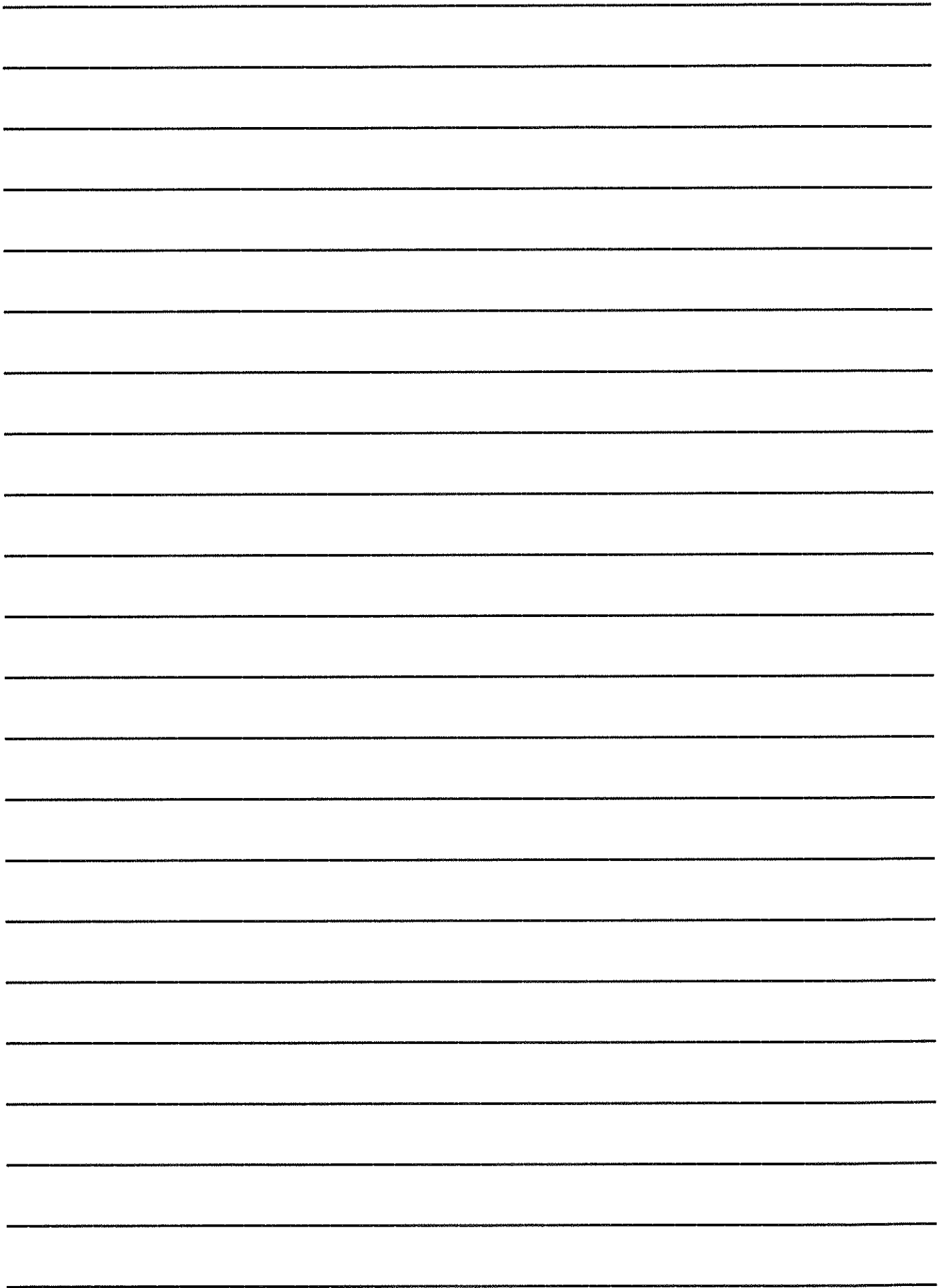
—by Joe Barber



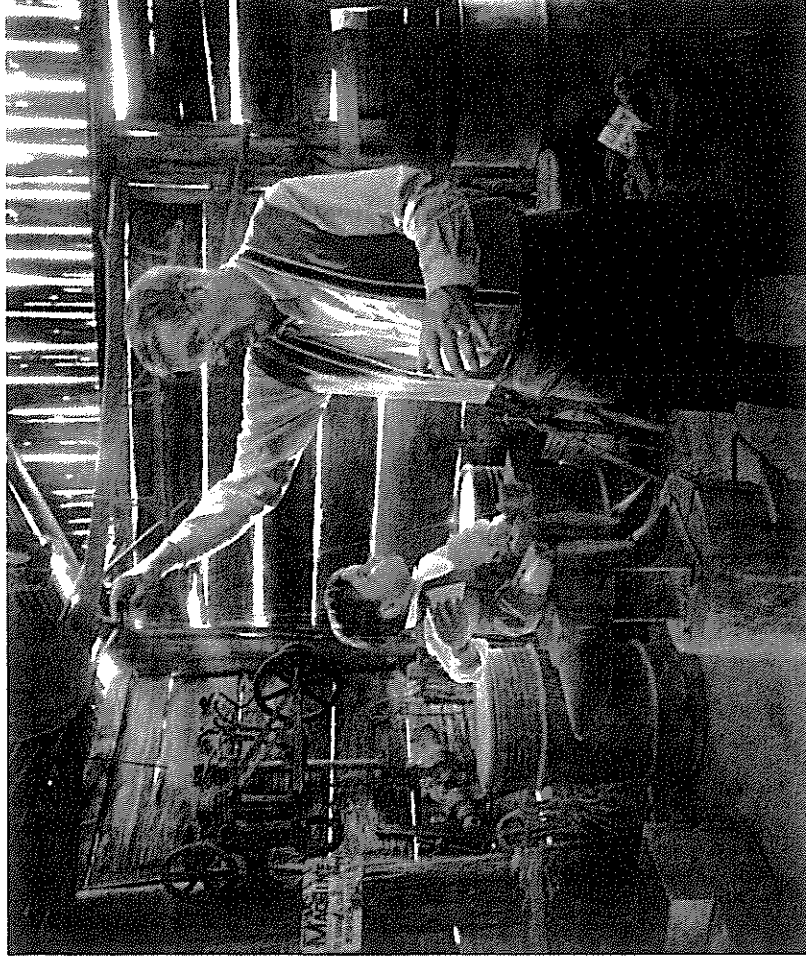
Serena Williams as a kid

What's Your Favorite Sport?
TEEN 500

Read more about sports in the **TEEN 500** by clicking on the link below.



Question time!



