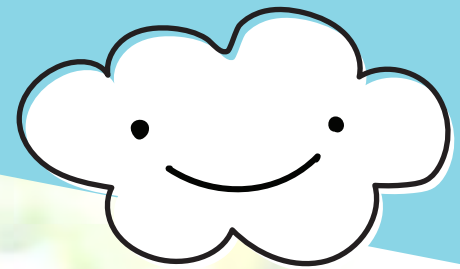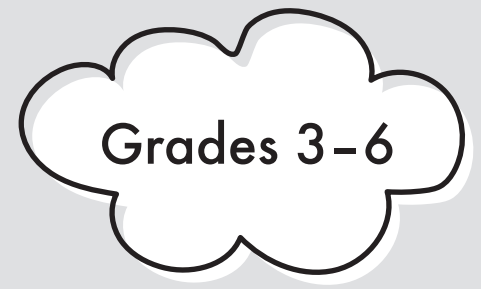# Thinking Skills Activities
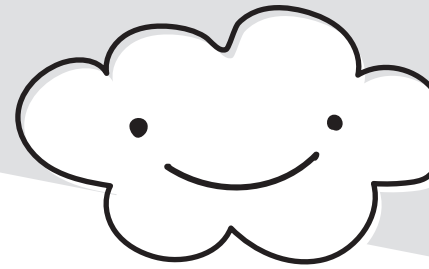
35 Pages of Logic Puzzles, Math Bafflers, and More

Thinking Skills Activities

35 Pages of Logic Puzzles, Math Bafflers, and More

This eBook is a compilation of activities from Prufrock Press resources, including:

- *Logic Safari, Book 1, Grades 2–3* (pp. 3–10)
  $12.99
  https://www.prufrock.com/Logic-Safari-Book-1-Grades-2-3-P182.aspx

- *Word Bogglers: Visual Words and Idioms* (pp. 11–18)
  $16.95
  https://www.prufrock.com/Word-Bogglers-Visual-Words-and-Idioms-Grades-3-6-P214.aspx

- *Math Bafflers: Grades 3–5* (pp. 19–26)
  $19.95
  https://www.prufrock.com/Math-Bafflers-Logic-Puzzles-That-Use-Real-World-Math-Grades-3-5-P904.aspx

- *The World's Greatest Brain Bogglers* (pp. 27–33)
  $19.95
  https://www.prufrock.com/The-Worlds-Greatest-Brain-Bogglers-Grades-3-9-P82.aspx

- *Brain Food: 100+ Games That Make Kids Think* (pp. 34–37)
  $29.95
  https://www.prufrock.com/Brain-Food-100-Games-That-Make-Kids-Think-P336.aspx

For more resources like these, visit our website at https://www.prufrock.com.

Birthday Bashes

Lyle, Ryan, and Troy have their birthdays in the same month. They have chosen to have their parties at the roller rink, the miniature golf course, and the pizza parlor. Tear open these clues to find out how each person will be celebrating his special day.

Clues

1. Lyle, and the boy who has chosen the roller rink, and the boy whose party will be at the pizza parlor are all very excited.

2. Troy's party will not be at the pizza parlor.
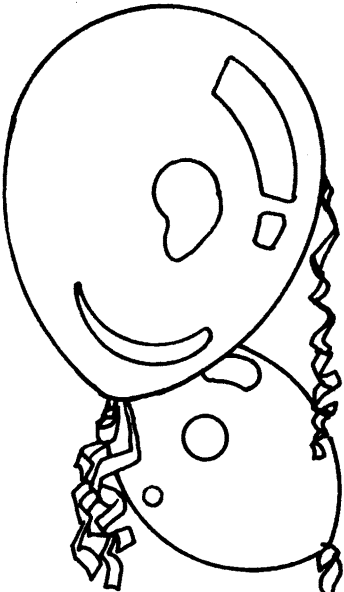
	roller rink	miniature golf	pizza parlor
Lyle			
Ryan			
Troy			

Swimming Lessons

Steve, Andy and Ted all go to the pool for swim lessons. They have different instructors. Today one boy is in a group learning to tread water, one is in a group diving for pennies on the bottom of the pool, and one is in a group jumping off the diving board. Dive into these clues to find out who is doing what.

Clues

1. Andy, his brother who is treading water, and his friend who is diving for pennies all live within walking distance of the pool.

2. Steve and Andy are not brothers.

	treading	pennies	diving board
Steve			
Andy			
Ted			

After School

Daralynn, Kevin, and Tara are three friends who stay for the after-school play program. Today one is playing with a yo-yo, one with a jump rope, and one with puzzles. Unlock the clues to find out who is doing what.

Clues

1. Daralynn, the boy with the yo-yo, and the girl with the jump rope are all picked up by their parents around 5:30.

2. Tara and Daralynn are sisters.
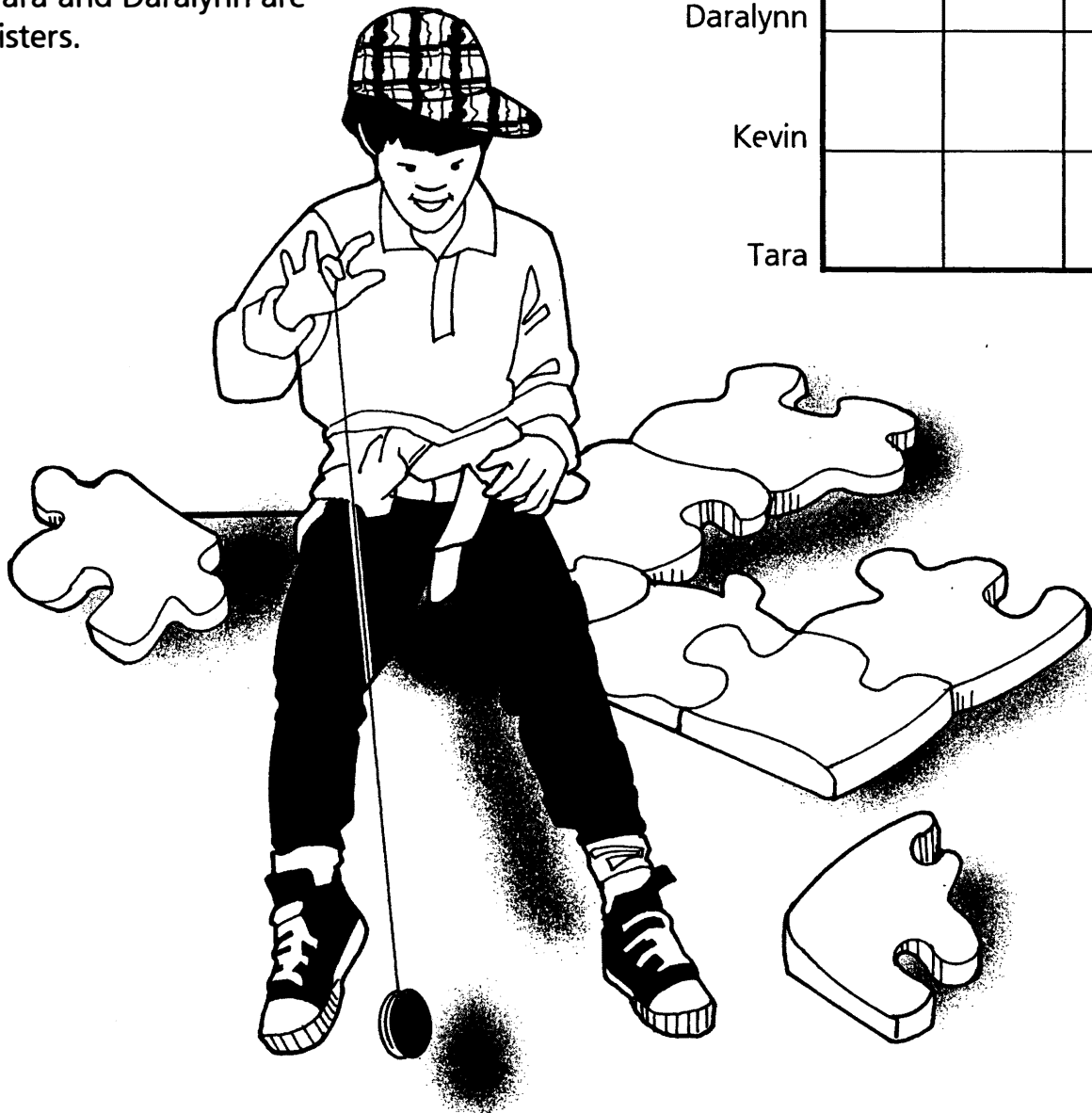
	yo-yo	jump rope	puzzles
Daralynn			
Kevin			
Tara			

Spring Musical

The second grade is working very hard on its spring musical. Megan, Adam, and Jeff have special roles in the production as a baseball player, a rose bud, and a young fisherman. Use these clues to find out who had what role.

	baseball player	rose bud	fisherman
Megan			
Adam			
Jeff			

Clues

1. Megan, and the baseball player, and the fisherman have to bring their own costumes and props.

2. Jeff has to remember to bring his bat and mitt to rehearsals as well as to team practice.

Aluminum Can Drive

Carla, Patrick, and Justin all wanted their class to be the leader in the aluminum can drive. They brought in 2, 3, and 5 bags of crushed cans. Smash your way through this clue to find out who brought how many bags.

