Name: _____ Class: _____

Assessing the Learning Tracking Tool for Ecosystems

Driving Question: __How many foxes can live in a meadow? _____

Activity Chunk Write the activity and your role in each circle.	**What did we do?** Summarize key information and activities with a description and/or picture.	**What Did We Figure Out?** Summarize what we figured out about the phenomena that helps us answer the driving question.	**What Are We Asking Now?** What additional information do you need to answer the driving question?
Expressing Ideas and Questions Questioner	Take a pretest and share initial ideas on the Expressing Ideas and Questions Tool about different populations in a meadow ecosystem.	We already have some ideas and questions about ecosystems. Ecosystems have different carbon pools: CO_2, producers, consumers, decomposers, soil organic carbon.	What makes carbon pools larger or smaller?
Patterns in organic matter pools Investigator	Use the Meadow Simulation to investigate an ecosystem. Use the Predictions and Planning Tool and the Evidence-Based Arguments Tool to describe patterns.	Most terrestrial ecosystems have an *organic matter pyramid:* Producers organic matter > herbivore organic matter > carnivore organic matter.	What causes the organic matter pyramid?
Matter cycles & energy flows Explainer	Use the Carbon Dice game to model how carbon atoms move through ecosystems and use the Explanations Tool to explain the organic matter pyramid.	Matter cycles and energy flows among carbon pools because of life processes and functions: photosynthesis, cellular respiration, biosynthesis, eating, death, defecation.	How and why do carbon pools in ecosystems change over time?
Carbon pools & fluxes Explainer	Explain changes in ecosystems by keeping track of carbon pools and carbon fluxes.	Carbon pools are stable when fluxes are balanced and change size when fluxes are unbalanced. Seasons and disturbances cause unbalanced fluxes.	How do humans depend on and disturb ecosystems?

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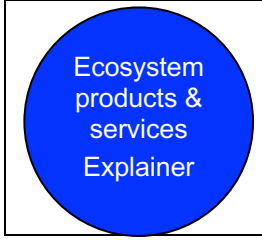	Explain how humans manage ecosystems to provide products and services that we want, as well as how increasing one product or service can decrease others.	We change ecosystems to provide products and services that we need, but those changes can harm other services.	How are humans affecting carbon cycles and energy flows in the whole world?