

Enhancement Activities/Strategies for Gifted/High Ability Learners: Sample SCIENCE Learning Plan

Big Idea/ Topic

Interdependence of Organisms, Relationships in Ecosystems, Cycling of Matter and Energy, Biomes

Standard Alignment

S7L4. Obtain, evaluate, and communicate information to examine the interdependence of organisms with one another and their environments.

- a. Construct an explanation for the patterns of interactions observed in different ecosystems in terms of the relationships among and between organisms and abiotic components of the ecosystem.
- b. Develop a model to describe the cycling of matter and the flow of energy among biotic and abiotic components of an ecosystem.
- c. Analyze and interpret data to provide evidence for how resource availability, disease, climate and human activity affect individual organisms, populations, communities, and ecosystems.
- d. Ask questions to gather and synthesize information from multiple sources to differentiate between Earth's major terrestrial biomes and aquatic ecosystems.

Connection to other content:

ELAGSE7W1, W2, W7, W8

MGSE7.SP.1, SP. 8

Advanced Research

My Family – The Ecosystem of our home

A **biome** is an ecological concept closely related to an **ecosystem**. It typically refers to a large-scale community of organisms shaped by common environmental conditions, such as patterns of climate and geology. **Ecosystems** can be large or small in **terms** of the amount of geographic area and populations.

Family dynamics are much like Ecosystem/Biome balance. Use your biome charts with completed characteristics to think about how each member of your family might share certain characteristics/traits.

Communication

My Family – The Ecosystem of our home

Family dynamics are much like Ecosystem/Biome balance. Use the members of your family (don't forget

about the pets in your home as well) and make connections of each “organism”, interaction, contributions, environment, finding/sharing resources, food chain and impact of each “member”.

Points to consider in building a relationship to each ecosystem type:

- Impact/Contributions to the family
- Personal Qualities: Behaviors/ attitudes
- strengths/weaknesses

Record your responses/findings on Appendix 1: Science Graphic Organizer (end of document, Pages 3-4)

An example reference if needed: <https://stobofamily.wordpress.com/2014/11/18/my-family-as-an-ecosystem/>

Critical Thinking and Critical Problem-Solving Skills

If change is a natural part of life, how would your family dynamics adapt if there is a major disruption of the ecosystem/biome balance? How are family decisions affected/influenced by other surrounding systems? How are they affected by climate or environmental change?

Document on Graphic Organizer (pages 3-4) Multiple copies can be made for the responses to the various sections.

Creative Thinking and Creative Problem-Solving Skills

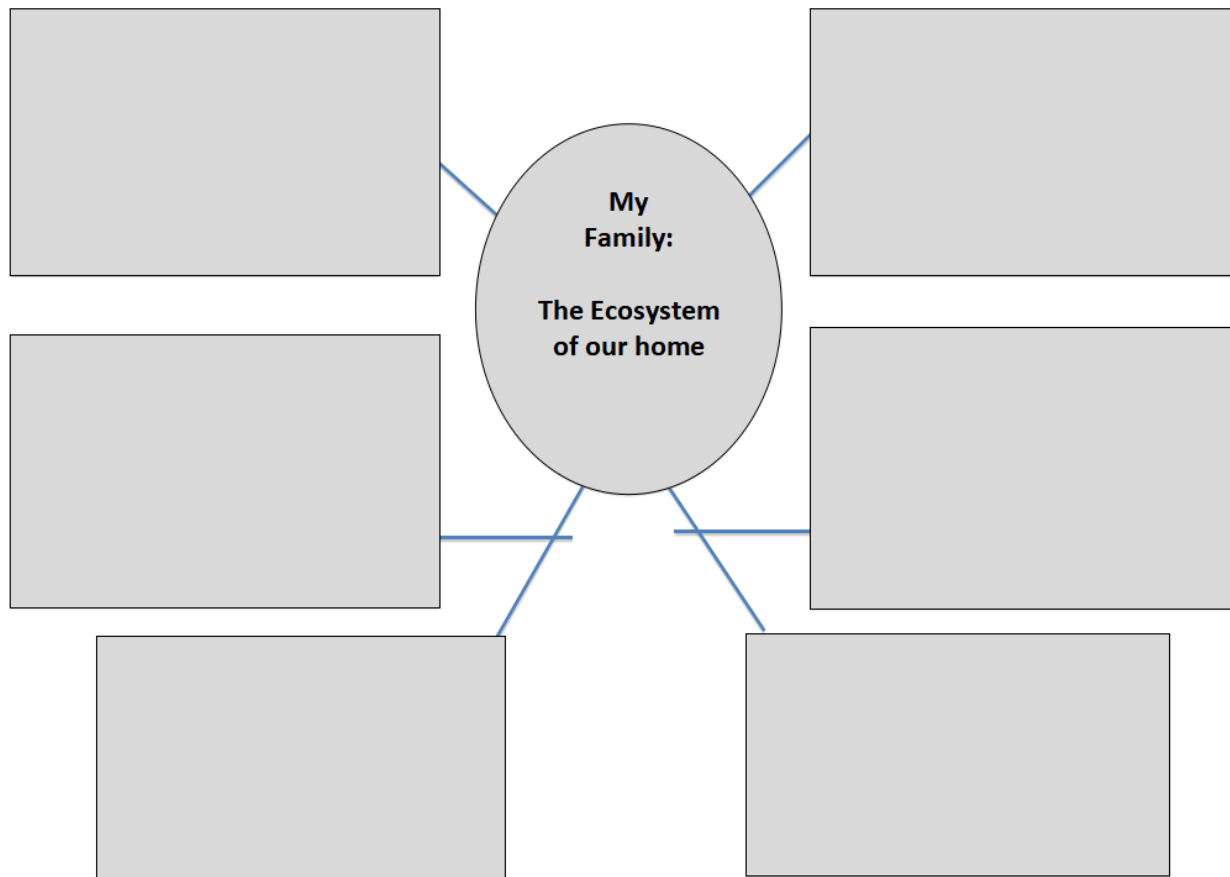
Planning ahead is an important life skill... Think of this like an “emergency fire escape plan”. What could each member do to help ease the transition if there was a life disruption? (change of work situation, medical emergency, big brother/sis going to college, etc...)

Document on Graphic Organizer (pages 3-4)

Awareness of Self—Student’s Well-being

Being part of a family may not always be easy but having a strong family unit is just as critically important as a strong and healthy environment! What could you do to ensure that you are positively contributing to your family’s needs and maintaining balance? What roles/responsibilities could you take on that would benefit the overall positivity?

Document on Graphic Organizer (pages 3-4)



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