Clue

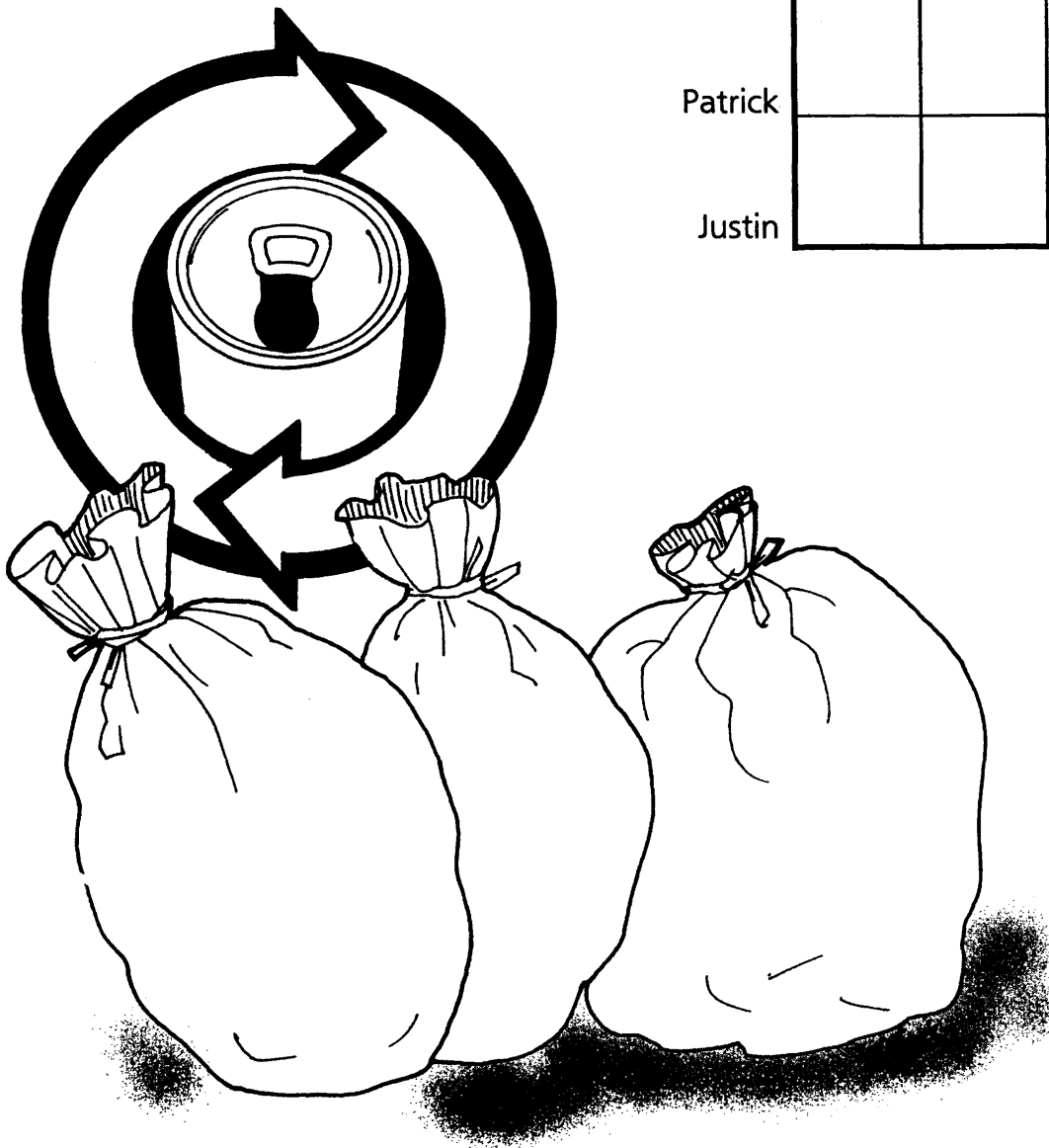1. Carla brought more bags than Justin but fewer than Patrick.

	2 bags	3 bags	5 bags
Carla			
Patrick			
Justin			

Helping in Grandpa's Garden

Tyler, Jack, and Brenda are helping their grandfather in the garden. One is transplanting seedlings from the hot bed, one is working compost into the soil, and one is tying tomato plants to stakes. Cultivate these clues to find out who is doing what.

Clues

1. Jack and the boy transplanting seedlings are happy when they get a chance to help their grandfather.

2. Jack and the girl staking tomatoes are cousins.
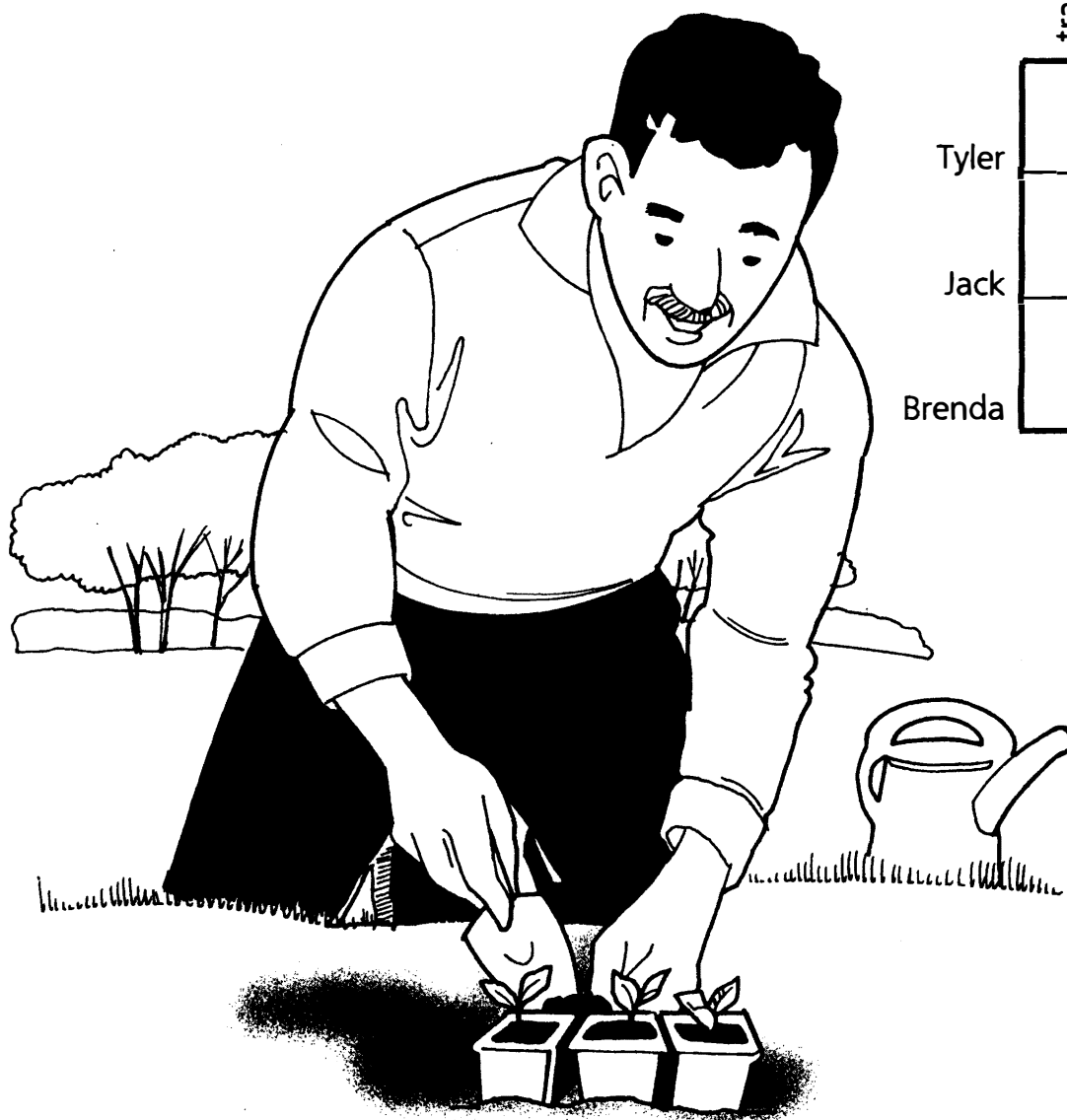
	transplanting	adding compost	staking tomatoes
Tyler			
Jack			
Brenda			

Earth Day

Children helping with the Earth Day celebration were encouraged to wear a T-shirt depicting something about the earth or nature. Janis, Charlie, Nicole, and Ashley wore shirts with hummingbirds, rabbits, the world, and the Rocky Mountains on them. Explore these clues to find out who wore each shirt.

