**Questions from Mammal Origins & Evolution**

1. How might the longer canine-type (caniform) teeth be used differently than the smaller teeth in the rear of the jaw?
2. Based on what you learned in the video, explain how the current evidence suggests that its primary function was most likely as a sexual signal, and why the evidence is less supportive of the thermoregulation hypothesis.
3. *Inostrancevia* has the more advanced Therapsid skull and body adaptations. Looking at the skull, describe the shape and size of the temporal fenestra relative to *Dimetrodon*. Looking at the full body, what is happening to the position of the limbs?
4. What new advancements do you see in the skull of *Thrinaxodon* relative to *Inostrancevia*?
5. What advancements in the skull do you see in *Morganucodon* compared to *Thrinaxodon* and the other skulls before it? Pay special attention to the teeth, zygomatic arch (“cheekbones”), braincase, and jawbone.
6. Find five of these skeletons, select your favorite and take a screenshot. Submit the screenshot to your instructor, and briefly describe TWO clear skeletal features that differ from Morganucodon and what the function of each change might be (e.g., large antlers evolved for sexual combat).
7. Why did paleontologists reopen Pit 91, and what type of information have they learned?
8. How do the paleontologists use modern bones from outside the tar pit?
9. Why are there far more large carnivores in the tar pits than herbivores?
10. How and why have coyote diets changed from before the extinction of other large carnivores (e.g., sabre-toothed cats and dire wolves) to present day?