Glenbard District 87

Course Title: Biology

Unit: Ecology

Stage 1 – Desired Results	
Established Goal(s): HS-LS2-1 Use mathematical and/or computational representations to support explanations of factors that affect carrying capacity of ecosystems at different scales. HS-LS2-4 Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem. HS-LS2-6 Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.	
Understanding(s): *Students will understand that…* Changes in the environment will influence changes in populations.	**Essential Question(s):** What factors affect an organism's ability to obtain and use energy? How do mathematical representations of evidence show changes in an ecosystem? How do interactions between organisms influence population changes?
Knowledge: *Students will know…* 1. identify a trophic level from a photograph or drawing of a level of ecosystem or within an ecosystem. 2. define biotic and abiotic. 3. identify biotic and abiotic components of an ecosystem. 4. give an example of interdependence of biotic/ abiotic factors in ecological cycles. 5. define and identify limiting factors in an ecosystem.. 6. relate carrying capacity to resource availability 7. categorize the different ways that organisms get their energy. 8. how the amount of available energy as you move up the food chain changes.	**Skills:** *Students will be able to …* 1. evaluate food webs, nutrient cycles, and population pyramids. 2. predict how changes in the environment influence trends in data 3. model that energy flows and matter cycles