Clues

1. Charlie, the girl who wore the hummingbirds, the girl with the rabbits, and the girl whose shirt portrayed the Rocky Mountains laid out their T-shirts the night before so they wouldn't forget.

2. Janis, Ashley, and the girl with the Rocky Mountains shirt had their moms help them choose the best shirt for Earth Day.

3. The hummingbird shirt was not worn by Janis.

	hummingbirds	rabbits	world	Rocky Mountains
Janis				
Charlie				
Nicole				
Ashley				
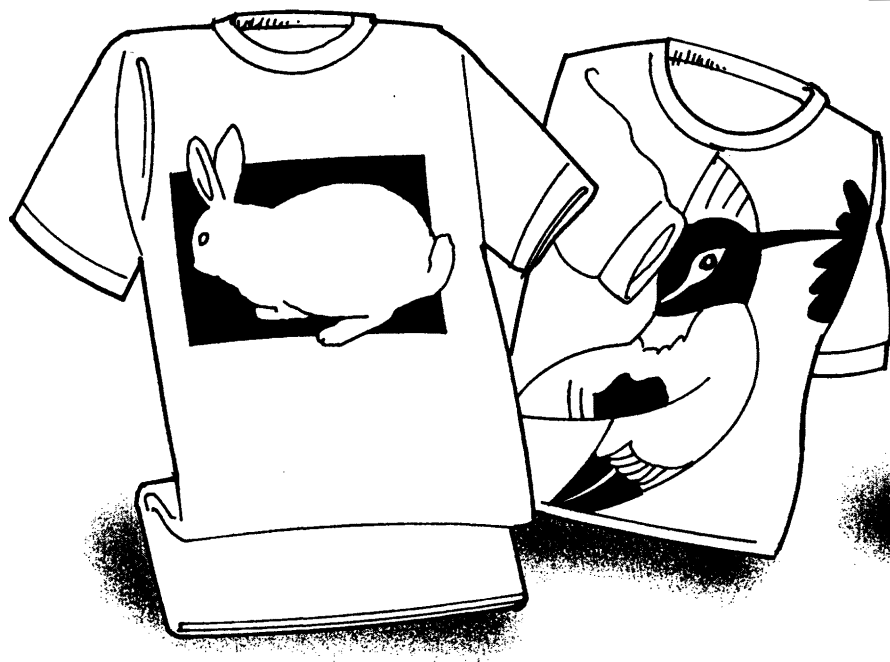
Scrambled Words

Mrs. Harman gave Greg, Vannessa, Brad, and Lauren four letters (I, L, O and S) to arrange into a word. Each came up with a different combination. Their words were *Lois, oils, silo,* and *soil*. Unscramble these clues to find out who came up with which word.

Clues

1. Greg, and the girl forming *Lois*, and the boy who found *silo*, and Lauren were surprised by their classmates' combinations.

2. Lauren did not come up with the word *soil*.

	Lois	oils	silo	soil
Greg				
Vannessa				
Brad				
Lauren				
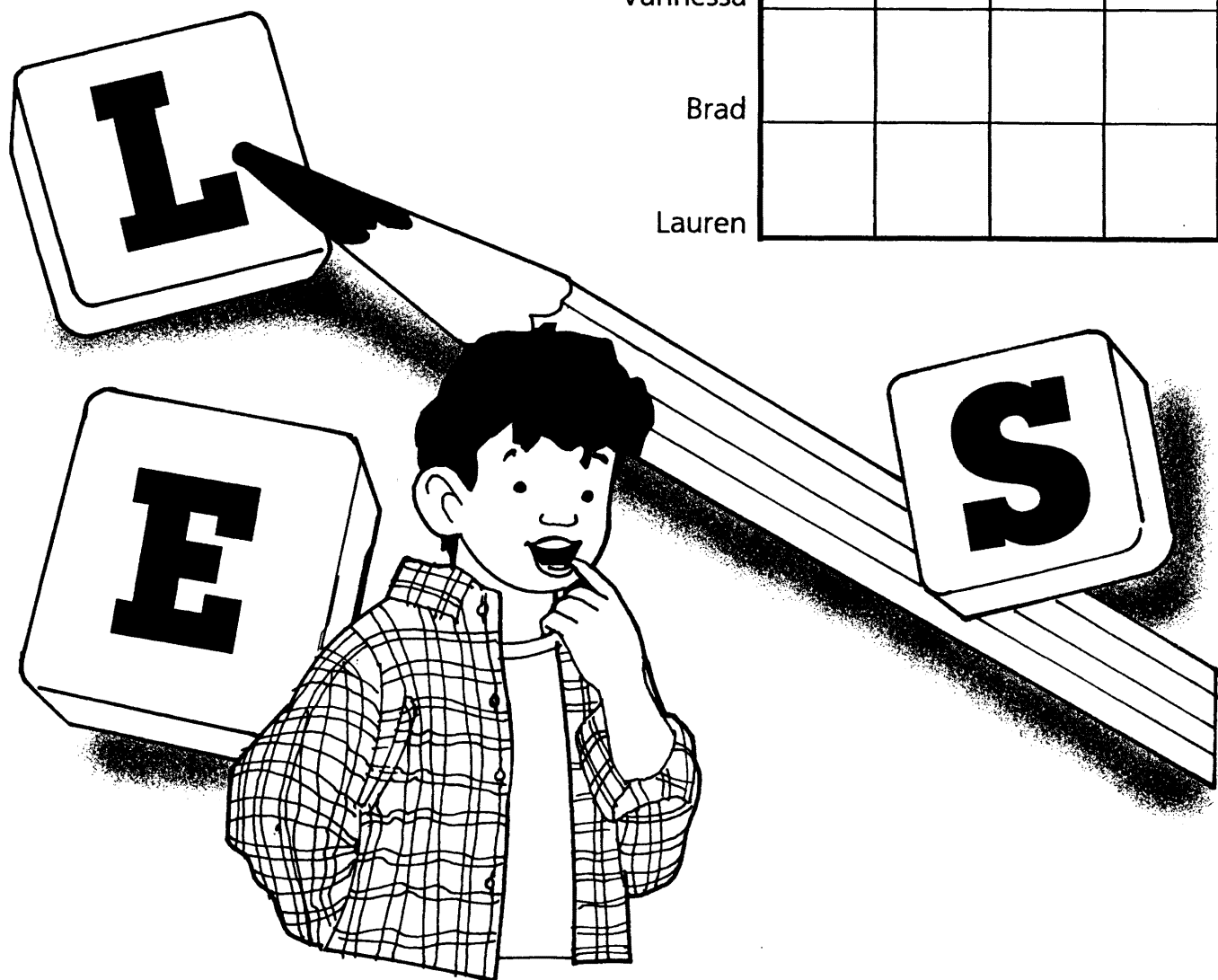
flight

blue***once***moon

L
O
W

Q P Q P
Q P Q P
P P Q P
Q P P P

| LUNCH |

mibear**nd**

1. _____   the best; first-rate

2. _____   very rarely

3. _____   facts or secret information

4. _____   manners, as in mind your . . .

