

## How Do Logic Puzzles Work?

Logic puzzles use a grid to help keep track of your deductive reasoning as you read the clues. You use an "0" fo show a match or somefhing you know, and an " $x$ " fo show somefhing you know doesn't go fogether. Lef's fake a look af how this works!

Lef's use these clues to figure out what everyone's favorife fruif is!

## clues:

1. One of the girls likes blackberries the best.

We can assume that Patricia and Sallie are the only girls, so we need to put an " $X$ " for each of the boys.

|  | $\frac{\text { ¢ }}{\frac{0}{0}}$ | $\begin{aligned} & \mathscr{0} \\ & \mathscr{W} \\ & \stackrel{0}{0} \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Brent |  |  | X |  |  |
| Ryan |  |  | X |  |  |
| Pafricia |  |  |  |  |  |
| John |  |  | X |  |  |
| Sallie |  |  |  |  |  |


|  | $\frac{\text { ¢ }}{\frac{\alpha}{0}}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Brenf |  | X | X |  |  |
| Ryan |  | X | X | X |  |
| Pafricia |  | X |  |  |  |
| John | X | 0 | X | X | X |
| Sallie |  | X |  |  |  |

2. Ryan doesn'f Care for mangos, and John loves oranges!

Here, we know to put an " $X$ " for Ryan and mangos, and we need to put a "O" for John and oranges, which means we need to put " $X$ "s for all the other fruits for John, and " $X$ "s for all the other people in the orange column.
Every time you put a "O" you must fill the rest of that row AND column with " $X$ "s! When doing a larger puzzle with multiple grids, only fill in the rows and columns in that small grid. There should be bold lines to show you where that small grid stops!

|  | $\frac{\mathscr{0}}{\frac{\alpha}{\pi}}$ |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Brent | 0 | X | X | X | X |
| Ryan | X | X | X | X | 0 |
| Pafricia | X | X | 0 | X | X |
| John | X | 0 | X | X | X |
| Sallie | X | X | X | 0 | X |

3. Sallie loves mangos, but Brent doesn'f like wafermelon.

Here, we need to put an "O" for Sallie and mangos, so we fill those rows and columns with " $X$ "s. We need to put a " $X$ " for Brent and watermelon.

Now, that leaves Brent with only apples. That means we need to put a "O" there since that is the only possibility left!
Remember to fill in the
columns and rows when you put a "O" anywhere!

But wait! Now Patricia is the only person left for blackberries, so put an "O" for her and blackberries, and fill that row in with "X"s.

With larger grids, you do the same
thing with the " $X$ "s and " 0 "s! However, remember fo only fill in the smaller grid you are in when filling a column or row with " $X$ "s. See the bold lines? (arrows) This shows you where the grids are separafed.

oh, and HAVE fUN! Logic puzzles can be a lof of fun and a great way to exercise your brain!

A No fe about Larger Grids:
With larger grids, you do the same thing with the " $X$ "s and " 0 "s! However, remember fo only fill in the smaller grid you are in when filling a column or row with " $X$ "s. See the bold lines? (arrows) This shows you where the grids are separated.


Also, remind your students that they must use deductive reasoning. This means using what they know is true or what they know isn'f' true to figure out of her facts.
for instance, with larger grids, you need to pay attention when you pu f a "O" because you need to then check for possible things to match.
for example, in the puzzle above, let's say Sarah's side was corn. If corn already had an " $x$ " for apple pie, then Sarah foo would need an " $X$ " on apple pie since we know she ate the corn, and the person who ate the corn dian' $\dagger$ eat apple pie!
on a side note, this link has a great tutorial on logic puzzles as well! https://www.pennydellpuzzles.com/upload/documents/How\%zoto\%zoSolve\%zzologic\% zoProblems.pdf

## ZOO Trip Logic Puzzle

Xavier and his four friends are all in a group for the zoo field frip. Each sfudent in the group was assigned a different animal to invesfigafe and draw on the frip. Using the clues, can you figure out what animal each Child is supposed to investigate?

## Clues:

1. One of the girls was So happy fo have the King cobra!
2. Stephanie didn't have the free frog, and Kim and XaVier helped the person with the penguin find their information.
3. Jennifer's giraffe drawing was greaf.
4. The boys had the frog and the penguin.
5. Two of the girls thought it was funny their animals starfed with the first lefter of their names!

|  |  | $\begin{aligned} & \text { o } \\ & \stackrel{0}{0} \\ & 0 \\ & 0 \\ & \dot{\underline{s}} \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Kim |  |  |  |  |  |
| Jennifer |  |  |  |  |  |
| XaVier |  |  |  |  |  |
| Stephanie |  |  |  |  |  |
| Greg |  |  |  |  |  |

*XaVier and Greg are boys, the rest are girls!
(C)carrie Whiflock, 2015

Name:

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|  |  | $\begin{aligned} & \pi \\ & \stackrel{0}{0} \\ & \dot{3} \\ & 0 \\ & \dot{5} \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Kim |  |  |  |  |  |
| Jennifer |  |  |  |  |  |
| XaVier |  |  |  |  |  |
| Stephanie |  |  |  |  |  |
| Greg |  |  |  |  |  |

[^0]Name:
Musical Ordanization Lodic Puzzle
Mrs. Dennis' music closef was getfing very messy. She asked five sfudents fo each organize a cerfain type of musical instrument. Using the clues, can you figure out which instrument each sfudent was in Charge of?
Ches:

