

## Instructions

In Perplexors, we have devised a worksheet that is simplicity itself. In our research, we have discovered that the biggest obstacle anyone doing logic problems has to overcome is keeping track of the information given by the clues. Other logic workbooks require the solver to work with or create a matrix and use “X’s” and “O’s” to keep track of information. This works, but we have found that it does not work very well for most children. Instead, we have discovered that if you list all the possibilities in any category and simply cross off the eliminated possibilities as you get them from the clues, you see the information organizing itself in front of your eyes. Suddenly, all is revealed clearly and the solver can concentrate on thinking. When an answer is known for sure, you circle it and cross off that answer everywhere else, and also cross off any remaining possibilities in that particular category. The best way to learn the method is to work one or two puzzles yourself. Get out a pencil and use the “cross out” and “circle” technique on the sample puzzle below.

### CAT COUNTRY

Bill, Bob and Bel owned cats with three different names. Their names were Tabby, Flabby and Crabby. The cats wore three different colored collars. Their collars were red, yellow and blue. The cats suffered from three different afflictions: fleas, hairballs and depression. Based on the clues, match the owners with their cat’s names, their collar colors and their afflictions.

### THE CLUES

1. Flabby and Crabby were not depressed.
2. Bill and Bob did not own Tabby.
3. The cat in red was depressed.
4. Bob’s cat did not wear blue or have fleas.
5. Flabby had fleas.

Bill	Bob	Bel
Tabby	Tabby	Tabby
Flabby	Flabby	Flabby
Crabby	Crabby	Crabby
red collar	red collar	red collar
yellow collar	yellow collar	yellow collar
blue collar	blue collar	blue collar
fleas	fleas	fleas
hairballs	hairballs	hairballs
depression	depression	depression

Bill	Bob	Bel
<del>Tabby</del>	<del>Tabby</del>	Tabby
Flabby	<del>Flabby</del>	<del>Flabby</del>
<del>Crabby</del>	Crabby	<del>Crabby</del>
<del>red collar</del>	<del>red collar</del>	red collar
<del>yellow collar</del>	yellow collar	yellow collar
blue collar	<del>blue collar</del>	<del>blue collar</del>
fleas	<del>fleas</del>	<del>fleas</del>
<del>hairballs</del>	hairballs	<del>hairballs</del>
<del>depression</del>	<del>depression</del>	depression

## THE CAT COUNTRY SOLUTION

Bill, Bob and Bel owned cats with three different names. Their names were Tabby, Flabby and Crabby. The cats wore three different colored collars. Their collars were red, yellow and blue. The cats suffered from three different afflictions: fleas, hairballs and depression. Based on the clues, match the owners with their cat's names, their collar colors and their afflictions

**CLUE #1** is useless until you have done the work on clue #2. Often, when doing logic problems, you have to go back to previous clues.

**CLUE #2** allows you to cross off Tabby under both Bill and Bob. This means Tabby must belong to Bel. Circle Tabby under Bel and cross off Flabby and Crabby under Bel. Now we can refer back to clue #1 and we should see that Tabby had to be the cat suffering depression. Circle depression under Bel and cross off fleas and hairballs under Bel. We also cross off depression under Bill and Bob.

**CLUE #3** tells us that the cat suffering depression wore red. We know that Bel's cat was depressed, so we circle red under Bel. We cross off yellow and blue under Bel. We cross off red under Bill and Bob.

**CLUE #4** tells us to cross off blue and fleas under Bob. After crossing off blue under Bob, we see that yellow is the only remaining possibility under Bob, so we circle it and cross off yellow under Bill, leaving blue to be circled under Bill as the only possible choice. If we look now, we should see that hairballs is the only remaining choice under Bob, so we circle hairballs under Bob. We then cross off hairballs under Bill and circle fleas under Bill by using the process of elimination.