5. _____   something for carrying your lunch

6. _____   to remember and think about

shot	*machine*

hay *needle* stack	*wish* star

S R I A T S	cream

1. _____ an important person
2. _____ a machine to join fabric together
3. _____ something that is hard to find
4. _____ your dreams may come true
5. _____ an upper story or floor of a building
6. _____ a sweet, cold treat

tail	gun salute gun salute
GO **board**	**dimensional** **dimensional**
BANANA BANANA	l e g g e d l e g g e d

1. _____ scurry off or leave quickly
2. _____ an official tribute
3. _____ to do too much or be extravagant
4. _____ having length and width but no depth
5. _____ an ice cream concoction
6. _____ sitting with one leg over the other

corn
cob

m
a
r
k
e
d

dogyou'rehouse

pressure
break

his eyes his stomach

storm

1. _____ corn in its natural state

2. _____ on sale

3. _____ to be in trouble

4. _____ to fall apart

5. _____ took more than he could eat

6. _____ a winter storm

troualwaysble

strung

KƆAᗺ BACK

pancakes
pancakes
pancakes
pancakes

cute
     cute

shoulder

1. _____ continually doing the wrong thing

2. _____ nervous and tense

3. _____ adjacent or following immediately

4. _____ something you'd eat for breakfast

5. _____ extremely attractive

6. _____ to snub or ignore

walk
eggs

ROBIN ROBIN ROBIN ROBIN ROBIN ROBIN

E
L
D
D
A
S

cycle **cycle**
cycle
cycle

wonderaliceland

what's
your mind

1. _____ to be very cautious

2. _____ to take turns in a circle

3. _____ get ready to go

4. _____ a child's vehicle

5. _____ a classic tale by Lewis Carroll

6. _____ What are you thinking about?

women

heart

cajustse

fire
COURAGE

BEN

escape

1. _____ a novel by Louisa May Alcott
2. _____ emotional pain
3. _____ in the event that; if
4. _____ bravery during times of great trouble
5. _____ a famous clock in London
6. _____ just barely getting away

taking BIG	ho ho
hand	c♪a♪rs
DANCE DANCE DANCE DANCE DANCE	R E E H C

1. _____   a large, important project

2. _____   " . . . It's off to work we go."

3. _____   the hand most people write with

4. _____   a party game

5. _____   a dance for four couples

6. _____   to make someone feel better

The Dog Days of Summer

Summer Fitzpatrick loves her dog, Sunshine. She especially likes spending extra time with Sunshine during summer vacation from school. Although Summer does not watch television every day, summer vacation is a great time for her to catch up on watching some of her favorite cartoon shows. Guess what appears in her favorite cartoons—yes, dogs! Read each clue to see if you can match each celebrity dog with the time of day that it appears in one of Summer's favorite cartoons.

Clues:

1. Snoopy appears earlier in the day than Pluto does.
2. Summer almost always eats breakfast sometime between 7:30 a.m. and 9:30 a.m.
3. Scooby-Doo is never on TV during Summer's breakfast.
4. Snoopy and Odie are never seen on a 10:00 a.m. cartoon show.
5. Odie is on a cartoon show earlier in the day than Snoopy's show.
6. Summer almost always eats dinner sometime between 5:00 p.m. and 7:00 p.m.
7. Sometimes Summer watches Scooby-Doo or Underdog while eating dinner.
8. Underdog can be seen later in the day than Scooby-Doo.

Odie	Pluto	Scooby-Doo	Snoopy	Underdog
8:00–9:00 a.m.	8:00–9:00 a.m.	8:00–9:00 a.m.	8:00–9:00 a.m.	8:00–9:00 a.m.
8:30–9:30 a.m.	8:30–9:30 a.m.	8:30–9:30 a.m.	8:30–9:30 a.m.	8:30–9:30 a.m.
10:00–10:30 a.m.	10:00–10:30 a.m.	10:00–10:30 a.m.	10:00–10:30 a.m.	10:00–10:30 a.m.
4:30–5:30 p.m.	4:30–5:30 p.m.	4:30–5:30 p.m.	4:30–5:30 p.m.	4:30–5:30 p.m.
5:30–6:00 p.m.	5:30–6:00 p.m.	5:30–6:00 p.m.	5:30–6:00 p.m.	5:30–6:00 p.m.

Math Bafflers: Logic Puzzles That Use Real-World Math • Grades 3–5

Halloween Haul

It was Halloween—time for trick or treating and the resulting sugar frenzy. To provide a safe area for trick or treating, the city of Hagatha held a party for kids at the community center. After stopping at various spooky displays, playing games at the booths, and gathering treats at each stop, three girls had quite a selection of sweet treats. No girl had the same amounts of caramels, chocolate chunks, or gumdrops. (Hint: That means that if someone had 15 caramels, then she did not have 15 chocolate chunks or 15 gumdrops, so remember to cross out those options.) Use the clues to deduce how many of each type of candy each girl took home.

Clues:

1. Jellie had twice as many chocolate chunks as caramels.
2. Lollie had twice as many gumdrops as chocolate chunks.
3. Candi had twice as many caramels as gumdrops.
4. Jellie had more gumdrops than Lollie.

Candi Barr	Jellie Beane	Lollie Popp
15 caramels	15 caramels	15 caramels
30 caramels	30 caramels	30 caramels
60 caramels	60 caramels	60 caramels
15 chocolate chunks	15 chocolate chunks	15 chocolate chunks
30 chocolate chunks	30 chocolate chunks	30 chocolate chunks
60 chocolate chunks	60 chocolate chunks	60 chocolate chunks
15 gumdrops	15 gumdrops	15 gumdrops
30 gumdrops	30 gumdrops	30 gumdrops
60 gumdrops	60 gumdrops	60 gumdrops

Show Me the Talent!

Mr. Hastings, the school band director, invited students to perform solos during a special Talent Week. Students were eager to show their capabilities, but hesitant to be the first to perform. Two girls (Betty and Meg) and three boys (Lee, Tim, and Scott) played on Thursday. Can you use the clues to figure out the order in which the students played their solos, and which instrument each one played?

Clues:

1. Tim played before Scott.
2. Neither Scott nor Tim played tuba or piano.
3. Meg did not play trumpet.
4. A boy played the piano.
5. Betty did not use her mouth to play her instrument.
6. Meg played immediately before the pianist and immediately after the flutist.
7. A girl performed last.
8. The first soloist did not play the flute.

Betty	Lee	Meg	Scott	Tim
first	first	first	first	first
second	second	second	second	second
third	third	third	third	third
fourth	fourth	fourth	fourth	fourth
fifth	fifth	fifth	fifth	fifth
flute	flute	flute	flute	flute
percussion	percussion	percussion	percussion	percussion
piano	piano	piano	piano	piano
trumpet	trumpet	trumpet	trumpet	trumpet
tuba	tuba	tuba	tuba	tuba

I Can "Ad" Fractions

Mrs. Crouse, the Media Center Specialist, is considering ordering several new magazines at school. She received five sample magazines, each of which had 60 pages. She asked three girls (Courtney, Morgan, and Shannon) and two boys (Ellis and Riley) each to evaluate a magazine and to note how many pages of advertisements and articles that magazine contained. Mrs. Crouse was seeking magazines with a higher number of articles, and not so many ads. Use the clues to determine how many pages of ads and articles each student found.

First, calculate the fractions for how much of the 60-page magazine each page count makes up. (For example, 30 pages is $\frac{1}{2}$.) Do this by dividing the number of ads and articles by 60, the number of pages. You will get a decimal as an answer. Convert the decimal to a fraction. Some of these are done for you. Write the correct fractions in the column beside the number of ads and articles. (Hint: This fraction will mean how much of the whole magazine is taken up by ads or articles. That means that if somebody does not have $\frac{2}{5}$ of a magazine's worth of ads, then that person also does not have a magazine that is $\frac{3}{5}$ articles, because the articles and ads should add up to $\frac{5}{5}$, or one whole magazine.) For example, 6 pages of ads from a 60-page magazine is $\frac{6}{60}$ or $\frac{1}{10}$.

Clues:

1. Ellis is not the one who found that $\frac{1}{4}$ of a magazine was ads.
2. One student discovered that her magazine had articles on $\frac{5}{6}$ of the pages.
3. Courtney is not the student who counted $\frac{1}{12}$ or $\frac{1}{6}$ of a magazine as ad pages.
4. Ellis counted fewer pages of ads than Shannon, who counted fewer than Morgan.
5. Riley is not the one who evaluated the magazine with $\frac{1}{4}$ ads.
6. Morgan counted more pages of articles than Riley.
7. Courtney did not count $\frac{1}{5}$ pages of ads.

