# Grade 8 Science Curriculum Alignment with State Standards

NM Statute 22-13-1.6.A. Each school district shall align its curricula to meet the state standards for each grade level and subject area so that students who transfer between public schools within the school district receive the same educational opportunity within the same grade or subject area.

**District:** Roswell Independent School District  
**Textbook:** Glencoe Level Blue

| Strand: SCIENTIFIC THINKING AND PRACTICE | Standard I: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically. | 5-8 Benchmark I: Use scientific methods to develop questions, design and conduct experiments using appropriate technologies, analyze and evaluate results, make predictions, and communicate findings. |

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<thead>
<tr>
<th>Grade 8 Performance Standards</th>
<th>Grade 8 Textbook Pages</th>
<th>Supplemental Materials</th>
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</table>
| 1. Evaluate the accuracy and reproducibility of data and observations. | SE: 9-10, 15-17, 21-23, 728-731  
Lab 189, 326-327, 392-393  
Science and History 114, 328 | [http://www.edhelper.com](http://www.edhelper.com)  
[http://www.edinformatics.com/math_science/mass.htm](http://www.edinformatics.com/math_science/mass.htm)  
Media center- Scientific Methods- DVD-0256-16mins | August |
| 2. Use a variety of technologies to gather, analyze and interpret scientific data. | SE: 16-18, 749-750, 765-766  
Lab 28-29, 189, 326-327, 379, 510-511  
National Geographic 2-3  
Science and History 426 | [http://www.edhelper.com](http://www.edhelper.com)  
[http://www.edinformatics.com/math_science/mass.htm](http://www.edinformatics.com/math_science/mass.htm)  
Media center- MV-6170 (The Challenge of the Unknown)-21mins. | August |
| 3. Know how to recognize and explain anomalous data. | SE: 724, 731-732  
Integrate Social Studies 7  
TWE: FYI 10 | [http://www.edhelper.com](http://www.edhelper.com)  
### Grade 8 Science Curriculum Alignment with State Standards

**District:** Roswell Independent School District  
**Textbook:** Glencoe Level Blue

**Strand:** SCIENTIFIC THINKING AND PRACTICE

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</table>
| 1. Examine alternative explanations for observations. | SE: 182-185, 190-197, 229-231, 319, 388-391  
*Lab* 140-141, 189  
[http://www.edhelper.com](http://www.edhelper.com)  
[http://education.jlab.org/vocabhangman/index.html](http://education.jlab.org/vocabhangman/index.html)  
| 2. Describe ways in which science differs from other ways of knowing and from other bodies of knowledge (e.g., experimentation, logical arguments, skepticism). | SE: 6-11, 13-15, 21-23, 724-732  
*Lab* 140-141, 200-201, 509, 510-511  
*National Geographic* 2 | [http://science.pppst.com/scientificmethod.html](http://science.pppst.com/scientificmethod.html)  
[http://www.edhelper.com](http://www.edhelper.com)  
| 3. Know that scientific knowledge is built on questions posed as testable hypotheses, which are tested until the results are accepted by peers. | SE: 14-19, 21-23, 724-732  
*Lab* 28-29, 82-83, 112-113, 140-141, 392-393, 510-511  
*National Geographic* 20 | [http://science.pppst.com/index.html](http://science.pppst.com/index.html)  
[http://www.edhelper.com](http://www.edhelper.com)  
[http://video.google.com/videosearch?hl=en&q=scientific+method+&num=50&ei=71BiQqyqKh2g2AttcYCI&resnum=1&um=1&ie=UTF-8&source=8&channel=0&start=100] | August |
Strand: SCIENTIFIC THINKING AND PRACTICE

**Standard I:** Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.

**5-8 Benchmark III:** Use mathematical ideas, tools, and techniques to understand scientific knowledge

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| 1. Use mathematical expressions and techniques to explain data and observations and to communicate findings (e.g., formulas and equations, significant figures, graphing, sampling, estimation, mean). | SE: 47-48, 530-532, 582-583, 764-766  
*Applying Math* 126, 534, 649  
[http://www.edhelper.com](http://www.edhelper.com)  
[http://www.research.ucla.edu/era/present/tsld005.htm](http://www.research.ucla.edu/era/present/tsld005.htm) | August |
| 2. Create models to describe phenomena. | SE: 16, 727  
*Lab* 54-55, 321, 326-327, 360-361, 540-541, 570-571, 598-599, 656-657 | [http://sciencespot.net/Pages/classchem.htm](http://sciencespot.net/Pages/classchem.htm) | August-September |
# Grade 8 Science Curriculum Alignment with State Standards

