

DOGS, PUPPIES, AND SO MUCH MORE

Name: _____ Hour: _____ Date: _____

Dogs, Puppies, and so much more

Conversation Snapshot

Joann, a dog breeder, was discussing a recent litter of pups with some of her friends. This is a snapshot of the conversation.

Joann begins the conversation: “Hey guys. I have a perplexing situation regarding the Yorkie pups. Out of the four pups born, one was deaf. Neither mother nor father was deaf. How is this possible?”

Kevin is the first to respond. “Deafness is a recessive trait and if neither was deaf then there is no way they could have a deaf puppy. Maybe something went wrong such as a neighbor male dog sneaking into the pen or something?”

Tisha: “I agree with Kevin that deafness is a recessive trait but there is still a $\frac{1}{4}$ chance a pup will be born deaf.”

“I am pretty sure deafness is a dominant trait meaning there is a $\frac{3}{4}$ chance for the parents to have a deaf puppy, if I am recalling high school biology correctly,” states **Ahmad**.

“From my prior experience, if the parents are able to hear then all puppies should also be able to hear unless one of the parents was partially deaf and this was unknown at the time of breeding. I guess I am going to have to look into this,” states **Joann**.

Maria says, “I think I heard somewhere that the last born in a litter will typically have genetic mistakes.”

Use the space to the right to answer the following question. You may draw to help illustrate your response.

Who do you think has the best understanding of trait inheritance? Why?



Adapted from: Keeley, P. (n.d.). *Uncovering Student Ideas Probes: Life Science*. NSTA Publications.
<https://www.nsta.org/probes/life>