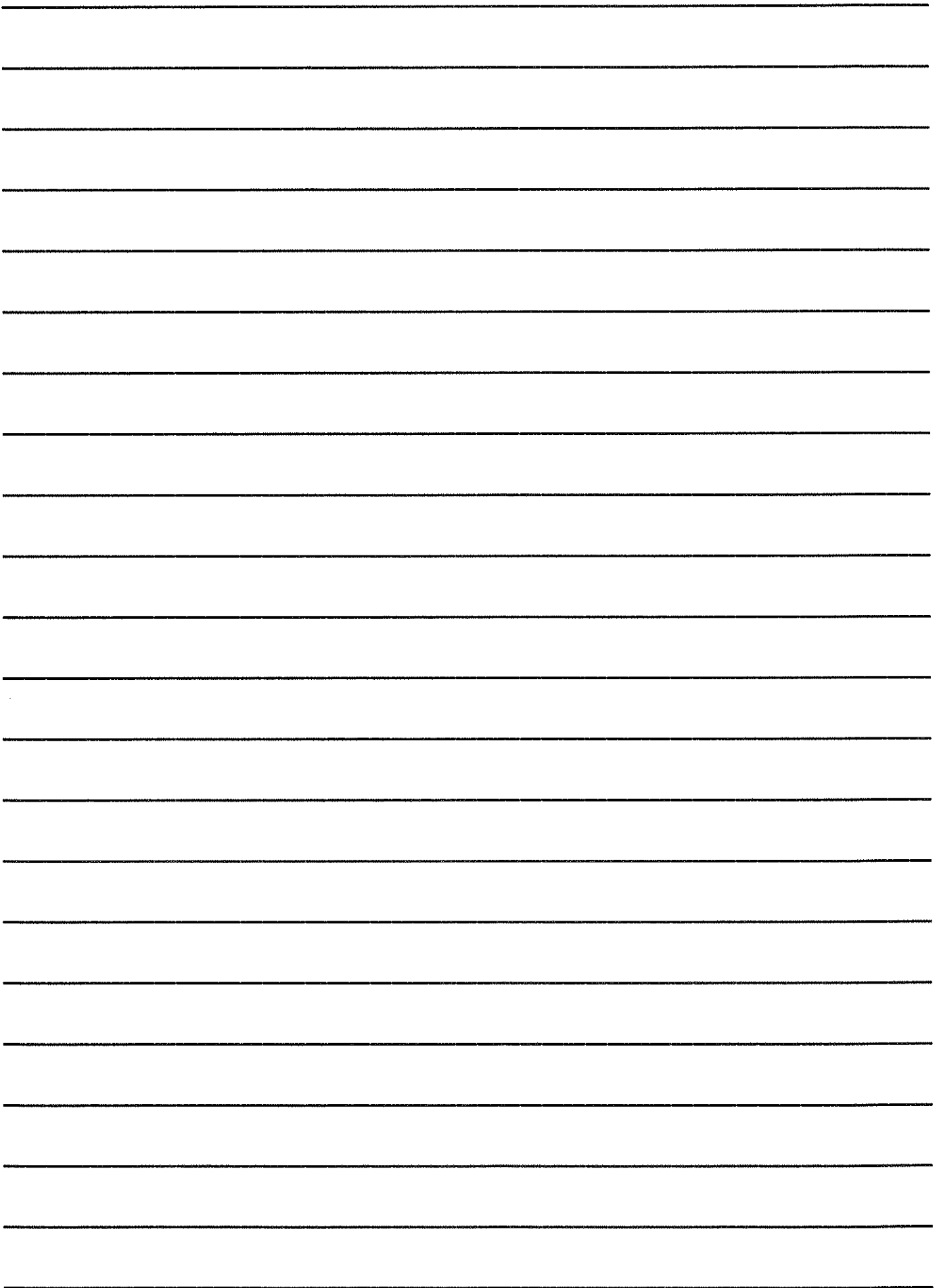
- ▶ What has Geppetto created?
- ▶ Why is he so surprised?
- ▶ What is the puppet's name?
- ▶ What do you think Geppetto will do next?
- ▶ Do you think he has made anything magical before?
- ▶ Can you make a list of all the things the woodcarver would normally make?
- ▶ Do you have anything that has been carved out of wood in your house?
- ▶ If you could carve something to come alive, what would it be?

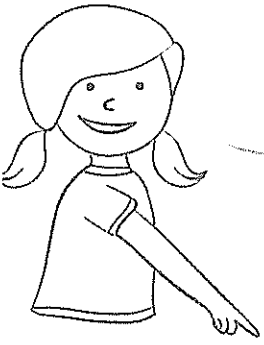
Sick sentences!

These sentences are 'sick' and need help to get better. Can you help?
The man was amazed. The puppet looked at him. It was made out of wood. Its face moved.

Perfect picture!

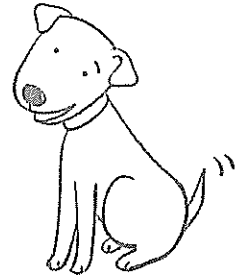
The puppet is about to realise that it can move without being controlled by a human hand. Can you draw what it will do next?





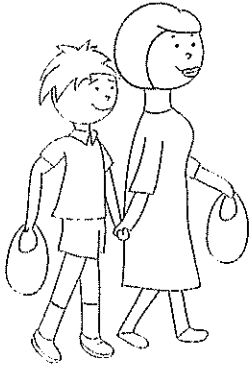
These everyday activities can help you to relax or keep fit.

Yes! Walk the dog.



Trace each word, then track, trace and copy each sentence.)

help



I help my mum.

I help my mum.

I listen to music.

I listen to music.



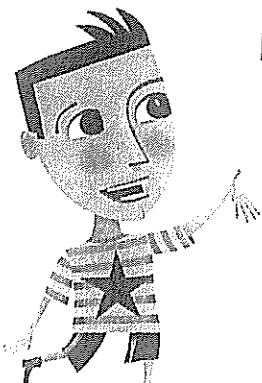
sweep

I sweep the path.

I sweep the path.

Complete, then turn to page 32 to record the words "listen", "music" and "help".

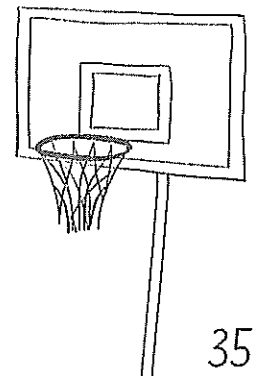
My goal: correct diagonal joins



Self-assessment



Partner assessment



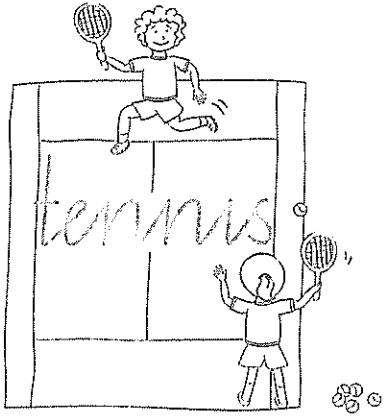
Joining letters

Diagonal joins

When joining letters, the diagonal join is used most often.



Trace each word, then track, trace and copy each sentence.

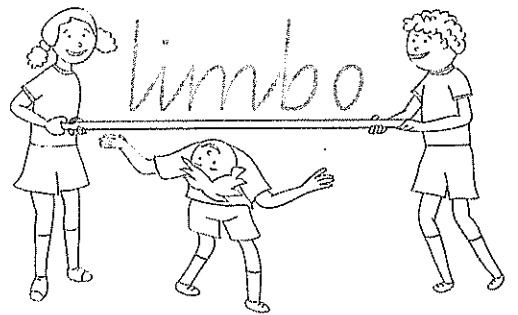


Lily likes tennis.

Lily likes tennis.

Pete enjoys the limbo.

Pete enjoys the limbo.



Pick-up sticks is fun.

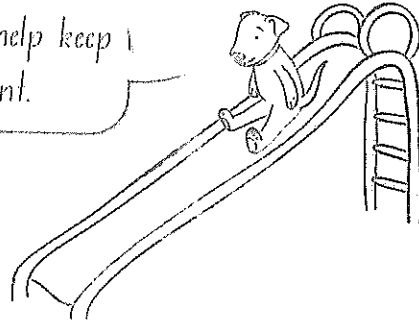
Pick-up sticks is fun.

We played freeze.

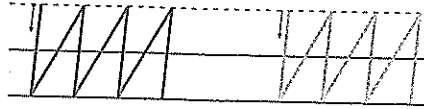
We played freeze.



Use your slope card to help keep your letter slope consistent.



Trace, complete and copy.



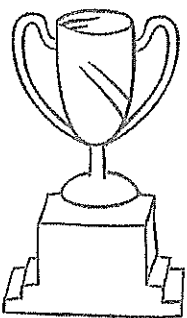
I need to be fit and well to

take part in vigorous exercise

like tennis or swimming and to

stay active games with friends.

Complete.



My diagonal joins leave me feeling . . .



Happy

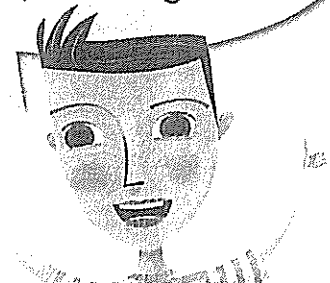


OK



Disappointed

Turn to page 32 to record the word "games" and play the fun game.



PODCAST response

Name: _____ Date: _____

Podcast title: _____

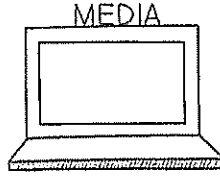
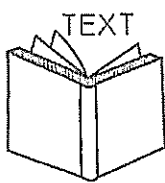
3 FACTS

Just the facts!
Remember, this is NOT an opinion

1 _____

2 _____

3 _____



CONNECT

Bubble in which connection you are making. Explain on the lines below

AHA! MOMENT

What is ONE thing that stuck with you or blew you away?