**District:** Roswell Independent School District  
**Textbook:** Glencoe Level Blue

## Strand: CONTENT OF SCIENCE

### Standard I (Physical Science):
Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.

**5-8 Benchmark I:** Know the forms and properties of matter and how matter interacts.

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<th>Grade 8 Performance Standards</th>
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| 1. Know how to use density, boiling point, freezing point, conductivity, and color to identify various substances. | SE: *Integrate Chemistry* 228  
*National Geographic* 478  
*Science and History* 512  
[http://www.edhelper.com](http://www.edhelper.com)  
[http://scorescience.humboldt.k12.ca.us/fast/teachers/content/8th.htm](http://scorescience.humboldt.k12.ca.us/fast/teachers/content/8th.htm)  
Media center-MV-8473 "Properties of Matter" 18mins | August-September |
| 2. Distinguish between metals and non-metals. | SE: 438, 441-446, 448-449, 640  
Lab 453  
TWE: LD 439  
SJ 469 | [http://cdis.missouri.edu/exec/data/courses2/8194/lesson01.htm](http://cdis.missouri.edu/exec/data/courses2/8194/lesson01.htm)  
[http://web.buddyproject.org/web017/web017/metals.html](http://web.buddyproject.org/web017/web017/metals.html)  
Media center-MV-1596 "Chemical bonding and atomic structure" 23mins | September |
| 3. Understand the differences among elements, compounds, and mixtures by:  
- classification of materials as elements, compounds, or mixtures  
- interpretation of | SE: 435-439, 441-450, 468-469, 479-480  
Lab 481 | [http://science.pppst.com/scientificmethod.html](http://science.pppst.com/scientificmethod.html)  
[http://www.edhelper.com](http://www.edhelper.com)  
[http://www.docbrown.info/ks3chemistry/ks3chemistry.htm](http://www.docbrown.info/ks3chemistry/ks3chemistry.htm)  
Media center- MV-1598 "Elements, compounds and mixtures” 20 mins  
Media center- MV-4029 “Invention: Elements and compounds” 26mins. | September |
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| 4. Identify the protons, neutrons, and electrons within an atom and describe their locations (i.e., in the nucleus or in motion outside the nucleus). | SE: 407, 410-413, 415-416, 464-469, 472-477  
Lab 481, 482-483  
TWE: CUR 682 | http://science.pppst.com/index.html  
http://www.edhelper.com  
http://www.chemistry.mcmaster.ca/bader/aim/  
http://education.jlab.org/qa/atom_idx.html  
http://video.google.com/videosearch?hl=en&q=atoms+and+molecules&um=1&ie=UTF-8&ei=gpZgSo21NdqCtgeMgJ3rDA&sa=X&oi=video_result_group&ct=title&resnum=1&ved=0CFkMQV3AEwUIJj5vHgFyK7AIVC4DEmgQBAjMAQ#action_summary=7#  
Media center- MV-4688 “Einstein’s Big Idea” 112mins  
Media center- DVD-0322 – “Atoms” (Bill Nye) 26mins | September |
| 5. Explain that elements are organized in the periodic table according to their properties. | SE: 434-439, 441-450, 466-469  
Launch Lab 433 | http://science.pppst.com/scientificmethod.html  
http://www.edhelper.com  
Media center- DVD-0304-“The Elements” 52mins | September |
# Grade 8 Science Curriculum Alignment with State Standards

**District:** Roswell Independent School District  
**Textbook:** Glencoe Level Blue

**Strand:** CONTENT OF SCIENCE

**Standard I (Physical Science):** Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.

5-8 Benchmark I: Know the forms and properties of matter and how matter interacts.

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| 6. Know that compounds are made of two or more elements, but not all sets of elements can combine to form compounds. | SE: 64, 446-447, 468, 475-480  
Lab 481 | http://science.pppst.com/index.html  
http://www.edhelper.com  
http://www.chem.purdue.edu/gchelp/atoms/elements.html | October |
| 7. Know that phase changes are physical changes that can be reversed (e.g., evaporation, condensation, melting). | SE: 130-131, 492  
Integrate Chemistry 228  
MiniLab 614 | http://science.pppst.com/index.html  
http://www.usoe.k12.ut.us/curr/Science/sciber00/8th/matter/sciber/change.htm  
http://science.blips.com/story/reversals_of_earth_s_magnetic_field_explained_by_small/  
http://creationwiki.org/Geomagnetic_reversals | October |
8. Describe various familiar physical and chemical changes that occur naturally (e.g., snow melting, photosynthesis, rusting, burning).

