

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
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

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

Oh Boy!

THE STORY

Olga, Ophelia, Otis and Oscar were born in different places; they were born in Oregon, Ohio, Oahu and Oklahoma. They each had a different favorite animal: an ocelot, an opossum, an orangutan and an ox. They also each had a different favorite food. Their favorite foods were olives, onions, oranges and oats. Based on the clues, match the people with their birthplaces, their favorite animals and their favorite foods.

THE CLUES

1. The olive lover from Oklahoma loved orangutans.
2. The man from Oahu loved ocelots and oats.
3. The ox lover was from Oregon.
4. The person who loved oranges also loved opossums.
5. Ophelia and Otis were not born in Oregon or Ohio.
6. Olga was not born in Ohio.
7. Otis disliked olives.

Olga	Ophelia	Otis	Oscar
Oregon	Oregon	Oregon	Oregon
Ohio	Ohio	Ohio	Ohio
Oahu	Oahu	Oahu	Oahu
Oklahoma	Oklahoma	Oklahoma	Oklahoma
ocelot	ocelot	ocelot	ocelot
opossum	opossum	opossum	opossum
orangutan	orangutan	orangutan	orangutan
ox	ox	ox	ox
olives	olives	olives	olives
onions	onions	onions	onions
oranges	oranges	oranges	oranges
oats	oats	oats	oats

2

Cow Jumping

THE STORY

Five cows named Maybelle, Elsie, Daisy, Bossie and Flossie decided to jump over the moon. They belonged to farmers Brown, Jones, Smith, Nelson and Ford. They all jumped different heights, but still fell short by some 250,000 miles. They jumped 8 feet, 7 feet, 6 feet, 5 feet and 2 feet. All of the cows were somewhat embarrassed by their failure to clear the moon and came up with different excuses. Their excuses were slipped, gravity, sore hoof, moon moved and headache. Based on the clues, match the cows with their owners, the height of their jumps and their imaginative excuses. The contest may have been an “udder” failure, but it was a noble effort.

THE CLUES

- Farmer Smith’s cow claimed that she did not jump over the moon because she slipped just as she jumped.
- The cow that jumped the 3rd highest claimed she had a headache.
- Farmer Ford, who did not own Maybelle or Elsie, had a cow that only jumped 2 feet.
- Bossie, Flossie and Elsie did not claim to have headaches.
- Flossie did not belong to farmers Smith, Nelson or Ford.
- Maybelle made the 2nd best jump and did not say that she slipped.
- Maybelle and Flossie were not owned by Farmer Jones and did not blame gravity for not jumping over the moon.
- Farmer Nelson’s cow did not claim that the moon moved.
- The cow that claimed she slipped, jumped 5 feet.

Maybelle	Elsie	Daisy	Bossie	Flossie
Brown	Brown	Brown	Brown	Brown
Jones	Jones	Jones	Jones	Jones
Smith	Smith	Smith	Smith	Smith
Nelson	Nelson	Nelson	Nelson	Nelson
Ford	Ford	Ford	Ford	Ford
8 feet				
7 feet				
6 feet				
5 feet				
2 feet				
slipped	slipped	slipped	slipped	slipped
gravity	gravity	gravity	gravity	gravity
sore hoof				
moon moved				
headache	headache	headache	headache	headache

3

Bug-Eating Contest

THE STORY

Hilda, Hank, Harry, Herb and Holly were five children who decided to have a bug-eating contest. They each chose a different type of bug to eat and they all wore different colored bibs for this disgusting event. They ate roaches, beetles, ants, spiders and grubs; and their bibs were red, yellow, pink, blue and orange. They each managed to swallow a different number of bugs in the contest. They swallowed 150, 125, 100, 50 and 2 bugs. Based on the clues, match the children with the bugs they ate, the color of their bibs and the number of bugs they managed to swallow.

