

- **Agent behavior:** How do the agents behave/work?

Agents at the moment simply move and eat their specified prey.

- **System behavior:** How does the overall system behave/work?

The system works where lions eat hyenas, hyenas eat sheep, and antelopes and antelope do not do anything besides move yet.

- **Rationale for agent rules:** Why did you give the agents these rules?

Right now I am just putting the pieces together so I am specifying for each species what they eat, but am planning to try a few methods of handling what is an animal's prey. I have placed a variable called preference number and want to try using this instead of hard coding the breeds names in and therefore I could introduce a species and dynamically change their preference with a slider.

- **Model output:** Have you developed new measures for the output? Do you think your model currently provides a good description of the system's behavior? Why or why not?

A new output I am excited about incorporating is the total energy level and consumption for each species. I think this could be an interesting indicator on the energy transfer of ecosystems and visualize the real world phenomenon of how energy is transferred less efficiently as it moves through the food chain.

- **Questions:** What questions do you have about your model?

As of now I don't have enough completed for direct questions on the model I have so far.

- **Next steps:** Briefly list your next steps for improving the model.

- *Adding in energy transfers and reproduction*
- *Adding a grass system. I think I will just use something very similar to the sheep wolf predation model, because I don't see any issues with how it works at the moment.*
- *Create plots for energy of each population*
- *Add in another animal in between apex and bottom prey. Once I do this I can start to see the effects of an invasive species by making the apex predator not prefer to eat the new animal*
- *I also would like to import some sprites for antelopes, hyenas and lions so I can match the theme.*

- **Model Analysis:** What conclusions can you draw from the model's output?

My model simply shows that an apex predator with no restricting elements will simply kill all of its preferred prey. The bottom prey will be eaten until their predator is entirely wiped out by the apex predator. This is not a meaningful result, but after introducing energy levels into the system and reproduction there will be much more interesting system dynamics.