### Fourth Grade Curriculum Pacing Guide

**Crosscutting Concepts:** Energy and Matter  
Light and Sound

**Estimated Time:** 4 weeks  

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| **Gazing at Earth's Light Show**  
Light Language (included within instructional segment) | S4P1a, b, c  
S4P2a, b | Do you see what I see? Can you hear me now? | From *A Framework for K-12 Science Education:*  
**By the end of grade 5**  
**PS3.B: CONSERVATION OF ENERGY AND ENERGY TRANSFER**  
- Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced.  
**PS4.B: ELECTROMAGNETIC RADIATION**  
- Because lenses bend light beams, they can be used, singly or in combination, to provide magnified images of objects too small or too far away to be seen with the naked eye.  
**ETS1.B: DEVELOPING POSSIBLE SOLUTIONS**  
- There are many types of models, ranging from simple physical models to computer models. They can be used to investigate how a design might work, communicate the design to others, and compare different designs | • Planning and carrying out investigations  
• Designing solutions  
• Obtaining, evaluating, and communicating information | Background: By the end of this unit, students are using the following language in their speaking and writing during EXPLAIN or ELABORATE.  
• Interactions  
• Reflection/reflect  
• Refraction/ refract  
• Opaque, translucent, transparent  
• Lenses  
• Vibrations  
• Pitch  
• Volume |

This instructional segment will connect to Balanced and Unbalanced Forces.