

Case 18, Challenge 1: Bog Breath

Bog breath is a disease affecting many drakes, including Arrow. You are challenged with helping the Drake Breeder's Guild to understand how bog breath is inherited. When you have figured it out, post a claim with evidence and reasoning in the *Journal of Drake Genetics* describing how this disease is inherited.

Breed #1: Copper mother (healthy) x Sand father (bog breath)

Trait	Total #	# Females	#Males
Bog Breath			
Healthy			

****Save a male and a female offspring from this breed to use for further breeding.***

Breed #2: Female offspring from Breed #1 (healthy) x Male offspring from Breed #1 (healthy)

Trait	Total #	# Females	#Males
Bog Breath			
Healthy			

(a) What do these results suggest about how bog breath is inherited?

(b) Which offspring might you save from this experiment for future breeding and why?

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Breed #3: Female offspring from Breed #1 (healthy) x Sand father (bog breath)

Trait	Total #	# Females	#Males
Bog Breath			
Healthy			

****Save a female offspring with bog breath from this breed to use for further breeding.***

(a) What do these results suggest about how bog breath is inherited?

(b) Which additional offspring might you save from this experiment for future breeding and why?

Breed #4: Female offspring (bog breath) from Breed #3 x Male offspring from Breed #1 (healthy)

Trait	Total #	# Females	#Males
Bog Breath			
Healthy			

(a) What do these results suggest about how bog breath is inherited?

(b) Which additional offspring might you save from this experiment for future breeding and why?

****Use additional paper to perform more breeding experiments as needed. You can create data tables like those provided on this sheet.***