1. Eifher Amy or LuCas organized the bongo drums.
2. Paul carefully sfacked the xylophones.
3. one of the girls put away recorders.
4. Lucas was glad he didn't have fo wash the kazoos.
5. Amy accidently dropped a cow bell when putfing them in the box.

|  | $\begin{aligned} & \text { थ } \\ & \frac{0}{0} \\ & \frac{⿳ 亠}{1} \\ & \frac{0}{2} \end{aligned}$ |  | $\begin{aligned} & \text { n } \\ & \frac{n}{5} \\ & \frac{1}{0} \\ & \stackrel{8}{8} \\ & \stackrel{5}{B} \end{aligned}$ | \% | $\begin{aligned} & 0 \\ & \overline{0} \\ & 0 \\ & 3 \\ & 0 \\ & 0 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sarah |  |  |  |  |  |
| James |  |  |  |  |  |
| Amy |  |  |  |  |  |
| Lucas |  |  |  |  |  |
| Paul |  |  |  |  |  |

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|  |  |  |  | ¢ N N | $\begin{aligned} & \text { n } \\ & \overline{0} \\ & 3 \\ & 3 \\ & 0 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sarah |  |  |  |  |  |
| James |  |  |  |  |  |
| Amy |  |  |  |  |  |
| Lucas |  |  |  |  |  |
| Paul |  |  |  |  |  |

*Sarah and Amy are girls, the rest are boys.
$\qquad$

## Rainy Day Games Logic Puzzle

What a week! It has rained every day this week, and you know what that means...indoor recess! CalVin and his four friends each gof a furn Choosing a game to play this week. Using the clues below, can you defermine which game each person chose and the day it was played?

## Ches:

1. Hailie Chose her game on a day that sfarted with "T," but Brianna didn' $\dagger$.
2. One of the boys wanted to play "Millionaire," but not on the first two days.
3. "Go fish" was played on a Wednesday, but not af Alexa's reques $f$.
4. calvin requested that they play "Sailboat" on Monday.
5. "Apology" was not played on a friday, and the marbles weren' $\dagger$ brought ouf on Thursday.
6. "Marble-anche" was requested by Alexa.
7. Joey requested his game the day affer Hailie Chose hers.


# ZOO Trip LOgic Puzzle 

Kim - King cobra Jennifer - Masai Giraffe Xavier - Tree frog<br>Stephanie - Scarle $\dagger$ Macaw Greg - Gentoo Penguin

| $\frac{\therefore r^{2} 8}{700}$ |  |  |  |  | ( |
| :---: | :---: | :---: | :---: | :---: | :---: |
| kim | X | 0 | X | X | X |
| Jennifer | X | X | X | X | 0 |
| Xavier | X | X | X | 0 | X |
| Stephanie | 0 | X | X | X | X |
| Greg | X | X | 0 | X | X |

## Musical Organization Loģic Puzzle:

|  |  |  |  |  | n <br> 0 <br> 3 <br> 3 <br> 0 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sarah | X | 0 | X | X | X |
| James | X | X | X | 0 | X |
| Amy | X | X | X | X | 0 |
| Lucas | X | X | 0 | X | X |
| Paul | 0 | X | X | X | X |

Sarah-recorders James - kazoos Amy - cow bells Lucas - bongo drums
Paul-xylophones

## Key Rainy Day Games Logic Puzzle

|  | $\begin{aligned} & \stackrel{\rightharpoonup}{\stackrel{\rightharpoonup}{0}} \\ & \frac{0}{\Sigma} \end{aligned}$ | $\begin{gathered} \stackrel{\rightharpoonup}{\stackrel{\rightharpoonup}{0}} \\ \stackrel{\rightharpoonup}{\bullet} \end{gathered}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{\stackrel{\rightharpoonup}{\bullet}} \\ & \stackrel{0}{0} \\ & \stackrel{\rightharpoonup}{\square} \end{aligned}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{\stackrel{\rightharpoonup}{\omega}} \\ & \stackrel{\rightharpoonup}{5} \\ & \stackrel{\rightharpoonup}{5} \end{aligned}$ |  |  |  | $\begin{aligned} & \text { C호 } \\ & \frac{0}{0} \\ & \frac{4}{4} \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Calvin | 0 | X | X | X | X | X | X | X | X | 0 |
| Joey | X | X | X | X | 0 | X | X | X | 0 | X |
| Hailie | X | X | X | 0 | X | X | X | 0 | X | X |
| Brianna | X | X | 0 | X | X | X | 0 | X | X | X |
| Alexa | X | 0 | X | X | X | 0 | X | X | X | X |
| "Marble-anche" | X | 0 | X | X | X |  |  |  |  |  |
| "Go fish" | X | X | 0 | X | X |  |  |  |  |  |
| "Apology" | X | X | X | 0 | X |  |  |  |  |  |
| "Millionaire" | X | X | X | X | 0 |  |  |  |  |  |
| "Sailboat" | 0 | X | X | X | X |  |  |  |  |  |


| Person |  | Day |
| :---: | :---: | :---: |
| CalVin | Monday | "Sailboat" |
| Joey | Friday | "Millionaire" |
| Hailie | Thursday | "Apology" |
| Brianna | Wednesday | "Go Fish" |
| Alexa | Tuesday | "Marble-anche" |

## Note to the Teacher

Thank you so much for downloading my "Logic Puzzles FREEBIE!'I I hope your kiddos have as much fun as I do when I do these. I've loved these since I was first infroduced fo them in $2 n d$ grade, and sfill do them now!
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## carrie.whitlock@gmail.com!

> Thanks and Happy Teaching!, Carrie Whitlock


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