	Courtney	Ellis	Morgan	Riley	Shannon	Fraction
Number of Ad Pages	5	5	5	5	5	$\frac{1}{12}$
	10	10	10	10	10	$\frac{1}{6}$
	12	12	12	12	12	_____
	15	15	15	15	15	_____
	20	20	20	20	20	_____
Number of Article Pages	40	40	40	40	40	_____
	45	45	45	45	45	_____
	48	48	48	48	48	_____
	50	50	50	50	50	$\frac{5}{6}$
	55	55	55	55	55	$\frac{11}{12}$

Math Bafflers: Logic Puzzles That Use Real-World Math • Grades 3–5

New Kids on the Block

Five neighbors have moved to Amarillo within the past 6 years. Each one is a different age, and each has lived in Amarillo a different length of time. Use the clues to determine each child's age and how long he or she has lived in Amarillo.

Clues:

1. Joshua is twice as old as Camryn.
2. Joshua has lived in Amarillo half as long as Petra.
3. Lydia is half as old as Ozzie, and Ozzie is half as old as Petra.
4. Ozzie has lived in Amarillo half as long as Lydia.
5. Petra has lived in Amarillo 3 years longer than Joshua, who has lived in Amarillo 1 year longer than Lydia.

	Camryn	Joshua	Lydia	Ozzie	Petra
Age in Years	4	4	4	4	4
	6	6	6	6	6
	8	8	8	8	8
	12	12	12	12	12
	16	16	16	16	16
Years in Amarillo	1	1	1	1	1
	2	2	2	2	2
	3	3	3	3	3
	4	4	4	4	4
	6	6	6	6	6

Breakfast Buddies

Four neighbor girls meet at one another's houses for breakfast on Thursday mornings before school. Last Thursday, they had cereal squares and fruit. Use the clues to determine how many cereal squares and how many pieces of fruit each person consumed for breakfast.

Clues:

1. Cass had ⅓ as many fruit pieces as she had cereal squares.
2. Dominique had three fewer fruit pieces than Suzette.
3. Suzette had ½ as many fruit pieces as she had cereal squares.
4. Elianna had three fewer fruit pieces than Cass.
5. Dominique had ⅓ as many fruit pieces as she had cereal squares.

	Cass	Dominique	Elianna	Suzette
Cereal	18 squares 24 squares 27 squares 30 squares	18 squares 24 squares 27 squares 30 squares	18 squares 24 squares 27 squares 30 squares	18 squares 24 squares 27 squares 30 squares
Fruit	3 banana slices 6 strawberries 9 raisins 12 blueberries	3 banana slices 6 strawberries 9 raisins 12 blueberries	3 banana slices 6 strawberries 9 raisins 12 blueberries	3 banana slices 6 strawberries 9 raisins 12 blueberries

Let's Party

Four friends all have birthdays in July (on the 1st, the 19th, the 23rd, and the 28th). This year they compared everything about their birthdays, including what gifts they received, what their families did on their special day, what they ate, cards they received, and who was there to celebrate with them. Use the clues to discover how many birthday cards each friend received and how many people attended his or her birthday celebration.

Clues:

1. Glenda received two fewer birthday cards than Adrian.
2. The one who had five people over for his or her birthday got 18 cards.
3. Brianna had two more guests at her party than Leonard.
4. The one who received 12 cards had seven guests over for the party.
5. Leonard received two fewer cards than Brianna.
6. The one with three guests at the party did not have 14 cards.
7. Glenda had two more guests at her party than Brianna had at hers.

	Adrian	Brianna	Glenda	Leonard
Birthday Cards	12 14 16 18	12 14 16 18	12 14 16 18	12 14 16 18
Guests at Celebration	three five seven nine	three five seven nine	three five seven nine	three five seven nine

Number Puzzle

Fill in the blanks with the numbers 3 and 5. Each row and column must equal to 21.

|				
3				**5**
		3		
5				**5**
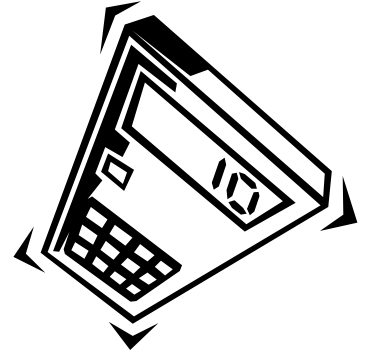
Donny Miller
Oak Brook, IL
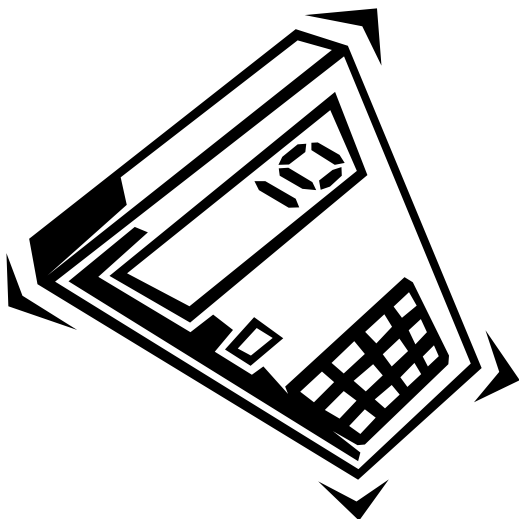
Brain Boggler

My first letter is in dog but not in frog.
My sixth letter is in fin but not in fun.
My second letter is in log but not in fling.
My seventh letter is in dinner but not in digger.
My third letter is in long but not in wrong.
My fifth letter is in thing but not in string.
My fourth letter is in pond but not in fond.
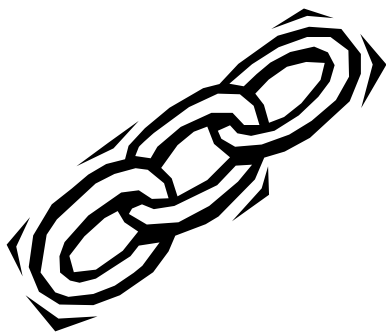What am I?

Brandon Wilson
Midland, TX

Galaxy Game

Using the ten dots, connect four in a row five times without lifting your pencil.
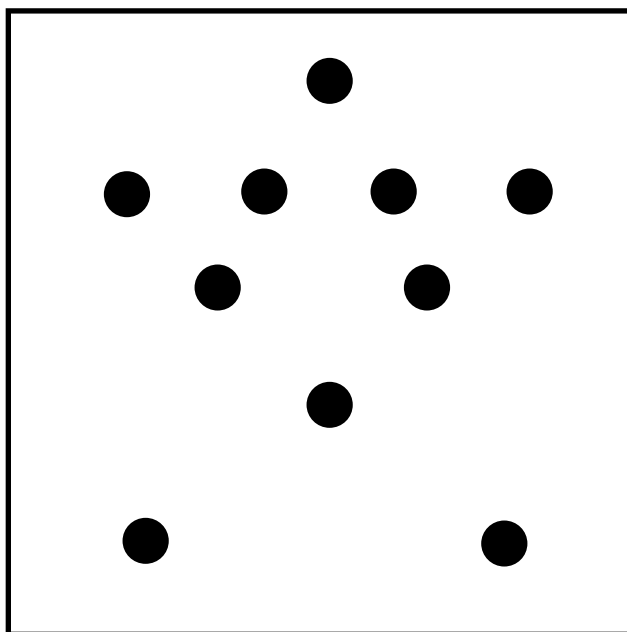
David Charpentier
West Allis, WI

Chain Link

Write a word in the space next to the clue. The last two letters of each word are the first two letters of the following word.

1. Something that erupts   _ _ _ _ _ _ _ _
2. _____, South, East, West   _ _ _ _ _
3. The chair of a king   _ _ _ _ _ _
4. Not old   _ _ _
5. A female sheep   _ _ _
6. Snow, hail, rain, sunshine   _ _ _ _ _ _ _ _
7. To wipe out   _ _ _ _ _
8. Oceans   _ _ _ _
9. To question   _ _ _
10. A short board with wheels   _ _ _ _ _ _ _ _ _ _

Travis Vignali
Menasha, WI

Making Connections

What is the word that comes before or after each of the three words in each group to make a compound word or a common two-word phrase?

1. room   tub   mat   _____
2. fall   park   lily   _____
3. ice   soda   lolli   _____
4. skate   hockey   berg   _____
5. bath   bed   living   _____
6. bow   coat   forest   _____
7. base   basket   foot   _____
8. hair   blow   air   _____
9. stop   knob   hinge   _____
10. milk   mail   post   _____

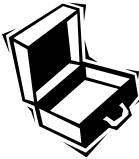*Jacque Jackson*
Midland, TX

Hidden Places

In every sentence, there is a name of a country or state hidden in the words. Find the name and underline it.