RATE ME!

PODCAST response



Name: _____ Date: _____

Podcast title: _____

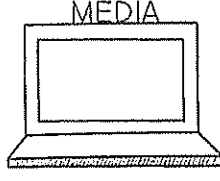
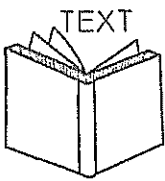
3 FACTS

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1 _____

2 _____

3 _____



CONNECT

Bubble in which connection you are making. Explain on the lines below

AHA! MOMENT

What is ONE thing that stuck with you or blew you away?



RATE ME!

Great Barrier Reef - Editing

Add editing marks to text. There are 20 errors.

The great barrier reef is the worlds lagest coral reef It is close too the coast of queensland australia. it is made up of nerly 3000 coral reefs and over 600 islands, streching over 2600 km long. It is so big, it can be scene from space!

The Great Barrier Reef is the largest structure maid by living things. because of it's enviromental significance, its has been listed as a important World Heritage Site by UNESCO.

Editing Marks:	
Capital letter	≡
End punctuation	⊙ ! ?
Insert a word	λ
Change to lower case	/l.c.
Take something out	9
Check spelling	^{SP} ○
New paragraph	¶

Re-write the text correctly:








Dreaming - Editing

Add editing marks to text. There are 20 errors.

dreams are stories and pictures our brain's create when we are asleep Most dreams happen when we deeply asleep and our eyes begin to moove around quickly under our eyelids. This is called rapid Eye Movement!

Some dreams are just you're mind playing with thorts and images from life. other dreams are an oppertunity for you to make sense of your life dream experts also agree that recurring dreams (dreams that you keep having over and over propably have some sort of special meaning,

Although everbody dreams (including Animals), we will forget 90% them.

Editing Marks:	
Capital letter	
End punctuation	
Insert a word	
Change to lower case	
Take something out	
Check spelling	
New paragraph	

Re-write the text correctly:

seven steps TO WRITING SUCCESS

Story Graphs

STORY TYPE: Mystery

Grandad's Teeth
by Rod Clement

Sizzling Start
The book starts with dialogue:
"Help, I've been robbed!"
We hear Grandad shouting.
It's a disaster come quicker.

Backfill
WHO: Grandad, the family (mum, Agatha and I) and the old family dog, Cumb.
WHAT: Grandad's false teeth have been stolen.
WHERE: The family home

Pebble (Small problem)
Grandad's false teeth are missing and he can't speak properly without them.

Rock (Medium problem)
The police search the house but they can't find the teeth. They investigate further and turn up suspects. Grandad blames everyone and makes them smile to prove their innocence.

Boulder
(Main tension scene)
Everyone was fearful of the thief and tourists stop coming to the town because they are scared off by the endless sea of smiles.

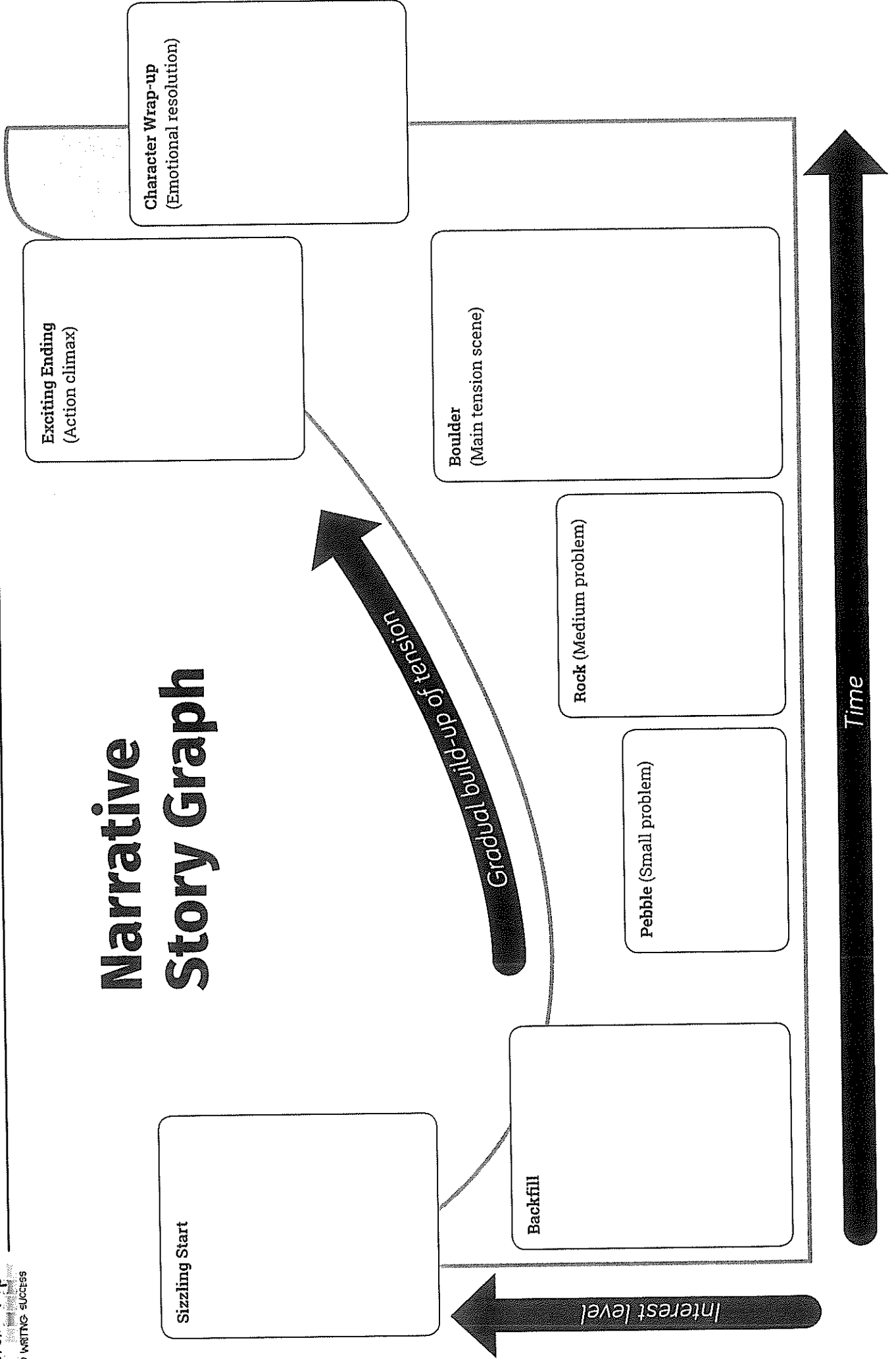
Character Wrap-up
(Emotional resolution)
Grandad, Mrs Cumbie and even Cumb were so happy they smile. Cumb's first smile was very big and we realise he was the culprit all along.

Exciting Ending
(Action climax)
At the emergency town meeting everyone puts a \$1 or \$2 to buy Grandad a new set of teeth.

