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| 1     | Designing Lighting Systems (Egypt)  | 1-PS4-2 1-PS4-3 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3 | • Asking Questions and Defining Problems  
  • Planning and Carrying Out Investigations  
  • Developing and Using Models  
  • Analyzing and Interpreting Data  
  • Constructing Explanations and Designing Solutions | • PS4.B: Electromagnetic Radiation  
  • ETS1.A: Defining Engineering Problems  
  • ETS1.B: Developing Possible Solutions  
  • ETS1.C: Optimizing the Design Solution | • Cause and Effect  
  • Structure and Function  
  • Influence of Engineering, Technology, and Science, on Society and the Natural World |
| 2     | Designing Hand Pollinators (Dominican Republic) Agricultural Engineering | 2-LS2-2 2-PS1-1 2-PS1-2 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3 | • Developing and Using Models  
  • Planning and Carrying Out Investigations  
  • Analyzing and Interpreting Data  
  • Asking Questions and Defining Problems | • LS2.A: Interdependent Relationships in Ecosystems  
  • PS1.A: Structure and Properties of Matter  
  • ETS1.A: Defining Engineering Problems  
  • ETS1.B: Developing Possible Solutions  
  • ETS1.C: Optimizing the Design Solution | • Structure and Function  
  • Patterns  
  • Cause and Effect  
  • Influence of Engineering, Technology, and Science, on Society and the Natural World |
| 3     | Designing Maglev Systems (Tokyo)  | 3-PS2-3 3-PS2-4 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3 | • Asking Questions and Defining Problems  
  • Constructing Explanations and Designing Solutions  
  • Planning and Carrying Out Investigations | • PS2.B: Types of Interactions  
  • ETS1.A: Defining Engineering Problems  
  • ETS1.B: Developing Possible Solutions  
  • ETS1.C: Optimizing the Design Solution | • Cause and Effect  
  • Interdependence of Science, Engineering, and Technology  
  • Influence of Engineering, Technology, and Science, on Society and the Natural World |
| 4     | Designing Solar Ovens (Botswana)  | 4-ESS3-1 4-PS3-2 4-PS3-4 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3 | • Obtaining, Evaluating, and Communicating Information  
  • Asking Questions and Defining Problems  
  • Constructing Explanations and Designing Solutions  
  • Planning and Carrying Out Investigations  
  • Using Mathematics and Computational Thinking | • ESS3.A: Natural Resources  
  • PS3.A: Definitions of Energy  
  • PS3.B: Conservation of Energy and Energy Transfer  
  • ETS1.A: Defining Engineering Problems  
  • ETS1.B: Developing Possible Solutions  
  • ETS1.C: Optimizing the Design Solution | • Energy and Matter  
  • Influence of Engineering, Technology, and Science, on Society and the Natural World  
  • Science is a Human Endeavor |
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| 5     | Cleaning an Oil Spill (Lower Elwha Klallam Tribe, Washington State) Environmental Engineering | 5-ESS2-1 5-ESS2-2 5-ESS3-1 5-LS1-1 5-LS2-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3 | • Asking Questions and Defining Problems  
• Constructing Explanations and Designing Solutions  
• Planning and Carrying Out Investigations | • ESS2.A: Earth Materials and Systems  
• ESS3.C: Human Impacts on Earth Systems  
• LS2.A: Interdependent Relationships in Ecosystems  
• LS2.B: Cycles of Matter and Energy Transfer in Ecosystems  
• ETS1.A: Defining Engineering Problems  
• ETS1.B: Developing Possible Solutions  
• ETS1.C: Optimizing the Design Solution | • Systems and System Models  
• Influence of Engineering, Technology, and Science, on Society and the Natural World |