<table>
<thead>
<tr>
<th>SE: 106, 124, 130-136, 492, 500</th>
<th>National Geographic 152, 493</th>
</tr>
</thead>
<tbody>
<tr>
<td>MiniLab 614</td>
<td>TWE: CUR 125 FYI 138</td>
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9. Identify factors that influence the rate at which chemical reactions occur (e.g., temperature, concentration).

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<th>SE: 106, 124, 130-136, 492, 500</th>
<th>National Geographic 152, 493</th>
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<tbody>
<tr>
<td>MiniLab 614</td>
<td>TWE: CUR 125 FYI 138</td>
</tr>
<tr>
<td><a href="http://www.purchon.com/chemistry/rates.htm">http://www.purchon.com/chemistry/rates.htm</a></td>
<td><a href="http://chemistry.about.com/od/stoichiometry/a/reactionrate.htm">http://chemistry.about.com/od/stoichiometry/a/reactionrate.htm</a></td>
</tr>
<tr>
<td><a href="http://www.chem.ox.ac.uk/vrchemistry/rates/newhtml/default.htm">http://www.chem.ox.ac.uk/vrchemistry/rates/newhtml/default.htm</a></td>
<td>Media center- DVD-0324 “Chemical Reactions” (Bill Nye) 26mins</td>
</tr>
</tbody>
</table>

10. Know that chemical reactions can absorb energy (endothermic reactions) or release energy (exothermic reactions).

<table>
<thead>
<tr>
<th>SE: 498-501, 620, 679</th>
<th>National Geographic 621</th>
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<th>District: Roswell Independent School District</th>
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**Strand: CONTENT OF SCIENCE**

**Standard I (Physical Science):** Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.

### 5-8 Benchmark II: Explain the physical processes involved in the transfer, change, and conservation of energy.

#### Grade 8 Performance Standards

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1. **Know that energy exists in many forms and that when energy is transformed some energy is usually converted to heat.**

   - **Textbook Pages:** SE: 68, 76-77, 375, 381-382, 498-501, 589, 620, 646-647
   - **Lab Pages:** Lab 510-511
   - **National Geographic:** 493, 621
   - **Additional Resources:**
     - [http://science.pppst.com/index.html](http://science.pppst.com/index.html)
     - [http://www.mansfieldct.org/schools/mms/staff/hand/heatemp1.htm](http://www.mansfieldct.org/schools/mms/staff/hand/heatemp1.htm)
     - [http://www.internet4classrooms.com/skills_8th_science.htm](http://www.internet4classrooms.com/skills_8th_science.htm)
     - [http://www.glenbrook.k12.il.us/gbssci/Phys/media/energy/ce.html](http://www.glenbrook.k12.il.us/gbssci/Phys/media/energy/ce.html)

   - **Addressed Month:** November

2. **Know that kinetic energy is a measure of the energy of an object in motion and potential energy is a measure of an object’s position or composition, including:**

   - **Transformation of gravitational potential energy of position into kinetic energy of motion by a falling object.**

   - **Textbook Pages:** SE: 195, 229-231, 557-559, 567-568, 619, 676
   - **Lab Pages:** Lab 684-685
   - **Additional Resources:**
     - [http://science.pppst.com/index.html](http://science.pppst.com/index.html)
     - [http://www.edhelper.com](http://www.edhelper.com)
     - [http://www.usoe.k12.ut.us/curr/Science/sciber00/8th/forces/sciber/intro.htm](http://www.usoe.k12.ut.us/curr/Science/sciber00/8th/forces/sciber/intro.htm)
     - [http://www.lessonplanet.com/search?grade=all&keywords=kinetic+energy+of+particles&rating=3&search_type=narrow](http://www.lessonplanet.com/search?grade=all&keywords=kinetic+energy+of+particles&rating=3&search_type=narrow)

   - **Addressed Months:** November-December

   **Media center- DVD-0292 “Energy” (Bill Nye) 26mins**
3. Distinguish between renewable and nonrenewable sources of energy.

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<tr>
<td><a href="http://www.eco20-20.com/">http://www.eco20-20.com/</a></td>
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4. Know that electrical energy is the flow of electrons through electrical conductors that connect sources of electrical energy to points of use, including:
- electrical current paths through parallel and series circuits
- production of electricity by fossil-fueled and nuclear power plants, wind generators, geothermal plants, and solar cells
- use of electricity by appliances and equipment (e.g., calculators, hair dryers, light bulbs, motors).

