

Name: _____

Date: _____

Animal Languages Logic Problem

Four sisters and brothers are learning with YouTube. Each is studying how animals communicate. Using the clues below, match each sibling to their topic and age.

1. Benji is learning about bee dances.
2. The person studying whale songs is two years younger than Zinnia.
3. Lucy is either 10 or 12 years old.
4. The 11-year-old is studying bird calls.

		TOPIC				AGE			
		Bee dances	Bird calls	Cat meows	Whale songs	10	11	12	13
PERSON	Benji								
	Lucy								
	Marley								
	Zinnia								
AGE	10								
	11								
	12								
	13								

Solution

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		TOPIC				AGE			
		Bee dances	Bird calls	Cat meows	Whale songs	10	11	12	13
PERSON	Benji	0	X	X	X	X	X	X	0
	Lucy	X	X	X	0	0	X	X	X
	Marley	X	0	X	X	X	0	X	X
	Zinnia	X	X	0	X	X	X	0	X

Solution

Animal Languages Step-by-Step Solution

- Benji is learning about bee dances.

The first clue tells us that Benji is studying bees. We can thus mark an O at the intersection of "Benji" and "Bee dances."

We can also mark an X for Benji with each other topic. He is studying bee dances, not cat meows or anything else.

Finally, we can mark an X under "Bee dances" for each other kid; only Benji is studying bees.

		TOPIC				AGE			
		Bee dances	Bird calls	Cat meows	Whale songs	10	11	12	13
PERSON	Benji	O	X	X	X				
	Lucy	X							
	Marley	X							
	Zinnia	X							

Solution

Animal Languages Step-by-Step Solution

2. The person studying whale songs is two years younger than Zinnia.

The second clue tells us a lot! First we learn that Zinnia isn't studying whale songs; somebody younger has that topic.

We also figure out that Zinnia isn't 10 or 11. After all, the person studying whale songs is two years younger than Zinnia... and nobody is eight or nine years old.

Finally, this clue tells us that the person studying whale songs isn't 12 or 13; he or she is two years younger than Zinnia, who is either 12 or 13.

		TOPIC				AGE			
		Bee dances	Bird calls	Cat meows	Whale songs	10	11	12	13
PERSON	Benji	0	X	X	X				
	Lucy	X							
	Marley	X							
	Zinnia	X			X	X	X		
AGE	10								
	11								
	12				X				
	13				X				

Solution

Animal Languages Step-by-Step Solution

3. Lucy is either 10 or 12 years old.

This clue tells us to mark X for Lucy at ages 11 and 13.

		TOPIC				AGE			
		Bee dances	Bird calls	Cat meows	Whale songs	10	11	12	13
PERSON	Benji	0	X	X	X				
	Lucy	X					X		X
	Marley	X							
	Zinnia	X			X	X	X		
AGE	10								
	11								
	12				X				
	13				X				

Solution

Animal Languages Step-by-Step Solution

4. The 11-year-old is studying bird calls.

Obviously this clue tells us to mark an O for the 11-year-old and bird calls. Then we can add rows of X as we did with Benji and the bees...

		TOPIC				AGE			
		Bee dances	Bird calls	Cat meows	Whale songs	10	11	12	13
PERSON	Benji	O	X	X	X				
	Lucy	X					X		X
	Marley	X							
	Zinnia	X			X	X	X		
AGE	10		X						
	11	X	O	X	X				
	12		X		X				
	13		X		X				

Solution

Animal Languages Step-by-Step Solution

Now the puzzle starts to solve itself! We know that the 10-year-old must be studying whale songs because the other kids are not.

		TOPIC				AGE			
		Bee dances	Bird calls	Cat meows	Whale songs	10	11	12	13
PERSON	Benji	0	X	X	X	X	X		
	Lucy	X				0	X	X	X
	Marley	X				X	0	X	X
	Zinnia	X			X	X	X		
AGE	10	X	X	X	0				
	11	X	0	X	X				
	12		X		X				
	13		X		X				

We can also mark two more Xs for Benji. The "Bee dance" column shows that he isn't 10 or 11 years old.

Now the chart shows us that Marley is 11. After we add an O and some Xs, we see that Lucy is 10.

Solution

Animal Languages Step-by-Step Solution

What else does the grid tell us? The "Whale songs" column is matched with the 10-year-old. We know that Lucy is 10, so she is studying whale songs.

In a similar way we can deduce that Marley is studying bird songs.

		TOPIC				AGE			
		Bee dances	Bird calls	Cat meows	Whale songs	10	11	12	13
PERSON	Benji	0	X	X	X	X	X		
	Lucy	X	X	X	0	0	X	X	X
	Marley	X	0	X	X	X	0	X	X
	Zinnia	X	X		X	X	X		
AGE	10	X	X	X	0				
	11	X	0	X	X				
	12		X		X				
	13		X		X				

The next step is to mark Zinnia as the person studying cats' meows.

Solution

Animal Languages Step-by-Step Solution

To finish, we check the clues again. Clue #2 says that the person studying whale songs is two years younger than Zinnia. We've already figured out that Lucy is studying whale songs and that she's 10 years old. Reasoning that Zinnia is 12, we can finish the puzzle!

		TOPIC				AGE			
		Bee dances	Bird calls	Cat meows	Whale songs	10	11	12	13
PERSON	Benji	0	X	X	X	X	X	X	0
	Lucy	X	X	X	0	0	X	X	X
	Marley	X	0	X	X	X	0	X	X
	Zinnia	X	X	0	X	X	X	0	X
AGE	10	X	X	X	0				
	11	X	0	X	X				
	12		X		X				
	13		X		X				

Benji, bee dances, 13
 Lucy, whale songs, 10
 Marley, bird calls, 11
 Zinnia, cat meows, 12