THE CLUES

1. The child in the blue bib could only choke down two spiders and finished last in the contest.
2. The child who ate ants won the contest, and it was not Herb or Holly.
3. Hank ate 50 fewer bugs than the winner.
4. The best bug eater wore a yellow bib.
5. Harry ate 48 more bugs than the spider eater.
6. Holly did not wear a blue bib or eat roaches.
7. The orange bib wearer ate grubs.
8. Holly did not wear an orange bib.
9. The roaches were eaten by the pink bib wearer.
10. Harry did not wear a pink bib.

Hilda	Hank	Harry	Herb	Holly
roaches	roaches	roaches	roaches	roaches
beetles	beetles	beetles	beetles	beetles
ants	ants	ants	ants	ants
spiders	spiders	spiders	spiders	spiders
grubs	grubs	grubs	grubs	grubs
red	red	red	red	red
yellow	yellow	yellow	yellow	yellow
pink	pink	pink	pink	pink
blue	blue	blue	blue	blue
orange	orange	orange	orange	orange
150	150	150	150	150
125	125	125	125	125
100	100	100	100	100
50	50	50	50	50
2	2	2	2	2

4

Merci! Merci! Merci!

THE STORY

John, Josiah, Joseph, James and George, whose last names were Hewes, Smith, Adams, Bartlett and Ross all traveled to a different foreign country. They traveled to France, Spain, Germany, Russia and Italy. They all spoke English and one other language, but none of them traveled to a country where their second language was used. They spoke French, Spanish, German, Russian and Italian. When they arrived at their destination they each rented a different mode of transportation. They rented a sports car, a compact car, a moped, a coupe and a bicycle. Based on the clues, match the travelers with their last names, their travel destinations, their second languages and their mode of transportation.

THE CLUES

1. No man traveled to a country where he spoke that country's language.
2. Adams spoke Russian and rented a bicycle, but not in France.
3. The man who traveled to Italy spoke German and rented a sports car.
4. The man who rented the compact car spoke Spanish.
5. Josiah was not Adams, and he did not rent a compact car.
6. Joseph, James and George were not named Hewes or Smith, and they did not rent a sports car.
7. John was not Hewes, and he did not speak German or visit Germany or Russia.
8. Smith did not speak Italian, and Joseph was not Bartlett or Ross.
9. John did not speak Spanish or rent a coupe or a compact car.
10. James did not speak Spanish or visit France, and he was not named Ross.

John	Josiah	Joseph	James	George
Hewes	Hewes	Hewes	Hewes	Hewes
Smith	Smith	Smith	Smith	Smith
Adams	Adams	Adams	Adams	Adams
Bartlett	Bartlett	Bartlett	Bartlett	Bartlett
Ross	Ross	Ross	Ross	Ross
France	France	France	France	France
Spain	Spain	Spain	Spain	Spain
Germany	Germany	Germany	Germany	Germany
Russia	Russia	Russia	Russia	Russia
Italy	Italy	Italy	Italy	Italy
French	French	French	French	French
Spanish	Spanish	Spanish	Spanish	Spanish
German	German	German	German	German
Russian	Russian	Russian	Russian	Russian
Italian	Italian	Italian	Italian	Italian
sports car				
compact car				
moped	moped	moped	moped	moped
coupe	coupe	coupe	coupe	coupe
bicycle	bicycle	bicycle	bicycle	bicycle

Solutions to Puzzles

1. Oh Boy!

Olga	Ophelia	Otis	Oscar
Oregon	Oklahoma	Oahu	Ohio
ox	orangutan	ocelot	opossum
onions	olives	oats	oranges

2. Cow Jumping

Maybelle	Elsie	Daisy	Bossie	Flossie
Nelson	Smith	Jones	Ford	Brown
7 feet	5 feet	6 feet	2 feet	8 feet
sore hoof	slipped	headache	gravity	moon moved

3. Bug-Eating Contest

Hilda	Hank	Harry	Herb	Holly
ants	roaches	grubs	spiders	beetles
yellow	pink	orange	blue	red
150	100	50	2	125

4. Merci! Merci! Merci!

John	Josiah	Joseph	James	George
Smith	Hewes	Adams	Bartlett	Ross
Spain	Italy	Germany	Russia	France
French	German	Russian	Italian	Spanish
moped	sports car	bicycle	coupe	compact car