Gradual build up of tension

Interest level

Narrative Story Graph



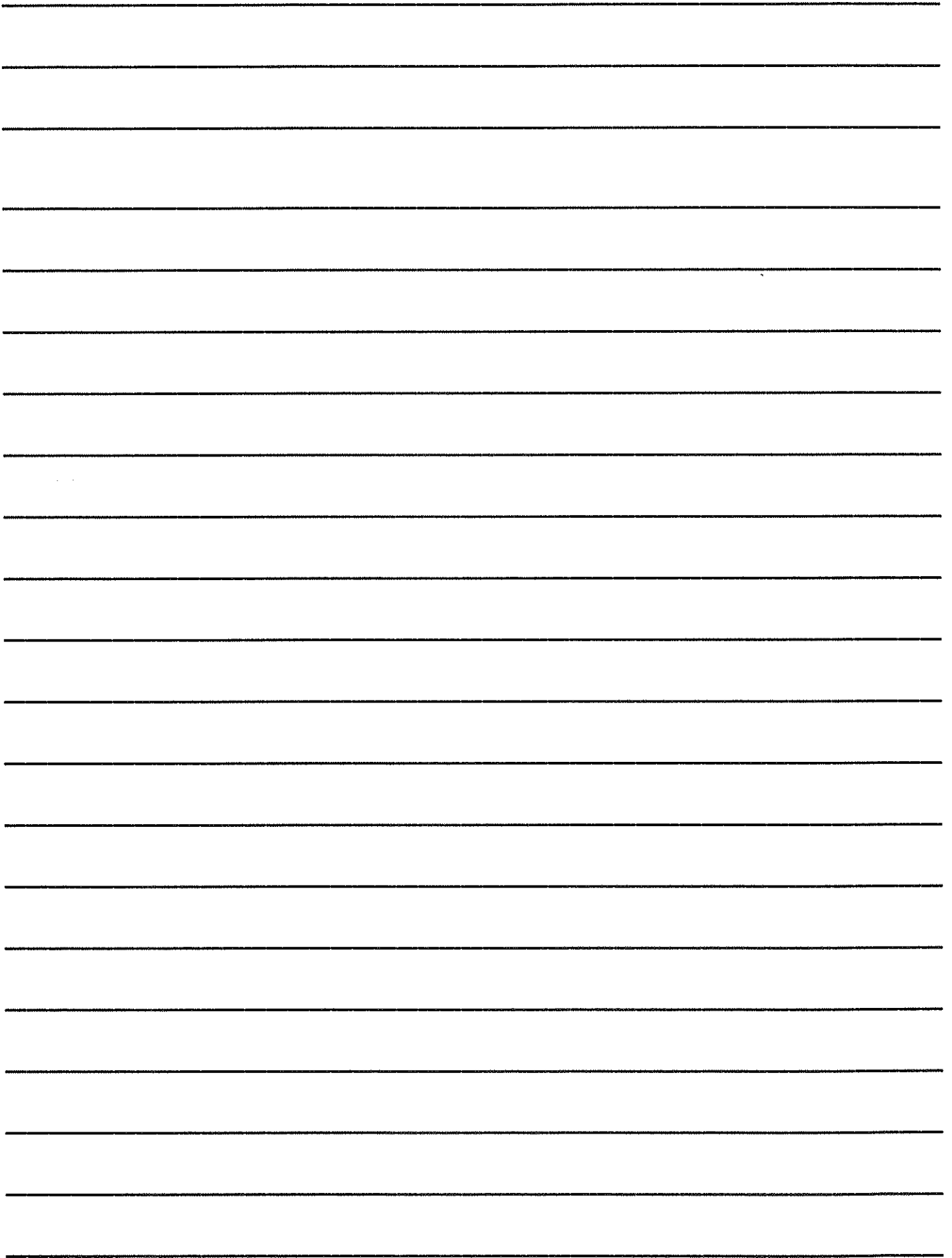
The Story Starter Shed

(We've been collecting story starters, you can use them with your class.)

1. I didn't mean to kill her.
2. The air turned black around me.
3. My fingers gripped my arm in the darkness.
4. Wandering through the graveyard, it felt like something was watching me.
5. The eyes in the painting followed me down the corridor.
6. I had my head buried in the mat.
7. My wind stammered at his face and the rain denied us a chance to get as close as I needed to get to see his eyes on the isolated beach.
8. Footsteps slowly crunched on a dry step of the stairs. The darkness you wanted to see disappeared.
9. Death lurked in every doorway, but he sat on the chair, his body illuminated by the light from the window.
10. My teeth bared and a shiver raced down my spine, and I was terrified to look at the shadow.
11. Snow started to fall and the trees were covered in frost. The forest was



Story Starter Story:



Looking at whole numbers – create and compare numbers

When we compare numbers we use these symbols:



This symbol means is greater (more) than

This symbol means is less than

An easy way to remember this is to think of Crandall the crocodile who is always hungry and will always eat the BIGGER number! We always read the number sentence from left to right.



5 is less than 54
5 is $<$ 54



124 is greater than 92
124 is $>$ 92

1 Use the correct $>$, $<$ or $=$ symbol:

a 203 172 b 3 033 3 033 c 572 615

d 5 690 5 688 e 909 901 f 9 009 9 090

2 Put a number in the box so the statement is true:

a $>$ 6 890

b $>$ 603

c $>$ 1 204

d $>$ 8 051

3 Put a number in the box so the statement is true:

a 45 $<$

b 564 $<$

c 7 895 $<$

d 9 984 $<$

4 Use the correct $>$ or $<$ symbol to make the number sentences true:

a 15 14 16

b 98 1 005 2 010

c 17 18 21

d 7 586 528 29

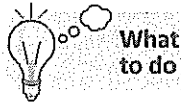
My difference is greater

apply



Getting ready

This is a game for 2 players. Each player will need the game board and a copy of the digit cards below to cut out, as well as a calculator.



What to do

Combine both players' digit cards, shuffle and lay face down in the centre. Each player draws 6 cards, and without looking at the digit cards, makes two 3 digit numbers laying cards down from left to right.

If the numbers are in the correct position (the number on the left is actually greater than the number on the right), the player writes down the difference as their score.

The winner is the player with the highest score at the end of the game.

			>			
--	--	--	---	--	--	--

Player 1	Player 2

1	2	3	4	5
6	7	8	9	1
2	3	4	5	6

Name: _____

Date: _____

Addition Strategies

1. Find the Total

- | | |
|----------------|----------------|
| a) $2 + 2 =$ | f) $40 + 20 =$ |
| b) $6 + 4 =$ | g) $41 + 20 =$ |
| c) $8 + 7 =$ | h) $41 + 21 =$ |
| d) $12 + 6 =$ | i) $56 + 42 =$ |
| e) $12 + 10 =$ | j) $35 + 28 =$ |

2. Jump Strategy

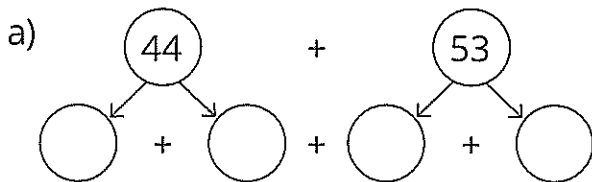
a) $63 + 26 =$



b) $38 + 84 =$

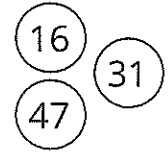


3. Split Strategy



4. Linking Addition and Subtraction

- a) Write as many number sentences as you can using these numbers.



5. Find the Total

- a) $100 + 40 =$
- b) $150 + 40 =$
- c) $168 + 30 =$
- d) $342 + 167 =$
- e) $2497 + 1201 =$

6. Word Problems

A town is building 42 houses this year and 15 houses next year. The town already has 856 houses. How many houses will there be in total?

Name: _____

Date: _____

Subtraction Strategies

1. Find the answer.

a) $28 - 3 =$

b) $39 - 35 =$

c) $40 - 6 =$

d) $18 - 9 =$

e) $57 - 10 =$

f) $30 - 7 =$

2. Aim for a Zero-Tail (Make Tens)

a) $43 - 6$

$43 - \square - \square = \square$

b) $54 - 7 =$

$54 - \square - \square = \square$

3. Think 'Addition' to Subtract

a) $36 - \square = 5$

Fact Family

$\square + \square = \square$

$\square + \square = \square$

$\square - \square = \square$

$\square - \square = \square$

b) $\square - 35 = 6$

Fact Family

$\square + \square = \square$

$\square + \square = \square$

$\square - \square = \square$

$\square - \square = \square$



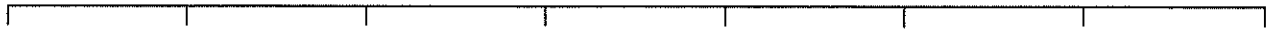
Name: _____

Date: _____

Subtraction Strategies

4. Jump Strategy

a) $62 - 24 =$

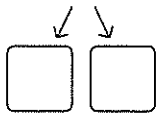


b) $53 - 17 =$



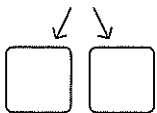
5. Split Strategy

a) $64 - 26$



$$64 - \square = \square \longrightarrow \square - \square = \square$$

b) $31 - 19$



$$31 - \square = \square \longrightarrow \square - \square = \square$$

6. Trading

Use the Trading Chart and MAB blocks to work out the answers.

a) $32 - 23 =$

b) $45 - 16 =$



Addition and Subtraction Word Problems - Number Facts - Two Steps

Enter your answer in the space provided.

