A Discussion About Animal’s Deception

Listen to a conversation between a student and a professor.

S - Hi, Professor Anderson. That was a really interesting lecture in class today.

P - Thanks, Tom. Yeah, animals’ use of deception... ways they play tricks on other animals... that’s a fascinating area. One we’re just starting to understand.

S - Yeah. 1)You know, selective adaptions(选择性适应) over time are one thing...oh, like, uh, nonpoisonous butterflies that of have come to like the poisonous ones...(selective adaptions - Example: nonpoisonous butterflies)2)But the idea that animals of the same spices intentionally deceive each other,... I’d never heard that before.(deceive each other - Example: male frogs who lower their voices...)(Q1 - Why does the man go to the professor? - 目的题)

P - Right. Like - uh, there are male frogs who lower their voices and end up sounding bigger than they really are.

S - So they do that to keep other frogs from invading their territory.(Q2 - Why does the professor mention male frogs that lower their voices? - 原因题)

P - Right. Bigger frogs have deeper voices, so if a smaller frog can imitate that deep voice, well...

S - Yeah, I can see how that might do the trick. But, uh...anyway...what I wanted to ask was, when you started talking about Game Theory, well, I know a little bit about it, but I am not clear about its use in biology.(Q3 - Why does the professor talk about computers? - 举例子)

P - Yeah...it’s fairly(fairly是相当的意思，较难听得出来) new to biology. Basically, it uses math to predict what an individual will do under certain circumstances. For example - a business sells...oh, computers, say. And they want to sell their computers to a big university. But there’s another company bidding(竞价), too. So what should they do? (Q3 - Why does the professor talk about computers? - 举例子)

S - Well, try to offer the lowest price they can compete, but still make money.

P - Right, they are competing - like a game, like the frogs. There’re risks with pricing too high, the other company might get the sale...there’s also the number, and type of the computers to consider. Each company has to find a balance between the costs and benefits. Well, Game Theory creates mathematical models that analyze different conditions like these to predict outcomes.

S - OK, I - I get that. But how does it apply to animals?

P - Well...You know, if you’re interested in this topic, it would be perfect for your term paper.

S - The literature review?

P - Yeah. Find three journal articles(期刊论文) about this or another topic that interests you...and discuss them. If there is a conflict in the conclusions or something...that’d be important to discuss.(Q4 - What does the man need to do for his term paper? - 强调)

S - Well, from what I have looked at dealing with Game Theory(博弈论), I can’t say I understand much of the statistics end(统计学结论).(Q5 - The man expresses reservations about the suggested topic for his term paper. What is the professor’s attitude toward the man’s reservations?)

P - Well, I can point you to some that present fairly basic studies...that don’t assume much background knowledge.(Q5 - The man expresses reservations(保留意见) about the suggested topic for his term paper. What is the professor’s attitude toward the man’s reservations?)You’ll just need to answer a few specific questions...what was the researcher’s hypothesis... what did they want to find out...And how did they conduct their research...and then the conclusions they came to. Learning to interpret the statistics will come later.