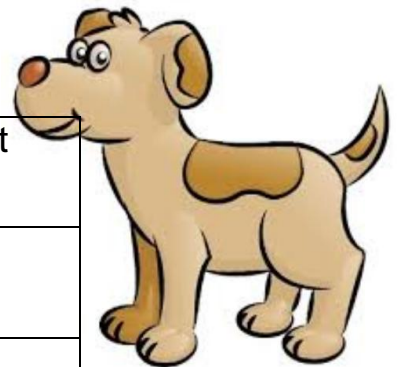


Activity: LOGIC PUZZLES

Content Objective: *I will be able to apply logical reasoning to determine conclusions.*

1. Yvette, Lana, Boris, and Scott each have a dog. The breeds are collie, beagle, poodle, and terrier. Yvette and Boris walked to the library with the student who has a collie. Boris does not have a poodle or terrier. Scott does not have a collie. Yvette is in math class with the student who has a terrier. Which student has each breed of dog?

| | Yvette | Lana | Boris | Scott |
|---------|--------|------|-------|-------|
| Collie | | | | |
| Beagle | | | | |
| Poodle | | | | |
| Terrier | | | | |



2. Five people: Jonah, LeAnn, Vivian, Bob, and Richard are all different heights. Vivian was taller than Jonah and shorter than LeAnn. Bob was taller than LeAnn. Richard was taller than Jonah and shorter than Vivian. List the people in order of their height, starting with the shortest.

| Jonah | | | | |
|---------|--|--|--|--|
| LeAnn | | | | |
| Vivian | | | | |
| Bob | | | | |
| Richard | | | | |

2. The following statements describe the daily events at a certain high school:

Whose Dream Comes True?

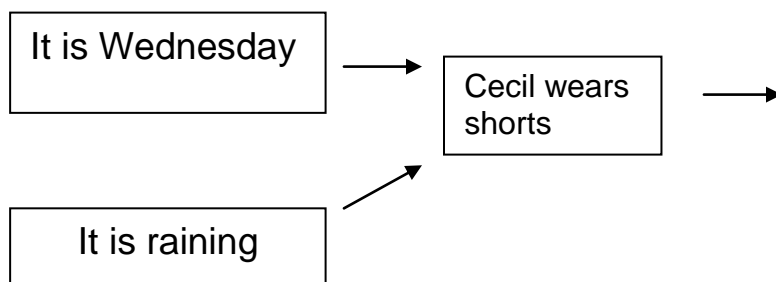
- a. Polly Polygon wears purple on Tuesday.
- b. If Gus Graph is late to class, then Cecil goes to the nurse's office.
- c. If it is raining and it is Wednesday, then Cecil Centimeter wears shorts.
- d. If Polly goes to the nurse, then Gus edge.
- e. When the power is out, Angel Angle goes to the nurse.
- f. Polly skips English on Wednesday.
- g. Class is always held in the commons when Cecil wears shorts.
- h. If Polly wears purple, then Gus skips English and Peter Parallel skips Biology.
- i. When Peter is angry, he ends up in the principal's office.
- j. If Angel is called to attendance, then Cecil goes to Disneyland.
- k. Gus rides the bus when it is not raining.
- l. If Gus skips English and gets a ride from Cecil, then he goes to the attendance office.
- m. When Angel goes to the nurse's office, Peter gets angry.
- n. When Gus rides the bus, he goes to the library.
- o. If class is held in the commons, then Angel scores tickets to Blink 182.
- p. If Angel wears red, then Gus is late to class.
- q. If it is raining, then Cecil drives his car to school.
- r. When Cecil sleeps, Polly wins tickets to the Grammy's.
- s. If Polly skips English, then she goes to the library.
- t. Angel always wears red on Wednesday.
- u. When Cecil drives to school, he gives Gus a ride.
- v. When Gus is in the attendance office and Peter is in the principal's office, Cecil sleeps in class.
- w. If Angel is wearing red and Polly is wearing purple, then Angel is called to the attendance office.
- x. If Gus and Polly go to the library, then Peter goes to Super Bowl XLVIII.
- y. If Cecil wears shorts, he has to go to the principal's office.

It is now time for some detective work – write clear solutions to the following questions, being sure you can follow your path of logical deductions:

2a) If it is Wednesday and raining, whose dream comes true?

Hint: finish the thinking map

Begin with



2b) If it is Tuesday, it is raining, and the power is out, whose dream comes true?

Hint: draw a thinking map

2c) If it is Wednesday and the sun is shining whose dream comes true?

Hint: draw a thinking map

3. Bill the Bug is about to travel along the number line.

He starts at 0.

Then he crawls half-way to 3.

Then he crawls half-way back to 0.

Then he crawls half-way back to 3.

Then he crawls half-way back to 0.

Then he crawls half-way back to 3.

Then he crawls half-way back to 0.

Where did Bill the Bug stop? _____



Hint: Draw a number line, and calculate

4. At a family reunion were the following people” one grandfather, one grandmother, two fathers, two mothers, four children, three grandchildren, one brother, two sister, two sons, two daughters and father-in-law, one mother-in-law, and one daughter-in-law. But not as many people attended as it sounds. How many were there, and who are they?

5. A farmer is taking a fox, a chicken, and a bag of grain home. To get there, he must cross a river, but he’s only allowed to take one item across the bridge with him at a time. If the fox is left alone with the chicken, the fox will eat the chicken. If the chicken is left alone with the grain, the chicken will eat the grain. How can the farmer cross the river without any of his possessions being eaten?



6. A gambler bet on a horse race, but the bookie wouldn't tell him the results of the race. Instead, the bookie gave clues as to how the five horses finished -- which may have included some ties -- and wouldn't pay the gambler off unless the gambler could determine how the five horses finished based on the following clues:

- Penuche Fudge finished before Near Miss and after Whispered Promises.
- Whispered Promises tied with Penuche Fudge if and only if Happy Go Lucky did not tie with Skipper's Gal.
- Penuche Fudge finished as many places after Skipper's Gal as Skipper's Gal finished after Whispered Promises if and only if Whispered Promises finished before Near Miss.

The gambler thought for a moment, then answered correctly. How did the five horses finish the race?