1. Anna's team scored 5 runs in the first inning of the kickball game. They scored 6 more runs in the second inning and 3 runs in the last inning. How many runs did Anna's team score in all?

2. 18 children were going to run a race in the park. 6 children left to get a drink of water. 5 left to play on the swings. How many children stayed for the race?

3. 6 children were jumping rope. 5 children joined them. 2 children left because the line was too long. How many children were jumping rope then?

4. Julie climbed 15 steps up the giant slide. She climbed down 6 steps to talk to her friend, Maria. Then she climbed up 8 steps to get to the top. How many steps does the slide have?

5. There were 17 balls on the playground. 5 were soccer balls and 8 were basketballs. The rest were kickballs. How many kickballs were there?

Multiplication and Division - Level 2

Enter your answer in the space provided.

1. Alex and Kyle made 27 paper planes.
Kyle made half as many as Alex.
How many planes did Kyle make?

2. Andrew has 5 boards.
Each board is 6 feet long.
He needs 4 feet of board to make a bird feeder.
Andrew wants to make 7 bird feeders.
How many feet of board will be left?

3. Amy played checkers with her sister.
She won 4 times as many games as she lost.
Amy won 12 games. There were no ties.
How many games did Amy play?

4. Linda has \$10.
She gets \$6 a week allowance for doing chores.
How many weeks will it take her to save for a video game that costs \$52?

5. Allison brought some CDs online.
Each CD cost \$7.
There was an additional charge of \$4 per order for shipping costs.
The total bill came to \$60.
How many CDs did Allison buy?

MATH MAVEN'S MYSTERIES

Name: _____

Date: _____

The Mad Adder Strikes Again

Hi, math detectives. I'm on the scene of our latest crime. Someone has held up the Cashflow Bank and stolen something more valuable than money.

"It all began this morning," said Mr. Bond, the bank manager. "A strange man wearing a purple hat and striped suit entered the bank. He walked up to my counter and reached into his vest pocket. I thought he was taking out his wallet, but instead he pulled out a shiny silver watch and began to swing it back and forth, back and forth. I almost fell asleep gazing at its strange reflections."

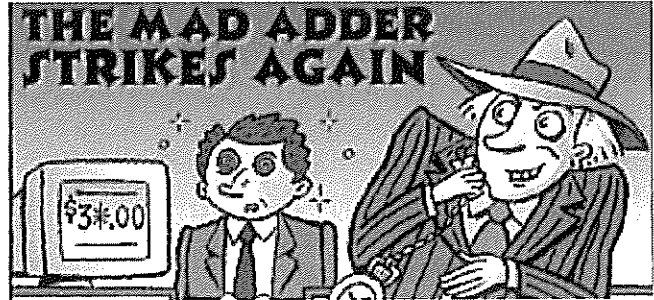
"The next thing I remember, the man tipped his hat and raced out the door. I thought it was kind of odd, but I brushed it off and went back to work on my computer. Then I noticed something very strange about the numbers in the bank accounts. I called you right away."

Mr. Bond showed me this chart on his computer screen.

Account Name	August	September	Aug-Sept Total
Dyme A. Duzen	\$*0.00	\$15.00	\$35.00
Wood N. Nickel	\$ 3.00	\$1*.00	\$15.00
Penn E. Lane	\$10.00	*\$3.00	\$33.00
Monthly Total	\$33.00	\$50.00	\$83.00

"That man stole a number from our computer system and replaced it with stars," he cried. "Oh, Math Maven! You have to help me find the missing number to make sense of all the accounts."

"Why, that no good, number-napper is none other than the Mad Adder!" I said. "Don't worry, Mr. Bond. My math detectives are on the case."



Notes:

MATH MAVEN'S MYSTERIES

Name: _____

Date: _____

Solve the Mystery!

Okay, number crunchers! Use your sharp adding and subtracting skills and help Mr. Bond put his accounts back in order. Which number did the Mad Adder take and replace with stars?

- A. 2
- B. 4
- C. 6
- D. 7

Use this space to show your work:

NUMBER OF THE DAY 2-DIGIT

Today's number is **75**

Day: 85

1. In words
2. 10 more
3. 15 less
4. Subtract 24.
5. Round to nearest 100
6. Next even
7. Complete the pattern, add 4: 75, _____
8. List some factors
9. Divisible by 2?
10. Double it

Show Answers

←

A

A+

Question Set **B**[More versions](#)[English version: US / UK](#)

Each day, a new number is given. For each number there are 4 quizzes, A, B, C and D.

PREMIUM accounts can use a [random number selector](#) in Number of the Day

Tip: Use the [Page Down](#) key or a [presenter remote](#) to move through answers.

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NUMBER OF THE DAY 3-DIGIT

Today's number is **378**

Day: 85

1. In words
2. 10 more
3. 15 less
4. Subtract 19.
5. Round to nearest 100
6. Next even
7. Complete the pattern, add 5: 378, ..., ..., ...
8. List some factors
9. Divisible by 2?
10. Double it.

Show Answers

A

A-

A+

Question Set **B**

More versions — English setting US | UK

Each day, a new number is given. For each number there are 4 quizzes, A, B, C and D.

PREMIUM accounts can use a [random student selector](#) in Number of the Day.

Tip: Use the [Page Down](#) key or a [presenter remote](#) to move through answers.

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NUMBER OF THE DAY 4-DIGIT

Today's number is **2872**

Day: 85

1. In words
2. 10 more
3. 15 less
4. Subtract 27.
5. Round to nearest 100
6. Next even
7. Complete the pattern, add 4: 2872, ...,
8. List some factors
9. Divisible by 2?
10. Double it.

Show Answers

A-

A=

A+

Question Set **B**

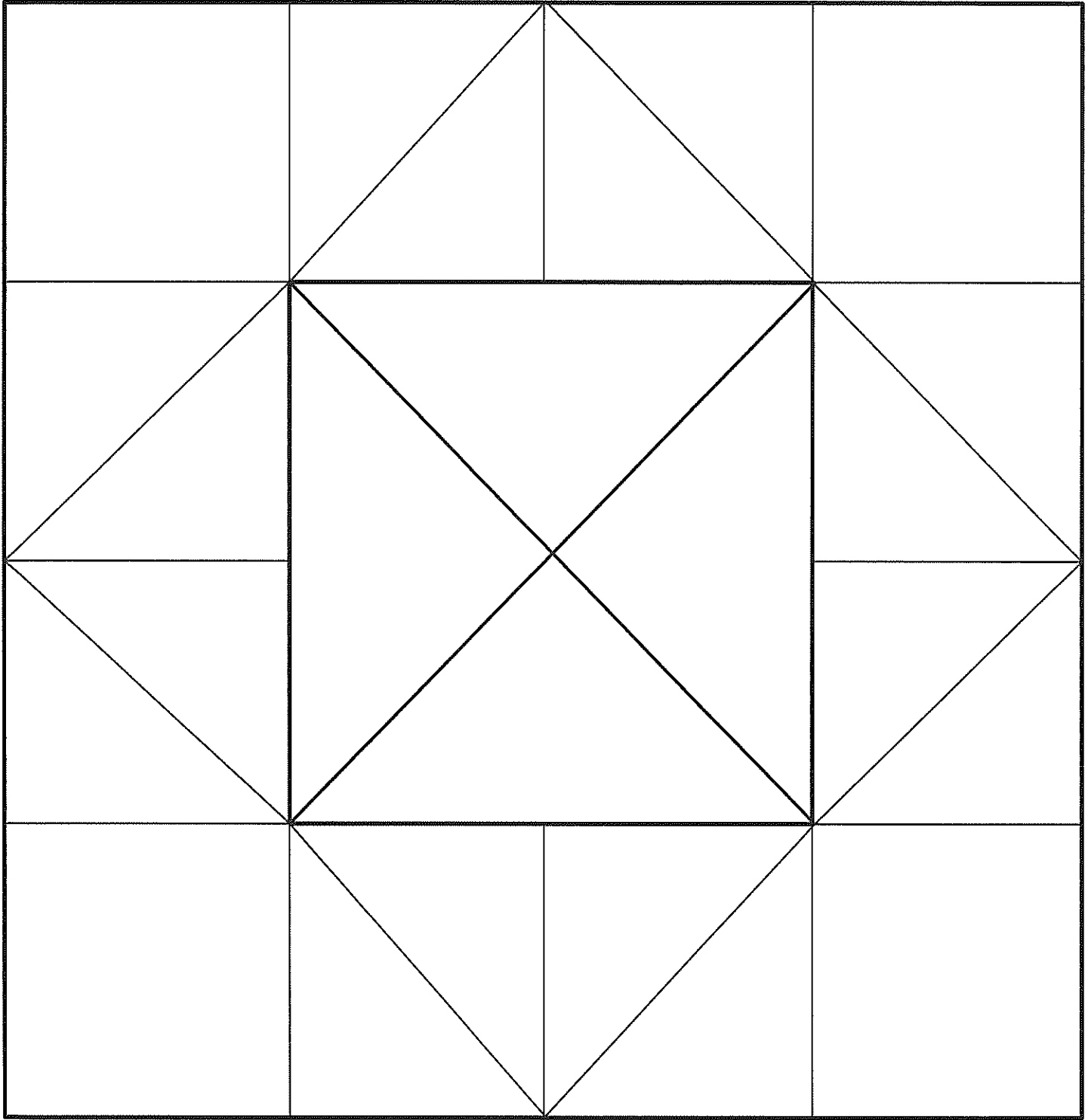
More versions -- English setting: US | UK