<table>
<thead>
<tr>
<th>SE: 649 Lab 655 National Geographic 675</th>
<th>TWE: AS 654</th>
<th>December</th>
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<tbody>
<tr>
<td>Media Center- MV-4545 “Bill Nye: Electrical Current” 26min</td>
<td>Media Center-MV-4309 “Electric currents and circuits” 14min</td>
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<tr>
<td>Media Center-MV-9424 “Energy” 26mins</td>
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### Standard I (Physical Science):
Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.

#### 5-8 Benchmark II: Explain the physical processes involved in the transfer, change, and conservation of energy.

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| 5. Understand how light and radio waves carry energy through vacuum or matter by:  
  - straight-line travel unless an object is encountered  
  - reflection by a mirror, refraction by a lens, absorption by a dark object  
  - separation of white light into different wavelengths by prisms  
  - visibility of objects due to light emission or scattering. | SE: 699-700, 707-709  
  Accidents in Science 716  
  Lab 714-715  
  MiniLab 710 | http://science.hq.nasa.gov/kids/imagers/ems/radio.html  
  http://science.hq.nasa.gov/kids/imagers/ems/index.html  
  http://imagine.gsfc.nasa.gov/docs/science/how_l2/spectra.html  
  http://science.pppst.com/index.html  
  http://www.edhelper.com  
  Media Center-MV-3482 "Electromagnetic Energy" 23mins  
  Media Center-MV-1945 “The Behavior of Light” 21mins | January |
6. Understand that vibrations of matter (e.g., sound, earthquakes, water waves) carry wave energy, including:
   - sound transmission through solids, liquids, and gases
   - relationship of pitch and loudness of sound to rate and distance (amplitude) of vibration
   - ripples made by objects dropped in water.

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<tr>
<th>SE: 694-697, 701-703</th>
<th>Lab 706</th>
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<tr>
<td>TWE: DI 704</td>
<td>FF 698</td>
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<td>TC 692</td>
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http://science.popst.com/index.html
http://www.edhelper.com
http://www.school-for-champions.com/science/sound.htm

Media Center-MV-3724 “Seismic Waves” 10mins

January
## Grade 8 Science Curriculum Alignment with State Standards

**Strand: CONTENT OF SCIENCE**

**Standard I (Physical Science):** Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.

**5-8 Benchmark III:** Describe and explain forces that produce motion in objects.

### Grade 8 Performance Standards

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<tr>
<td>how an electric current can produce a magnetic field (electromagnet).</td>
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<tr>
<td><strong>6. Know that Earth has a magnetic field.</strong></td>
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<td><strong>SE:</strong> 187-188, 308, 669-671, 677</td>
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<td><strong>Lab 672</strong></td>
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<td><a href="http://hyperphysics.phy-astr.gsu.edu/HBASE/magnetic/magearth.html">http://hyperphysics.phy-astr.gsu.edu/HBASE/magnetic/magearth.html</a></td>
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January
## Standard I (Physical Science):
Understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy.

### 5-8 Benchmark III: Describe and explain forces that produce motion in objects.

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| 7. Know that an object’s motion is always described relative to some other object or point (i.e., frame of reference). | SE: 187, 388-389, 523, 526  
Lab 189, 570-571  
MiniLab 525 | [http://science.pppst.com/newtonmotion.html](http://science.pppst.com/newtonmotion.html)  
[http://www.edhelper.com](http://www.edhelper.com)  
[http://www.glenbrook.k12.il.us/GBSSCI/PHYS/CLASS/newtlaws/u2l1a.html](http://www.glenbrook.k12.il.us/GBSSCI/PHYS/CLASS/newtlaws/u2l1a.html) | February |
| 8. Understand and apply Newton’s Laws of Motion:  
- Objects in motion will continue in motion and objects at rest will remain at rest unless acted upon by an unbalanced force (inertia).  
- If a greater force is applied to an object a proportionally greater acceleration will occur.  
- If an object has more mass the effect of an applied force is proportionally less. | SE: 550-552, 556-559, 563-568  
Lab 569, 570-571  
MiniLab 554  
[http://www.edhelper.com](http://www.edhelper.com)  
[http://hyperphysics.phy-astr.gsu.edu/hbase/Newt.html](http://hyperphysics.phy-astr.gsu.edu/hbase/Newt.html)  
### Grade 8 Science Curriculum Alignment with State Standards

