Grade 11 Tier 2 - *Emerging*

*An eleventh-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 different plants and animals

Grade 11 Tier 2 - *Novice*

*An eleventh-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
- ✓ linking human activity to its impact on the environment
- ✓ comparing and contrasting earth's climates including the characteristics of the animals and plants that inhabit each
- ✓ recognizing the results of natural disasters on environments

Grade 11 Tier 2 - *Proficient*

*An eleventh-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
- ✓ completing a pattern or sequence
- ✓ identifying factors which result in specific changes in outcome
- ✓ making short-term predictions
- ✓ selecting the variable that causes a specific change in a system
- ✓ discriminating between methods, instruments, and scales for making scientific observations
- ✓ identifying the impact of resource use on the environment
- ✓ analyzing data to predict weather events

Grade 11 Tier 2 - *Advanced*

*An eleventh-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
- ✓ understanding that a model can be used to represent abstract concepts
- ✓ recognizing outcomes of experiments and what the experiment was designed to measure
- ✓ using a chart, graph, pictures or model to make predictions or draw conclusions
- ✓ identifying representations of biological concepts such as symbiosis, mutualism, competition, and predation
- ✓ interpreting tables and graphs to determine the relative speed, distance, and time of objects
- ✓ recognizing the processes that change the earth's surface over time such as sedimentation, erosion, and weathering
- ✓ predicting the outcomes of common situations using an understanding of forces