**Based on the video on vision evolution, answer the following questions.**

**Video:**

[Our short-sighted inner fish: Vision explains why our fish ancestors came on to land](https://www.youtube.com/watch?v=I19usgWHJLc&feature=youtu.be)

**Transcript:**

Almost 400 million years ago, some adventurous fish made a huge leap that eventually led to the evolution of humankind. They decided to come up on land. We humans probably would never have evolved the intelligence we have today if not for that move onto land. Why? Because it vastly improved our eyesight. According to neuroscientist Malcolm MacIver, the way we think about the world is closely tied to what we can see. And fish can't see a whole heck of a lot. That's mainly because light doesn't travel very far in water. Our ancient fish ancestors lived their lives in a constant fog, so their brains evolved to react quickly to whatever suddenly appeared on the horizon. MacIver had a theory that the move to land expanded our aquatic ancestors' vision and in turn their brains. To test his theory, he and paleontologist Lars Schmitz spent a year running simulations with fossil data. Their research revealed new clues about why fish came onto land in the first place. It all seems to have started when the first fish peeked above the water surface. Suddenly it was able to see 70 times farther. And behold! A smorgasbord of tasty land dwellers. To capitalize on this discovery, the fish would have to evolve. Its eyes soon moved to the top of its head and tripled in size. And its fins began evolving into limbs so that it could stalk its new prey like a crocodile. Hunting on land was a mental game changer for the early tetrapods. Their total sensory volume increased a million-fold, giving them a much bigger window into the future. The first animal that figured out how to plan accordingly instead of just reacting would have had a huge evolutionary advantage. Iterate that kind of natural selection a million times and eventually we have something called prospective cognition. That's our ability to weigh different options for the future and choose strategically. To this day, fish have not evolved those kinds of complex planning skills, but many land animals have. Understanding the evolutionary roots of intelligence helps explain how humans got so smart but also why we are so dumb. We've evolved to deal with the things we can see in the here and now. We still don't plan well the things that are too far away in time or space. Will our vision ever evolve so that we can see the far-away consequences of our actions more clearly? Evolution won't make that happen anytime soon but understanding the relationship between vision and planning may help us engineer solutions. Like using technology to bring far-away things closer. That just might give us the evolutionary advantage we need to survive the next 400 million years.

**Questions:**

(1) Identify at least 2 examples of inappropriate explanations of evolutionary change and describe why they are inappropriate teleological (goal-orientated), linear (progressive) explanations of evolutionary change.

(2) Rewrite these in a proper way as an evolutionary biologist.

(3) Identify one appropriate evolutionary explanation