Each day, a new number is given. For each number there are 4 quizzes, A, B, C and D.

PREMIUM accounts can use a random student selector in Number of the Day.

Tip: Use the Page Down key or a presenter remote to move through answers.

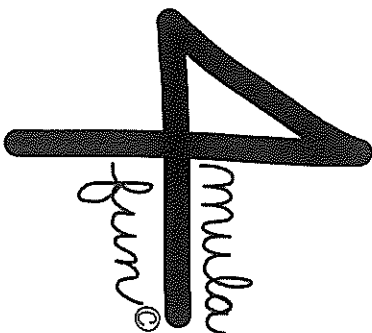
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Cootie Catcher Editable Flippable Template

www.4mulaFun.com

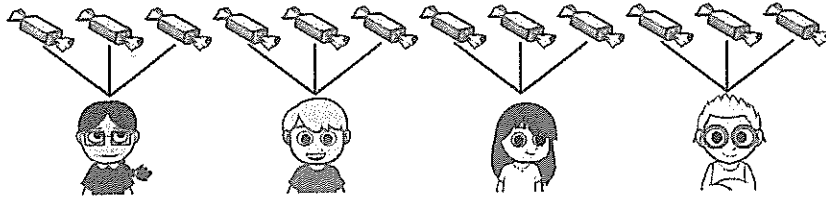
Send pictures of your Flippable
creations to 4mulaFun@gmail.com



Division – division is sharing and grouping

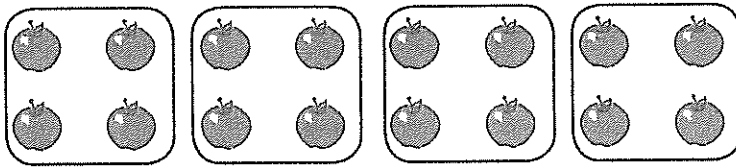
Division can mean sharing *or* grouping.

There are 12 lollies shared between 4 kids. How many are in each share?



$$12 \div 4 = 3$$

There are 16 apples and 4 go into each basket. How many baskets do I need?



$$16 \div 4 = 4$$

1 Solve these sharing and grouping questions:

a There are 9 cupcakes and 3 kids are sharing. How many are in each share?



$$\square \div \square = \square$$

b 12 lollies are shared between a group of kids so they each get 2. How many kids are sharing?



$$\square \div \square = \square$$

c There are 24 pencils and 6 pencil pots. How many pencils go into each pencil pot?



$$\square \div \square = \square$$

Division – division is sharing and grouping

- 2 Draw pictures to show these division questions. Then write the division fact and decide whether it is a sharing or a grouping question.

If you need to find out how many items there are in each share, it's a sharing question. If you need to find out the number of equal shares, it's a grouping question.



CHECK

- a Divide 16 lollies between 4 girls. How many does each girl get?

$$\square \div \square = \square$$

sharing / grouping

- b From a packet of 24 pencils, each person will get 6. How many people are sharing the pencils?

$$\square \div \square = \square$$

sharing / grouping

- c 48 eggs are laid by 6 hens. If they all laid the same amount, how many did each hen lay?

$$\square \div \square = \square$$

sharing / grouping

Mental multiplication strategies – multiplying by 10 and 100

When we multiply any number by 10, a zero goes in the units column and the digits all move one space along to the left.

When we multiply any number by 100, a zero goes in both the units and the tens columns and all the digits move two spaces along to the left.

Thousands	Hundreds	Tens	Units	
		4	5	
	4	5	0	× 10
4	5	0	0	× 100

1 Use the place value tables to multiply these numbers by 10 and 100:

a

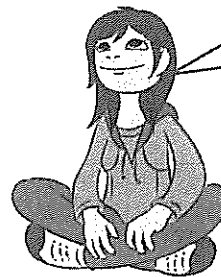
Th	H	T	U	
		1	5	
				× 10
				× 100

b

Th	H	T	U	
		4	8	
				× 10
				× 100

c

Th	H	T	U	
		7	2	
				× 10
				× 100



Can you see a pattern in each of the tables?

2 Use patterns to solve these:

a $14 \times 1 =$

$14 \times 10 =$

$14 \times 100 =$

b $25 \times 1 =$

$25 \times 10 =$

$25 \times 100 =$

c $82 \times 1 =$

$82 \times 10 =$

$82 \times 100 =$

Mental multiplication strategies – multiplying by 10 and 100

How do you multiply by other multiples of 10? Let's look at 8×20 .
We can use known times tables facts and write this as place value amounts:

$$8 \times 2 \text{ tens} = 16 \text{ tens So, } 8 \times 20 = 160$$

1 Draw lines from the numbers written as place value amounts to the times tables facts:

10 tens 14 tens 36 tens 27 tens 12 tens 16 tens

3×4 tens 4×4 tens 5×2 tens 7×2 tens 6×6 tens 9×3 tens

2 Write the digit that represents each place value amount:

- | | | |
|----------------------------------|----------------------------------|----------------------------------|
| a 10 tens = <input type="text"/> | b 36 tens = <input type="text"/> | c 12 tens = <input type="text"/> |
| d 15 tens = <input type="text"/> | e 22 tens = <input type="text"/> | f 8 tens = <input type="text"/> |
| g 19 tens = <input type="text"/> | h 16 tens = <input type="text"/> | i 18 tens = <input type="text"/> |

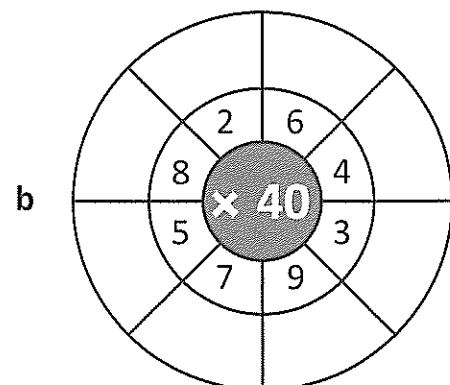
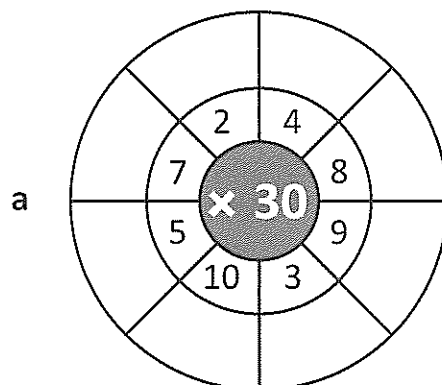
3 First complete the hints and then use them to write the facts:

Hints:

Facts:

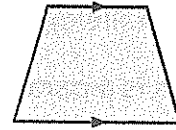
- | | |
|---|--------------------------------------|
| a 4×6 tens = <input type="text"/> tens | $4 \times 60 =$ <input type="text"/> |
| b 9×2 tens = <input type="text"/> tens | $9 \times 20 =$ <input type="text"/> |
| c 2×7 tens = <input type="text"/> tens | $2 \times 70 =$ <input type="text"/> |

4 Complete the number wheels:



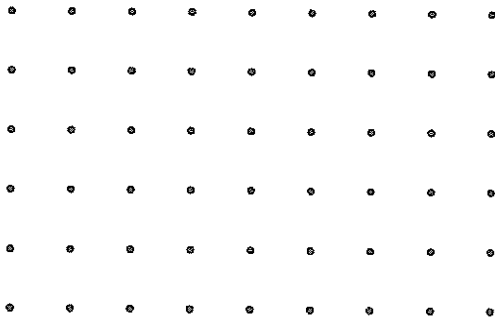
Lines, angles and shapes – types of quadrilaterals

A trapezium is a quadrilateral and has one pair of parallel sides.