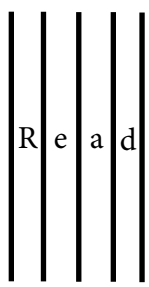**Example: "The <u>unit," Ed states</u>, "is science."**

1. When we went hiking, we took a mug and a backpack.
2. A large or giant animal was the least of our worries.
3. We saw a cub and a turtle on our trip.
4. Leopards are scarce, but that kind of animal, I have seen before.
5. Is that guy an animal?
6. Tom's pain in his back prevented him from going to the woods.
7. We went to the beach in a boat.
8. We were washing tons of clothes when we returned from the beach.
9. In Diana's car, I found the keys that we thought were lost.

Caitlin Peterson
Castleton, NY

Pictures Worth A Thousand Words

1 F$_L$O$_O$R$_S$E$_T$ST	2 Show	3 TFARD

Kayla Cochran, Thomas Teets, and Nathan Cogar, Arthurdale, WV

4 PIECES	5 i	6 R e a d

Maggie Acuna and Sarah Gitelis, Oak Brook, IL

7 poppd	8 2 Future	9 Spring Fall

Stephanie Harrell, Hendersonville, TN

Ad Lib

Find a friend and ask him or her to give you:

1. girl's name
2. noun
3. holiday
4. adjective ending in est

5. place
6. adjective
7. verb
8. adjective

9. store
10. number
11. boy's name

Write the words your friend gives you on the assigned spaces. Read back the story to your friends and get ready to laugh!

Dear Aunt _____ ,
girl's name

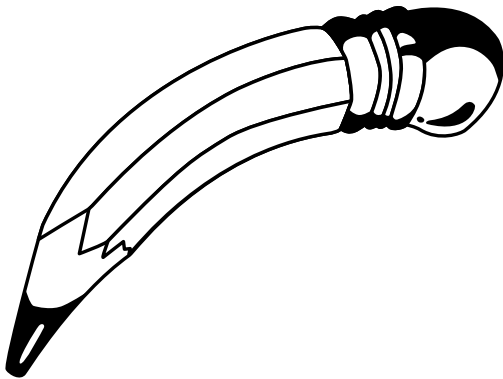   Thank you for the _____ that you got me for _____ . It must be the _____
noun   holiday   adjective ending in est

present in _____ ! It is so _____ ! I've never had a toy that could _____ . All
place   adjective   verb

the kids in school have this _____ toy. I bet that you bought it at _____ . I've seen _____
adjective   store   number

commercials on it. Thank you again.

                  Your nephew,

                  _____
                  boy's name

Jacquelyn S. Hatch
Utica, OH

Brain Boggler

On January 1, a girl said to a boy, "Two days ago, I was 7, but next year I'll be 10." She was telling the truth. Try to figure out how this could be possible.

Pamela Massey
San Antonio, TX

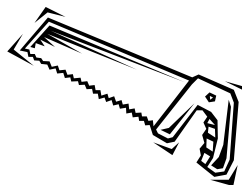# Scrambled States

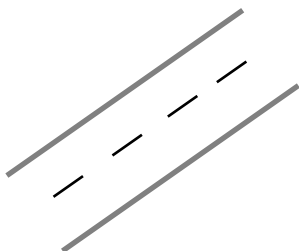### Use the clues to discover the state names.

1

R + <image of can> + <image of saw>

2

+ <image of van> + **Ya**

3

+ <image of eye> + <image of sunset landscape>

Nithya Vaduganathan, Houston, TX

On the Job

Jessica Dunn
Sugar Land, TX

Five girls were planning to get together on Friday night for a party. Each said that she would come if no other plans came up. By some coincidence, however, all five of them received calls for babysitting jobs that night. None of them had much money, therefore, all five girls chose to babysit. Each girl went to a different residence and played a different game. Each of them also watched a different movie and ate a different snack. Using the clues, determine the residence each girl went to, the movie each watched, the game each played, and the snack each ate?

1. Brenda didn't watch a movie with her first initial in its name. She babysat for the Saphins once, but they never called again.
2. Either Laura or Rachel went to the Dunhi residence; the other played *Aggravation.* Emily either played checkers or went to the Davis residence.
3. The girl who played *Aggravation* went to the Alrich residence. The girl who went to the Nebori residence either played *Life* or checkers. The girl who played checkers didn't babysit for a family starting with the letter D.
4. Emily played either checkers or *Sorry!* The girl who ate chips was either Brenda or Emily.
5. The girl at the Davis house watched either *The Secret Garden* or *Sleepless in Seattle.* Laura ate either popcorn or chips. Emily ate either peanuts or chips.
6. Rachel watched a Disney animated movie. The girl who ate chips doesn't like anything related to Disney.
7. Brenda doesn't like to wait for food to be prepared in the microwave. Laura is allergic to chocolate.
8. Either Rachel or Laura played *Aggravation*; the other played *Sorry!* Laura didn't watch *Aladdin*. The girl who played *Sorry!* watched *Beauty and the Beast*.
9. Emily hates animated movies because the events and characters seem fake to her.
10. The girl who watched *The Secret Garden* ate a candy bar and was either Jennifer or Laura. Brenda didn't watch a movie set in Seattle, or an animated movie.
11. Rachel's mother doesn't like her to eat any thing sweet unless it's also healthy for her.

	Alrich	Nebori	Saphin	Dunhi	Davis	Checkers	Sorry!	Clue	Life	Aggravation	Garden	Home Alone	Aladdin	Beauty	Seattle	Candy Bar	Chips	Peanuts	Cookies	Popcorn
Brenda																				
Jennifer																				
Laura																				
Rachel																				
Emily																				

Five Dice

Number of Players	any number
Object	To use various mathematical operations to reach a target number
Materials	5 dice 1-minute timer paper pencil
Playing the Game	1. One player is chosen to be the timekeeper. The first player rolls one of the dice. The number that turns up becomes the target number. 2. The first player then rolls the other four dice. The timekeeper starts the timer. Players have one minute (or some other agreed-upon amount of time) to use all four working numbers on those dice to calculate the target number in some way. Calculations must be written on paper.

For example suppose the target number is 5, and the other four dice are 1, 4, 3, and 3. One player might reach the target number by adding 1 and 4 to get 5, multiplying by 3 to get 15, and then dividing by 3. Another player might multiply 4 times 3 to get 12, then divide by 3 to get 4, and add 1.

3. Each player who calculates a way to reach the target number earns a number of points equal to the target number. If players can reach the target number in more than one way, they earn an extra point for each additional calculation.

Five Dice *(continued)*

Playing the Game

4. Dice are then passed to the next player, who rolls a new target number and a new set of working numbers. The player with the highest number of points at the end of the game is the winner.

Variations

1. For higher target numbers, players may roll two dice and add or multiply them.
2. For a more competitive version of the game, have the first person who correctly calculates the target number score a bonus point.

98

MADS

Multiply, Add, Divide, Subtract

Number of Players	2 to 5
Object	To use various calculations to reach a target number
Materials	1 or 2 decks of playing cards paper pencil
Playing the Game	1. Remove all the face cards from one or two decks of playing cards. Players sit in a circle. One player shuffles the cards and deals four cards face down to each player. 2. The dealer turns up the next card in the deck and places it in the center of the table. The number on that card becomes the target number. 3. Using the basic operations, players attempt to use all four numbers on their cards to calculate the target number in some way. Suppose the target number is 8 and a player's cards are 9, 4, 3, and an ace. The player might reach the target number by adding 1 and 3 to get 4, dividing 4 by 4 to get 1, and then subtracting 1 from 9 to reach the target. 4. The first player to figure out a way to reach the target number with all four of his cards places them face up on the table and says "MADS!" All other players must immediately place their cards face down on the table. The player then shows everyone the calculation with the cards. If the calculation is correct, the round is over. The player puts the four cards aside in his scoring pile. The dealer gives the winning player four new cards and turns up a new target card for the next round of play.

MADS (continued)

Playing the Game

5. If the player's calculation is incorrect, the player must give one card from his hand to each of the other players to be placed in their scoring pile. At the dealer's signal, the remaining players continue trying to reach the target number. The player who was incorrect may not participate for the remainder of the round. At the end of the round, the dealer replenishes that player's hand from the deck.