**District:** Roswell Independent School District  
**Textbook:** Glencoe Level Blue

| Strand: CONTENT OF SCIENCE | Standard II (Life Science): Understand the properties, structures, and processes of living things and the interdependence of living things and their environments. | 5-8 Benchmark I: Explain the diverse structures and functions of living things and the complex relationships between living things and their environments. |

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</table>
| 1. Describe how matter moves through ecosystems (e.g., water cycle, carbon cycle). | SE: 130-135, 163  
Integrate Chemistry 107  
Integrate Earth Science 128  
Lab 140-141  
TWE: DIN 137, 168 |  
http://science.pppst.com/watercycle.html  
http://www.edhelper.com  
http://iltc.tamu.edu/lesson_plans.html#13-18  
(On the bottom of the page.)  
http://www.teachervision.fen.com/ecosystems/printable/32744.html  
Media center-MV- 4555 “Bill Nye Water Cycle” 26min | November |
| 2. Describe how energy flows through ecosystems (e.g., sunlight, green plants, food for animals) | SE: 106-107, 124, 135-136  
National Geographic 134  
TWE: DIN 137  
FF 108  
FYI 138 |  
http://science.pppst.com/index.html  
http://www.edhelper.com  
http://teacher.scholastic.com/activities/explorer/ecosystems/be_an_explorer/map/form_wildcats.htm  
http://www.emints.org/ethemes/resources/S00001622.shtml  
http://www.lessonplanet.com/search?keywords=ecosystems+activities&rating=3 | November |
| 3. Explain how a change in the flow of energy can impact an ecosystem (e.g., the amount of sunlight available for plant growth, global climate change). | SE: 100, 138-139  
Integrate Career 127  
Lab 162 |  
http://science.pppst.com/index.html  
http://www.edhelper.com  
http://www.usoe.k12.ut.us/CURR/science/sciber00/8th/energy/sciber/ecosys.htm  
http://www.lessonplanet.com/search?grade=all&keywords=energy+transfer+ecosystem&rating=3&search_type=narrow  
http://www.science-class.net/PowerPoints/Energy_Flow.ppt#256,1,Energy Flow Through an Ecosystem  
http://www.uwsp.edu/cnr/WCEE/keep/Mod1/Flow/foodchains.htm  
http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/F/FoodChains.html  
http://www.tutorvista.com/search/energy-flow-ecosystem | November |
## Grade 8 Science Curriculum Alignment with State Standards

**District:** Roswell Independent School District  
**Textbook:** Glencoe Level Blue

### Strand: CONTENT OF SCIENCE

**Standard II (Life Science):** Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.

**5-8 Benchmark II:** Understand how traits are passed from one generation to the next and how species evolve.

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</table>
| 1. Understand that living organisms are made mostly of molecules consisting of a limited number of elements (e.g., carbon, hydrogen, nitrogen, oxygen). | SE: 64-67, 106, 124, 130-135, 443-444  
[http://www.edhelper.com](http://www.edhelper.com)  
[http://www.project2061.org/publications/sfaa/online/chap5.htm](http://www.project2061.org/publications/sfaa/online/chap5.htm)  
| 2. Identify DNA as the chemical compound involved in heredity in living organisms. | SE: 38-39, 52, 67  
*National Geographic* 2-3  
TWE: DIN 40  
[http://www.edhelper.com](http://www.edhelper.com) | November |
| 3. Describe the widespread role of carbon in the chemistry of living systems. | SE: 66-67, 124, 135-136, 443  
*Integrate Chemistry 107*  
[http://www.edhelper.com](http://www.edhelper.com)  
[http://waynesword.palomar.edu/ploct97.htm](http://waynesword.palomar.edu/ploct97.htm) | November |
# Grade 8 Science Curriculum Alignment with State Standards

