Grade 8 Tier 2 - *Emerging*

*An eighth-grade Tier 2 student performing at the **Emerging** Level solves routine problems and demonstrates a progressing academic awareness of some of the basic skills and concepts outlined by the Alternate Eligible Content in at least one of the Pennsylvania Science Reporting Categories.*

Students performing at this level demonstrate these abilities by
- ✓ recognizing familiar technologies and their uses
- ✓ identifying the structure and functions of plants and animals that allow them to survive in their environment and
- ✓ matching basic habitats with their defining characteristics

Grade 8 Tier 2 - *Novice*

*An eighth-grade Tier 2 student performing at the **Novice** Level solves routine as well as simple multi-step problems and demonstrates a developing understanding of some of the basic skills, concepts and vocabulary outlined by the Alternate Eligible Content in at least two Pennsylvania Science Reporting Categories.*

In addition to the skills demonstrated by students performing at the *Emerging* Level, students performing at this level demonstrate these abilities by
- ✓ identifying components of naturally occurring systems
- ✓ identifying the components of a human-made system by function

Grade 8 Tier 2 - *Proficient*

*An eighth-grade Tier 2 student performing at the **Proficient** Level solves multi-step problems and demonstrates a fundamental academic awareness of most of the basic as well as some complex skills, concepts and vocabulary outlined by the Alternate Eligible Content in at least three of the Pennsylvania Science Reporting Categories.*

In addition to the skills demonstrated by students performing at the *Novice* Level, students performing at this level demonstrate these abilities by
- ✓ identifying the impact of a specific change to a system
- ✓ describing relationships between objects or events based on observations
- ✓ selecting measuring tools with the appropriate units to solve tasks
- ✓ classifying animals and plants based on shared characteristics
- ✓ sequencing the energy flow through a food chain
- ✓ identifying relationships within a food web
- ✓ identifying the impact of human activities on plants and animals

Grade 8 Tier 2 - *Advanced*

*An eighth-grade Tier 2 student performing at the **Advanced** Level solves multi-step problems and demonstrates advanced academic awareness of most of the basic and complex skills, concepts and vocabulary outlined by the Alternate Eligible Content in all four Pennsylvania Science Reporting Categories.*

In addition to the skills demonstrated by students performing at the *Novice* and *Proficient* Levels, students performing at this level demonstrate these abilities by
- ✓ identifying ways to protect the environment by reducing waste
- ✓ identifying differences and similarities in the physical properties of substances
- ✓ identifying the renewable or nonrenewable sources of commonly used products
- ✓ recognizing the natural processes that change the Earth's surface
- ✓ identifying the phase changes of water associated with the components of the water cycle
- ✓ predicting weather events based on cloud type and wind direction
- ✓ comparing the motion of objects based on the forces acting on it
- ✓ distinguishing between different types of energy sources
- ✓ sequencing naturally occurring patterns