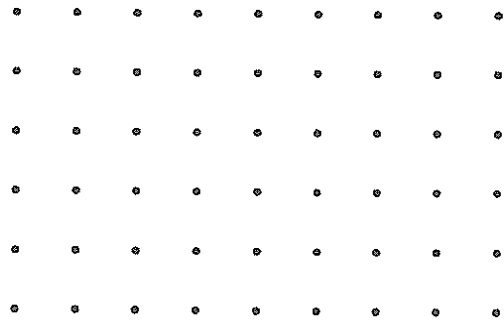
3 Check your understanding of types of parallelograms and trapeziums.

a Draw a shape with two pairs of parallel sides and sides that are equal in length.



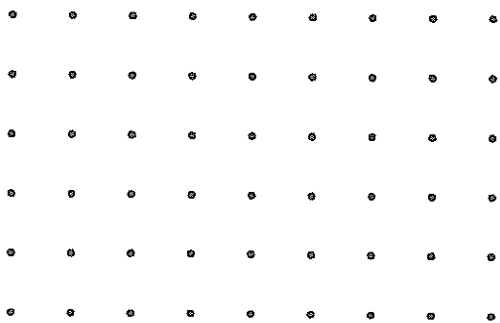
This shape is a _____.

b Draw a shape with one pair of parallel sides.



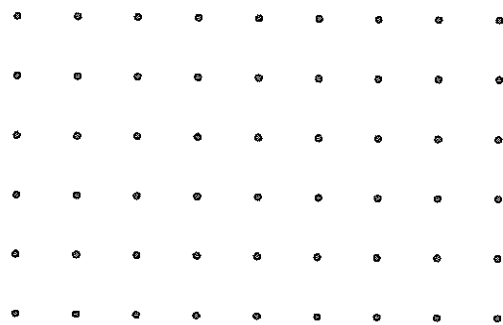
This shape is a _____.

c Draw a shape with two pairs of parallel sides and opposite sides that are equal.



This shape is a _____.

d Draw another parallelogram that is different to the others.



This shape is a _____.

Lines, angles and shapes – polygons and quadrilaterals 2

1 Decide whether each shape in the table is a quadrilateral or a polygon or both. Write yes or no.

	Name	Quadrilateral	Polygon
a	square		
b	rectangle		
c	hexagon		
d	octagon		
e	pentagon		
f	triangle		

2 Draw lines to connect the shapes to the labels. Then put a tick in the shapes which are quadrilaterals and circle the parallelograms. The first one has been done for you.

rhombus

square

rectangle

pentagon

hexagon

trapezium

octagon

Some labels might have more than one connecting line.