6. In case of a tie—if two players call "MADS!" simultaneously—both players must explain their calculations. If both are correct, each player gets to put two cards in his scoring piles, and the dealer gives each player two new cards. If only one is correct, that player puts all four cards in his scoring pile, and the other player must distribute a card to each player. If neither player is correct, each of them must give a card to the other players. The dealer replaces cards as needed at the end of the round.

7. If no one can reach the target number with the cards in their hands, the dealer places the target card at the bottom of the deck and turns over a new target number.

8. Play continues until there are no longer enough cards to play another round. Players then count the number of cards in their scoring piles. The player with the most cards is the winner.

Variations

1. Leave the four jacks in the deck. These are wild cards, and may be used to represent any number from 1 to 10. If the dealer turns up a jack as a target number, he simply places it at the bottom of the deck and turns over a new card.

2. Players may play with a full deck, assigning the following values:

   Jack = 11
   Queen = 12
   King = 13

Answer Key

1. Birthday Bash, pg. 3
Lyle - miniature golf
Ryan - pizza parlor
Troy - roller rink

2. Swimming Lessons, pg. 4
Steve - pennies
Ted - treading water
Andy - diving board

3. After School, pg. 5
Daralynn - puzzles
Kevin - yo-yo
Tara - jump rope

4. Spring Musical, pg. 6
Megan - rose bud
Adam - fisherman
Jeff - baseball player

5. Aluminum Can Drive, pg. 7
Carla - 3 bags
Patrick - 5 bags
Justin - 2 bags

6. Helping In Grandfather's Garden, pg. 8
Tyler - transplanting
Jack - adding compost
Brenda - staking tomatoes

7. Earth Day, pg. 9
Janis - rabbits
Nicole - Rocky Mountains
Charlie - world
Ashley - hummingbirds

8. Scrambled Words, pg. 10
Greg - soil
Vannessa - Lois
Brad - silo
Lauren - oils

Page 11
1. top flight
2. once in a blue moon
3. low down
4. p's and q's
5. lunch box
6. bear in mind

Page 12
1. big shot
2. sewing machine
3. needle in the haystack
4. wish on a star
5. upstairs
6. ice cream

Page 13
1. high tail
2. 21-gun salute
3. go overboard
4. two dimensional
5. banana split
6. cross legged

Page 14
1. corn on the cob
2. marked down
3. you're in the doghouse
4. break under pressure
5. his eyes are bigger than his stomach
6. snow storm

Page 15
1. always in trouble
2. high strung
3. back to back
4. stack of pancakes
5. too cute
6. cold shoulder

Page 16
1. walk on eggs
2. round robin
3. saddle up
4. tricycle
5. Alice in Wonderland
6. what's on your mind

Page 17
1. Little Women
2. heartbreak
3. just in case
4. courage under fire
5. Big Ben
6. narrow escape

Page 18
1. big undertaking
2. hi ho hi ho
3. right hand
4. musical chairs
5. square dance
6. cheer up

Use these solutions to check your work.

Solutions are described step by step in the same order their clues appear. Please note that these solutions demonstrate the author's reasoning. You can use a different path of thinking and still get correct solutions.

The introductions, charts, and clues included with each puzzle contain sufficient information to solve it. However, the logic required to solve some puzzles can be challenging. You may need more information to use a clue, so read the clues several times. If you are baffled, use the descriptions for help. Do not guess. Find information to verify your thinking.

Brackets indicate that relevant information was taken from an earlier clue. For example, [3] means that information from Clue 3 is being used. The use of parentheses or the notation "(only one)" indicates that this option is the only one remaining in a column or row, and you should circle it.

The Dog Days of Summer

Clue 1: Snoopy is not on from 5:30–6:00. Pluto is not on from 8:00–9:00.
Clue 2: Use information later.
Clue 3: Scooby-Doo is not on at breakfast [2], so he is not on from 8:00–9:00 or 8:30–9:30.
Clue 4: Snoopy is not on from 10:00–10:30. Odie is not on from 10:00–10:30.
Clue 5: Odie is not on from 5:30–6:00. Snoopy is not on from 8:00–9:00.
Clue 6: Use information later.
Clue 7: Underdog and Scooby-Doo are on during dinner [6], so they are on from either 4:30–5:30 or 5:30–6:00. Eliminate Odie, Pluto, and Snoopy from those two times. Snoopy is on from 8:30–9:30 (only one). Then Odie is on from 8:00–9:00, and Pluto is on from 10:00–10:30 (only ones).
Clue 9: Underdog is on from 5:30–6:00, and Scooby–Doo is on from 4:30–5:30.
Answers: Odie, 8:00–9:00; Pluto, 10:00–10:30; Scooby-Doo, 4:30–5:30; Snoopy, 8:30–9:30. Underdog, 5:30–6:00.

Halloween Haul

Clue 1: Jellie did not have 15 chocolate chunks or 60 caramels.
Clue 2: Lollie did not have 15 gumdrops or 60 chocolate chunks.
Clue 3: Candi did not have 15 caramels or 60 gumdrops.

Clue 4: Jellie did not have the fewest gumdrops (she had more than Lollie), so she did not have 15. Lollie did not have the most gumdrops. Then Lollie had 30 gumdrops (only one), Candi had 15 (only one), and Jellie had 60 (only one).

Further Reasoning: No girl had the same amount of each candy [Intro], so Candi did not have 15 chocolate chunks, Jellie did not have 60 chocolate chunks, and Lollie did not have 30 caramels or 30 chocolate chunks. You can see that Candi had 60 chocolate chunks, Jellie had 30 chocolate chunks, and Lollie had 15 chocolate chunks (only ones). Candi could not have 60 caramels [Intro], so she had 30. Jellie had 15 caramels, and Lollie had 60 caramels (only ones).

Answers: Candi, 30 caramels, 60 chocolate chunks, 15 gumdrops; Jellie, 15 caramels, 30 chocolate chunks, 60 gumdrops; Lollie, 60 caramels, 15 chocolate chunks, 30 gumdrops.

Show Me the Talent!

Clue 1: Tim did not play fifth. Scott did not play first.

Clue 2: Scott did not play piano or tuba. Tim did not play piano or tuba.

Clue 3: Meg did not play trumpet.

Clue 4: Piano was not Betty's or Meg's instrument [Intro, girls]. It was not Tim's or Scott's [2], so Lee played piano (only one).

Clue 5: Betty did not play flute, trumpet, or tuba, because they require a mouthpiece. She did not play piano [4], so she played percussion (only one). Meg played tuba (only one).

Clue 6: Meg was not first or fifth. Piano was not the first or second instrument played, and flute was not fourth or fifth. Lee played piano, so he was not first or second.

Clue 7: There are only two girls. Meg was not fifth [6], so Betty was fifth. Tim played first (only one).

Clue 8: Tim was first [7], so he did not play flute. He played trumpet, and Scott played flute (only ones).

Further Reasoning: The order [6] was flute [7, Scott], then Meg, then piano [4, Lee], so Scott played second, Meg played third, and Lee played fourth.

Answers: Betty, fifth, percussion; Lee, fourth, piano; Meg, third, tuba; Scott, second, flute; Tim, first, trumpet.

I Can "Ad" Fractions

Calculations: For ad pages, 5 pages = $\frac{1}{12}$; 10 pages = $\frac{1}{6}$; 12 pages = $\frac{1}{5}$; 15 pages = $\frac{1}{4}$; and 20 pages = $\frac{1}{3}$. For article pages, 40 pages = $\frac{2}{3}$; 45 pages = $\frac{3}{4}$; 48 pages = $\frac{4}{5}$; 50 pages = $\frac{5}{6}$; and 55 pages = $\frac{11}{12}$.

Clue 1: Ellis did not count 15 pages (¼) of ads, so he did not count 45 pages (¾) of articles.

Clue 2: The clue says "her" magazine was ⅚ (50 pages) articles, so it is not Ellis or Riley [Intro, boys], and Riley and Ellis did not count ⅙ (10 pages) ads.

Clue 3: Courtney's magazine was not $\frac{1}{12}$ (5 pages) or ⅙ (10 pages) ads, so it also was not $\frac{11}{12}$ (55 pages) or ⅚ (50 pages) articles.