**Clue #5** tells us that the cat suffering from fleas was Flabby. We know Bill's cat had fleas so we circle Flabby under Bill and cross off Crabby under Bill. We cross off Flabby under Bob and circle Crabby under Bob to finish the puzzle.

As you can see from the above step-by-step solution of the logic puzzle above, there is an enormous amount of thinking required for even the simplest of puzzles. This is the virtue of logic problems and the reason why our circle and cross out technique is so effective.

1

## Ice Cream Club

### THE STORY

Holly, Harvey, Harry, Hal and Herb, whose last names were Clarke, Darke, Starke, Parke and Smith, belonged to a private club dedicated to the art of eating ice cream cones. They each liked to eat their cones differently. They liked to lick it from the top, lick it all the way around the side, take a big bite out of it, eat the bottom of the cone first, or wait for it to melt and then suck it up through a straw. Based on the clues, match the children with their last names and how they preferred to eat their ice cream cones.

### THE CLUES

1. Holly, Harvey and Harry did not have Starke as a last name and did not eat the bottom of the cone first.
2. Harry and Hal liked to use their tongues.
3. The cone eater was Starke.
4. The side licker had a last name that did not rhyme with the other last names, and it was not Harry.
5. The straw user was Harvey.
6. Harry was not Parke or Darke.
7. The biter was Parke.

Holly	Harvey	Harry	Hal	Herb
Clarke	Clarke	Clarke	Clarke	Clarke
Darke	Darke	Darke	Darke	Darke
Starke	Starke	Starke	Starke	Starke
Parke	Parke	Parke	Parke	Parke
Smith	Smith	Smith	Smith	Smith
lick the top				
lick the side				
big bite				
cone first				
straw	straw	straw	straw	straw

2

## Pecking a Pizza

### THE STORY

Five birds named Beaky, Bob, Billy, Bosco and Brainy decided to go to their local Pizza Nest for a pizza. They all wanted a different topping, so they each ordered their own individual pizza. The birds were a seagull, an owl, a pigeon, a robin and a crow. The toppings they ordered were worms, crickets, slugs, ants and seeds. To drink, they ordered cola, root beer, iced tea, milk and juice. Based on the clues, match the birds with their types, their pizza toppings and their drinks.

### THE CLUES

1. The seagull, whose name was not Billy, did not order his favorite cricket pizza this time.
2. The milk drinker ordered worm pizza.
3. The juice drinker was a crow, and the robin ate slugs.
4. Bob did not order cola or iced tea.
5. The owl, who was not Bosco or Brainy, ordered cricket pizza and iced tea.
6. Billy, who was not an owl, did not drink juice or iced tea.
7. Bob did not drink milk or juice.
8. Billy and Bosco never drank cola or ate seeds.
9. The cola drinker did not eat ants or seeds.

Beaky	Bob	Billy	Bosco	Brainy
seagull	seagull	seagull	seagull	seagull
owl	owl	owl	owl	owl
pigeon	pigeon	pigeon	pigeon	pigeon
robin	robin	robin	robin	robin
crow	crow	crow	crow	crow
worms	worms	worms	worms	worms
crickets	crickets	crickets	crickets	crickets
slugs	slugs	slugs	slugs	slugs
ants	ants	ants	ants	ants
seeds	seeds	seeds	seeds	seeds
cola	cola	cola	cola	cola
root beer				
iced tea				
milk	milk	milk	milk	milk
juice	juice	juice	juice	juice

**3**

# Daredevil Ducks

## THE STORY

Five young ducks named Dandy, Dilly, Doosy, Drake and Dodie decided to try their wings at stunt flying. Their last names were Mallard, Wood, Black, Decoy and Pintail. The first stunt they tried was to fly upside down. Of course, they all quacked up and crashed. They suffered injuries to a beak, a wing, a neck, a tail and a foot. Their parents went quackers when they found out about all this and grounded them for 3 days, 5 days, 6 days, 7 days and 14 days. Based on the clues, match the ducks first and last names, what they injured and the lengths of time they were grounded.