4 sides

5 sides

6 sides

8 sides

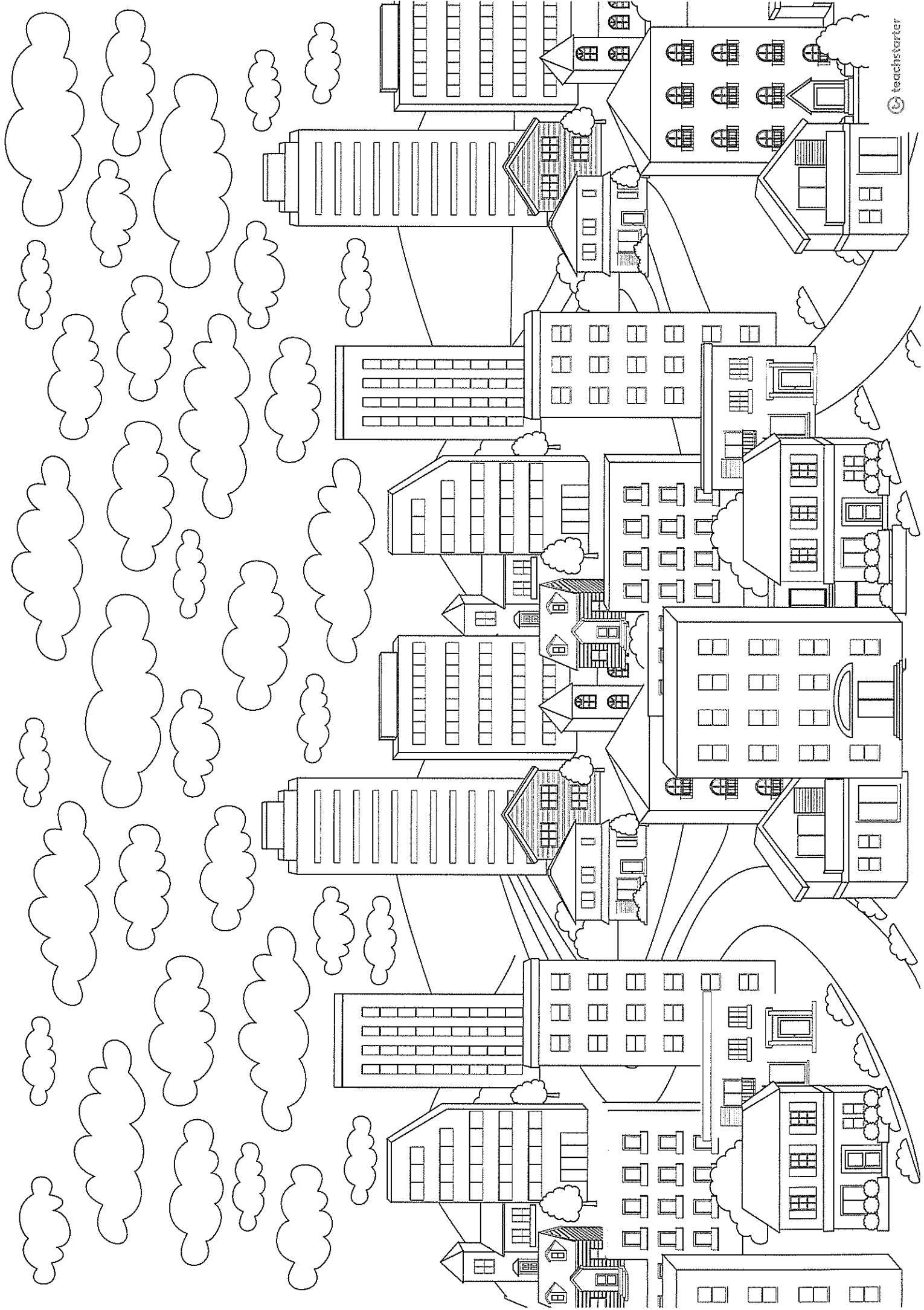
EVERY DAY

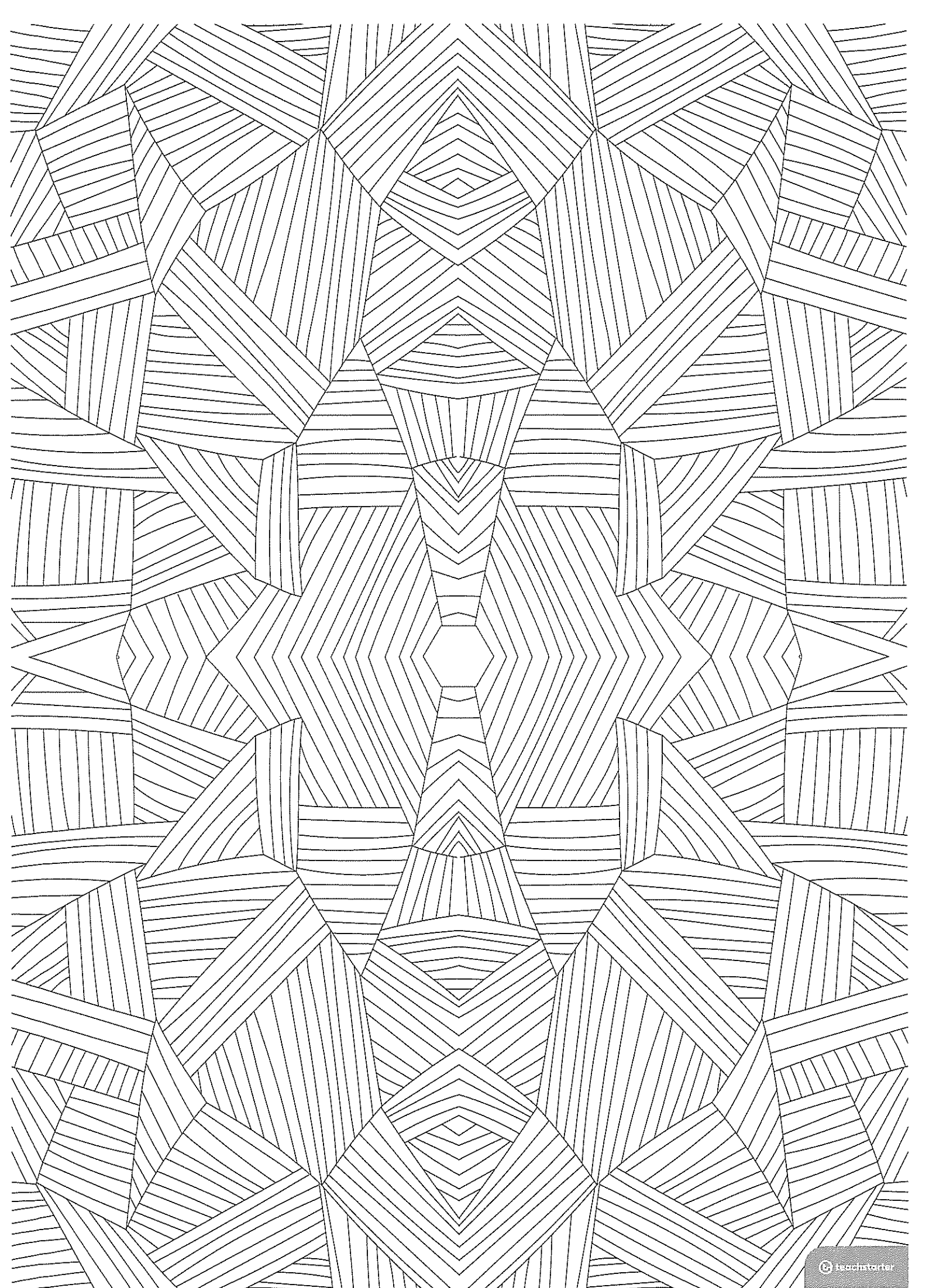
MAY NOT be

GOOD BUT THERE

IS SOMETHING

good IN EVERY DAY





20 Minute Workout Blast

Complete as many rounds as possible
in 20 minutes. Take breaks when
necessary!

50 Jumping Jacks

25 Squats

50 High Knees

25 Push-Ups

50 Butt Kicks

25 Tricep Dips

50 Jump Squats

25 High Plank w/Shoulder Taps

50 Burpees

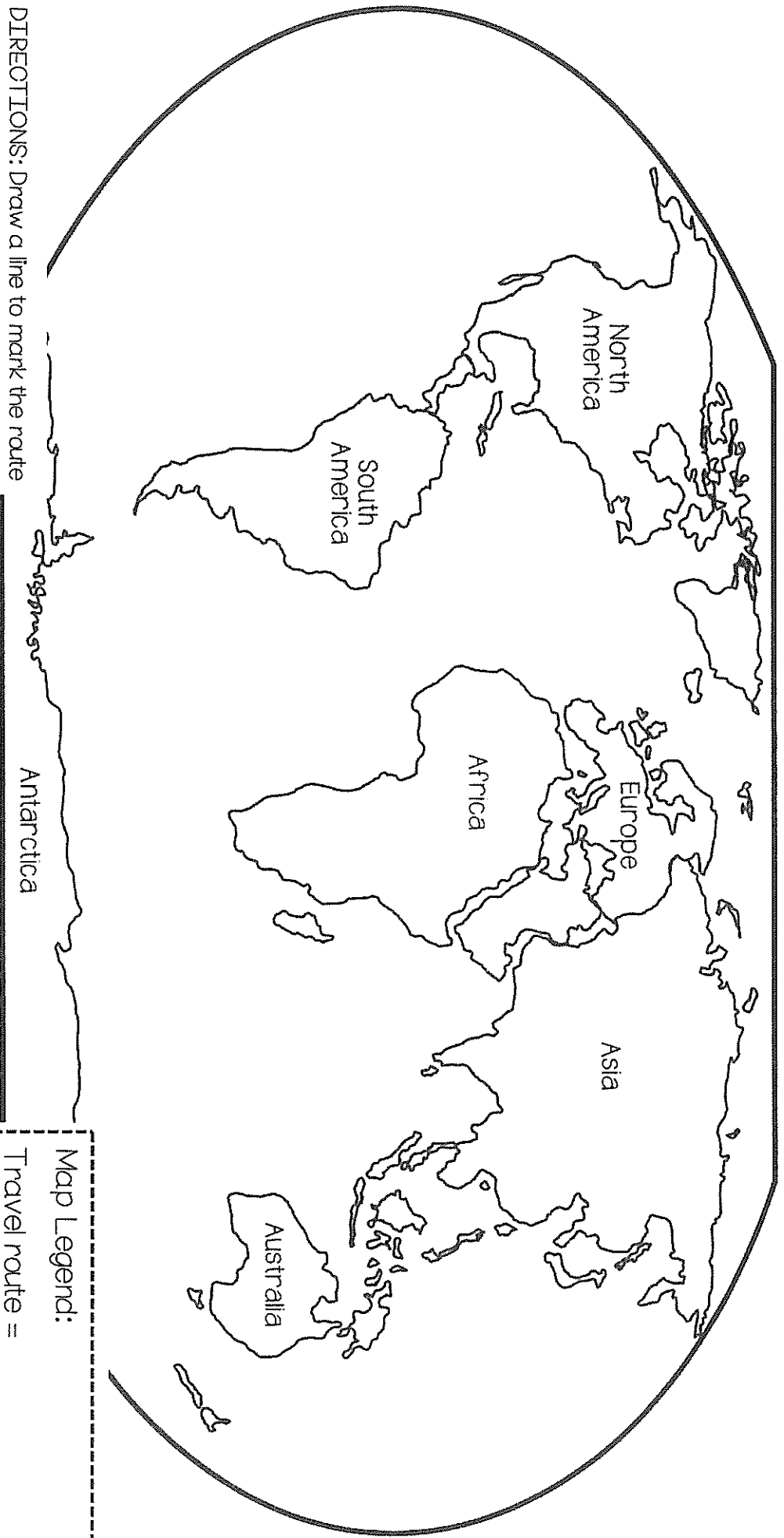
25 Full Sit-Ups

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Explorer Name:

Student Name:

Class:



DIRECTIONS: Draw a line to mark the route where the explorer traveled. Color or mark the country where he traveled from and the area where he landed. Create a map legend to show what your colors or symbols mean.

Map Legend:
Travel route =
Country traveled from =
Area where he landed =

Why did your explorer begin their voyage? What was the purpose?

What problems did they face along the way?

Why was their voyage so important? What did they find?

What was the effect of their voyage? What trade opened up as an effect of their voyage?

Any extra information you would like to add?

Name: _____

Date: _____

Compare and Contrast Venn Diagram

