## GSE High School Physical Science Curriculum Map

These are bundles of core ideas from the Georgia Standards of Excellence related to an anchoring phenomenon. This document is part of a framework that includes lessons and resources.

<table>
<thead>
<tr>
<th>Instructional Segment</th>
<th>Introduction</th>
<th>Properties of Matter</th>
<th>Reactions</th>
<th>Energy</th>
<th>Force and Motion</th>
<th>Waves</th>
<th>Energy Capstone</th>
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</thead>
<tbody>
<tr>
<td>Estimated Time</td>
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<td>7 weeks</td>
<td>8 weeks</td>
<td>8 weeks</td>
<td>6 weeks</td>
<td>4 weeks</td>
<td>2 weeks</td>
</tr>
<tr>
<td>Crosscutting Concepts</td>
<td>All</td>
<td>Structure and function</td>
<td>Stability and change</td>
<td>Energy and matter</td>
<td>Cause and effect</td>
<td>Systems and system models</td>
<td>Stability and change</td>
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</table>

###年-long phenomena: Operation of a car or rocket.

- **Operation of a car or rocket**
  - Elements and compounds to make a car or rocket operate [https://goo.gl/LODHSo](https://goo.gl/LODHSo)
  - Changes in altitude affect gases, resulting in surprising effects [https://goo.gl/mbgKv8](https://goo.gl/mbgKv8)
  - Turning on your classroom lights requires many transformations of energy [https://goo.gl/9HlwL0](https://goo.gl/9HlwL0)
  - Car stop - seatbelts and airbags [https://goo.gl/aiFnyY](https://goo.gl/aiFnyY)
  - Doppler Effect [https://goo.gl/Gv6Mw7](https://goo.gl/Gv6Mw7)
  - Model and explain the operation of a car or rocket

### Core Ideas

- **All**
  - Structure of atoms and elements
  - Trends in the Periodic Table
  - Compounds: properties, bonds and naming
  - Atomic and molecular motion
  - Conservation of matter
  - Solutions
  - Acids and bases
  - Heat energy
  - Electricity and magnetism
  - Nuclear energy
  - Fission and fusion
  - Radioactive decay
  - Energy transformations
  - Forces and motion
  - Newton’s laws
  - Simple machines
  - Gravitational force
  - Energy
  - Electromagnetic and mechanical waves
  - Reflection, refraction, interference, and diffraction
  - Doppler effect
  - Energy

### Science and Engineering Practices

- **Plan and carry out investigations**
- **Ask questions**
- **Develop and use models**
- **Analyse and interpret data**
- **Construct explanations**
- **Develop and use models**
- **Use mathematical and computational thinking**
- **Engage in argument from evidence**
- **Construct explanations**
- **Analyze and interpret data**
- **Use mathematical and computational thinking**

### GSE

- **All**
  - SPS1a,b,c; SPS2a,b,c; SPS7a
  - SPS5a,b; SPS3a,b; SPS6a,b,c,d,e; SPS7a
  - SPS4a,b,c; SPS10a,b,c; SPS7a,b,c,d
  - SPS7a; SPS8a,b,c,d
  - SPS7a; SPS9a,b,c,d,e

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