Clue 4: Ellis did not count 15 pages (¼) or 20 pages (⅓) of ads [1], so he did not count 45 pages [1] or 40 pages (⅔) of articles. Shannon did not count 5 pages ($\frac{1}{12}$) or 20 pages (⅓) of ads, so she also did not count 55 pages ($\frac{11}{12}$) or 5 pages ($\frac{1}{12}$) of articles. Morgan did not count 5 pages ($\frac{1}{12}$) or 10 pages (⅙) of ads, so also did not count 50 pages (⅚) or 55 pages ($\frac{11}{12}$) of articles.

Clue 5: Riley did not count ¼ (15 pages) ads, so he also did not count ¾ (45 pages) articles.

Clue 6: Morgan did not count 40 pages (⅔) of articles (has more than Riley), and she did not count 50 pages (⅚) or 55 pages ($\frac{11}{12}$) [4], so she counted 48 pages (⅘) or 45 pages (¾) of articles. Riley did not count 55 pages ($\frac{11}{12}$) of articles (has less than Morgan), did not count 50 pages (⅚) [2], did not count 45 pages (¾) [5], and could not have counted 48 pages (⅘) of articles (Morgan's highest), so he must have counted 40 pages (⅔; only one) of articles and 20 pages (⅓) of ads.

Further Reasoning: Then Ellis counted 5 pages of ads and 55 pages of articles (only one). Shannon counted 10 pages of ads and 50 pages of articles (only one).

Clue 7: Courtney did not count ⅕ (12 pages), so Morgan counted ⅕ (12 pages) ads, meaning ⅘ articles. Then Courtney counted ¼ (15 pages) ads (only one), so she also counted ¾ (45 pages) articles.

Answers: Courtney, 15 pages (¼) ads, 45 pages (¾) articles; Ellis, 5 pages ($\frac{1}{12}$) ads, 55 pages ($\frac{11}{12}$) articles; Morgan, 12 pages (⅕) ads, 48 pages (⅘) articles; Riley, 20 pages (⅓) ads, 40 pages (⅔) articles; Shannon, 10 pages (⅙) ads, 50 pages (⅚) articles.

New Kids on the Block

Clue 1: Joshua is not 4 or 6 years old, and Camryn is not 12 or 16 years old.

Clue 2: Joshua has not been in town 4 or 6 years, and Petra has not been there 1 or 3 years.

Clue 3: Lydia is not 12 or 16 years old, and Ozzie is not 4 or 6 years old. Ozzie is not 12 or 16 years old, so he is 8 years old. Then Lydia is 4 years old, and Petra is 16 years old. Camryn is 6 years old, and Joshua is 12 years old (only ones).

Clue 4: Lydia has not been in town 1 or 3 years, and Ozzie has not been there 4 or 6 years.

Clue 5: If Lydia has been in town 1 year, then Joshua has been there 2 years and Petra has been there 5 years (not a choice). This means Lydia has been there 2 years, Joshua has been there 3 years (half of Petra) [2], and Petra has been there 6 years. Then Ozzie has been in town 1 year (half of Lydia) [5], and Camryn has been in town 4 years (only one).

Answers: Camryn, age 6, 4 years in town; Joshua, age 12, 3 years in town; Lydia, age 4, 2 years in town; Ozzie, age 8, 1 year in town; Petra, age 16, 6 years in town.

Breakfast Buddies

Clue 1: Cass had either 18 cereal squares and 6 pieces of fruit or 27 cereal squares and 9 pieces of fruit. She did not have 24 or 30 cereal squares or 3 or 12 pieces of fruit.

Clue 2: Suzette did not have 3 pieces of fruit. Dominique did not have 12 pieces of fruit.

Clue 3: Suzette had either 24 cereal squares and 12 pieces of fruit or 18 cereal squares and 9 pieces of fruit. She did not have 27 or 30 cereal squares or 6 pieces of fruit.

Clue 4: Cass did not have 3 or 12 pieces of fruit [1], so Elianna did not have 12 or 9 pieces of fruit. Then Suzette had 12 blueberries (only one).

Clue 5: Dominique had either 18 cereal squares and 6 pieces of fruit or 27 cereal squares and 9 pieces of fruit. She did not have 24 or 30 cereal squares or 3 bananas. Then Elianna had 3 banana slices (only one).

Further Reasoning: Reviewing Clue 2, Suzette had 12 pieces of fruit [4], so Dominique had 9 raisins, and Cass had 6 strawberries (only ones). Reviewing Clue 3, Suzette had 12 pieces of fruit, so she had 24 cereal squares. Reviewing Clue 5, Dominique had 9 pieces of fruit, so she had 27 cereal squares. Then Elianna had 30 cereal squares and Cass had 18 cereal squares (only ones).

Answers: Cass, 18 cereal squares, 6 strawberries; Dominique; 27 cereal squares, 9 raisins; Elianna, 30 cereal squares, 3 banana slices; Suzette; 24 cereal squares, 12 blueberries.

Let's Party

Clue 1: Adrian did not get 12 cards. Glenda did not get 18 cards.

Clue 2: Glenda did not get 18 cards, so she did not have five people at the celebration.

Clue 3: Brianna did not have three guests. Leonard did not have nine guests.

Clue 4: Adrian did not get 12 cards [1], so he did not have seven guests.

Clue 5: Brianna did not get 12 cards. Leonard did not get 18 cards. Then Brianna did not have seven guests [4], and Leonard did not have five guests [2].

Clue 6: Use information later.

Clue 7: Glenda did not have three guests. Brianna did not have nine guests. Brianna had five guests (only one). Then Leonard had three guests [3], Glenda had seven guests, and Adrian had nine guests (only one).

Further Reasoning: Reviewing Clue 2, Briana had five guests, so she got 18 cards. Reviewing Clue 4, Glenda had seven guests, so she got 12 cards. Then Adrian got 14 cards [1]. Leonard got 16 cards [5] (only one).

Answers: Adrian, 14 cards, nine guests; Brianna, 18 cards, five guests; Glenda,
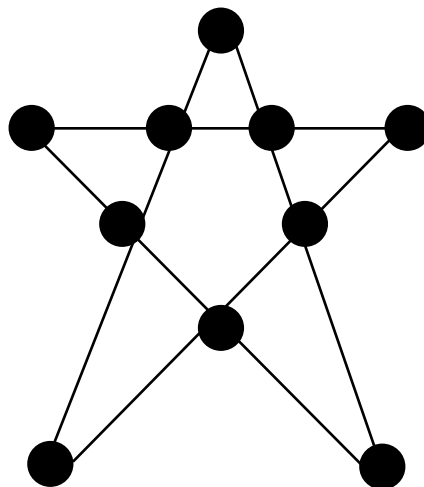
Number Puzzle

3	3	5	5	5
5	5	5	3	3
5	3	3	5	5
3	5	5	5	3
5	5	3	3	5

This is one solution. Answers may vary.

Brain Boggler

dolphin

Galaxy Game

Chain Link

1. volcano; 2. North; 3. throne; 4. new; 5. ewe; 6. weather; 7. erase; 8. seas; 9. ask; 10. skateboard

Making Connections

1. bath; 2. water; 3. pop; 4. ice; 5. room; 6. rain; 7. ball; 8. dryer; 9. door; 10. man

Hidden Places

1. When we went hiking, we took a m**ug and a** backpack.
2. A lar**ge or gia**nt animal was the least of our worries.
3. We saw a **cub a**nd a turtle on our trip.
4. Leopards are scarce, but that kind of ani**mal, I** have seen before.
5. Is that **guy an a**nimal?
6. Tom'**s pain** in his back prevented him from going to the woods.
7. We went to the bea**ch in a** boat.
8. We were **washing ton**s of clothes when we returned from the beach.
9. **In Dia**na's car, I found the keys that we thought were lost.
or
9. **In Diana**'s car, I found the keys that we thought were lost.

Pictures Worth A Thousand Words

1. lost in the forest; 2. showcase; 3. backdraft; 4. broken pieces; 5. eye shadow; 6. read between the lines; 7. two peas in a pod; 8. back to the future; 9. spring forward, fall back

Brain Boggler

The girl's birthday is December 31.

Scrambled States

1. Arkansas; 2. Pennsylvania; 3. Rhode Island

On the Job

Brenda: Nebori, *Life*, *Home Alone*, cookies; Jennifer: Davis, *Clue*, *Secret Garden*, candy bar; Laura: Dunhi, *Sorry!*, *Beauty and the Beast*, popcorn; Rachel: Alrich, *Aggravation*, *Aladdin*, peanuts; Emily: Saphin, checkers, *Sleepless in Seattle*, chips