## THE CLUES

1. The duck grounded for three days suffered an injured tail and was not Dandy, Doosy or Wood.
2. The duck grounded for one week was Wood, who injured a wing.
3. Dilly and Dodie were grounded for less than a week.
4. Dodie, who was not Pintail, was grounded for more than five days.
5. Dandy was Decoy, who was grounded the longest.
6. Doosy was not Black or Pintail.
7. Mallard injured a foot, and Decoy did not injure his neck.

Dandy	Dilly	Doosy	Drake	Dodie
Mallard	Mallard	Mallard	Mallard	Mallard
Wood	Wood	Wood	Wood	Wood
Black	Black	Black	Black	Black
Decoy	Decoy	Decoy	Decoy	Decoy
Pintail	Pintail	Pintail	Pintail	Pintail
beak	beak	beak	beak	beak
wing	wing	wing	wing	wing
neck	neck	neck	neck	neck
tail	tail	tail	tail	tail
foot	foot	foot	foot	foot
3 days				
5 days				
6 days				
7 days				
14 days				

**4**

## Flying Cows

### THE STORY

Five cows named Jessie, Sally, Rickey, Rolanda and Phillipa decided that it would be fun to learn how to fly. They formed a flying club and called themselves the "Jersey Jets!" They all went out and bought themselves crash helmets for their first flight. The helmets were all a different color and were red, yellow, brown, purple and green. For their first flight, they decided to climb to the top of Farmer Brown's silo and jump off while flapping whatever it was they could flap. The flights went well but the landings were rather rough. They each landed on something different. They landed on a picket fence, a tractor, a reaper, a manure pile and a chicken. They all traveled a different distance; they flew 4 feet, 6 feet, 7 feet, 12 feet and 14 feet. Based on the clues, match the cows with their helmet colors, what things they landed on and the distances they flew.

### THE CLUES

1. The cow in the purple crash helmet flew three times as far as the cow that landed on the tractor.
2. Phillipa flew twice as far as Rolanda.
3. Jessie, Sally and Rickey did not land on either the picket fence or the reaper.
4. The cow in the red helmet landed on the manure pile and flew half as far as the cow that landed on the chicken.
5. Jessie flew twice as far as Sally.
6. Rolanda did not wear a green helmet.
7. Phillipa just missed hitting the reaper, which was parked right next to the picket fence, and her helmet was not either yellow or brown.
8. Rolanda's helmet was not yellow, and Jesse wasn't the best flyer.

Jessie	Sally	Rickey	Rolanda	Phillipa
red	red	red	red	red
yellow	yellow	yellow	yellow	yellow
brown	brown	brown	brown	brown
purple	purple	purple	purple	purple
green	green	green	green	green
picket fence				
tractor	tractor	tractor	tractor	tractor
reaper	reaper	reaper	reaper	reaper
manure pile				
chicken	chicken	chicken	chicken	chicken
4 feet				
6 feet				
7 feet				
12 feet				
14 feet				

## Solutions to Puzzles

### 1. Ice Cream Club

Holly	Harvey	Harry	Hal	Herb
Parke	Darke	Clarke	Smith	Starke
big bite	straw	lick the top	lick the side	cone first

### 2. Pecking a Pizza

Beaky	Bob	Billy	Bosco	Brainy
owl	seagull	pigeon	crow	robin
crickets	seeds	worms	ants	slugs
iced tea	root beer	milk	juice	cola

### 3. Daredevil Ducks

Dandy	Dilly	Doosy	Drake	Dodie
Decoy	Pintail	Mallard	Wood	Black
beak	tail	foot	wing	neck
14 days	3 days	5 days	7 days	6 days

### 4. Flying Cows

Jessie	Sally	Rickey	Rolanda	Phillipa
purple	red	yellow	brown	green
chicken	manure	tractor	reaper	fence
12 feet	6 feet	4 feet	7 feet	14 feet