**District:** Roswell Independent School District  
**Textbook:** Glencoe Level Blue  

**Strand:** CONTENT OF SCIENCE  

**Standard II (Life Science):** Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.  

**5-8 Benchmark III:** Understand the structure of organisms and the function of cells in living systems.

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<tr>
<th>Grade 8 Performance Standards</th>
<th>Grade 8 Textbook Pages</th>
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<th>Month(s) when Addressed</th>
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</thead>
</table>
| 1. Describe how cells use chemical energy obtained from food to conduct cellular functions (i.e., respiration) | SE: 68-70, 73, 76-77  
  *MiniLab 74* |  
  http://science.pppst.com/index.html  
  http://www.edhelper.com  
  http://library.thinkquest.org/12413/structures.html  
  http://library.thinkquest.org/C004535/basic_cell_functions.html  
  http://library.thinkquest.org/C004535/basic_cell_functions.html  
  http://www.slideshare.net/cgales/cellular-structures-and-their-functions | November |
| 2. Explain that photosynthesis in green plants captures the energy from the sun and stores it chemically. | SE: 106, 108, 123-125, 135, 136  
  *Integrate Chemistry*  
  107  
  *National Geographic*  
  134  
  TWE: FYI 138 |  
  http://science.pppst.com/index.html  
  http://www.edhelper.com  
  vcell.ndsu.edu/animations/photosynthesis/movie.htm  
  http://www.cst.cmich.edu/users/baile1re/bio101fall/enzphoto/photoanima.htm#  
  http://www.pbs.org/wgbh/nova/methuselah/photosynthesis.html  
  http://www.johnkyrk.com/photosynthesis.html | November |
| 3. Describe how chemical substances can influence cellular activity (e.g., pH). | SE: 66, 68, 76, 106, 508  
  TWE: IM 78 |  
  http://science.pppst.com/index.html  
  http://www.edhelper.com  
Grade 8 Science Curriculum Alignment with State Standards

**District:** Roswell Independent School District  
**Textbook:** Glencoe Level Blue

**Strand:** CONTENT OF SCIENCE

**Standard III (Earth and Space Science):** Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth’s systems.

**5-8 Benchmark I:** Describe how the concepts of energy, matter, and force can be used to explain the observed behavior of the solar system, the universe, and their structures.

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</table>
| 1. Understand how energy from the sun and other stars, in the form of light, travels long distances to reach Earth. | SE: 309-310, 336-337, 372-374  
Lab 326-327, 360-361  
http://www.edhelper.com  
http://www.nasa.gov/audience/foreducators/son/energy/solar/F_Solar_Energy_2column.html  
http://www.google.com/search?q=Energy+and+Space&oi=navquery_searchbox&sa=X&as_sitesearch=nasa.gov&hl=en | March |
| 2. Explain how the properties of light (e.g., emission, reflection, refraction) emitted from the sun and stars are used to learn about the universe, including:  
• distances in the solar system and the universe  
• temperature s of different stars. | SE: 373-374, 381-385, 388-389  
Applying Science 372  
Lab 360-361  
TWE: DIN 376  
FYI 343 | http://science.pppst.com/index.html  
http://www.edhelper.com  
http://sol.sci.uop.edu/~jfalward/physics17/chapter12/chapter12.html  
http://theory.uwinnipeg.ca/physics/light/index.html  
http://hyperphysics.phy-astr.gsu.edu/hbase/optmod/qualig.html  
http://www.astronomynotes.com/light/s3.htm | March |
Integrate History 557 | http://science.pppst.com/index.html  
http://www.edhelper.com  
| the solar system and the universe, including:  
| similar action on masses on Earth and on other objects in the solar system  
| explanation of the orbits of the planets around the sun. | *Integrate Physics 340*  
| *Lab 341*  
| TWE: DI 560 | [http://www.nasa.gov/topics/nasalife/features/defy_gravity.html](http://www.nasa.gov/topics/nasalife/features/defy_gravity.html) |
Grade 8 Science Curriculum Alignment with State Standards

**District:** Roswell Independent School District  
**Textbook:** Glencoe Level Blue

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<th>Standard III (Earth and Space Science): Understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth’s systems.</th>
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<tbody>
<tr>
<td>5-8 Benchmark II: Describe the structure of Earth and its atmosphere and explain how energy, matter, and forces shape Earth’s systems.</td>
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</table>
| 1. Describe the role of pressure (and heat) in the rock cycle. | SE: 280, 285  
[http://www.edhelper.com](http://www.edhelper.com)  
[http://www.learner.org/interactives/rockcycle/diagram2.html](http://www.learner.org/interactives/rockcycle/diagram2.html)  
[http://www.windows.ucar.edu/tour/link=/earth/geology/rocks_intro.html](http://www.windows.ucar.edu/tour/link=/earth/geology/rocks_intro.html) | April |
| 2. Understand the unique role water plays on Earth, including:  
- ability to remain liquid at most Earth temperatures  
- properties of water related to processes in the water cycle: evaporation, condensation, precipitation, surface run-off, percolation  
- dissolving of minerals and gases and transport to the oceans | SE: 123, 130-131, 136-137, 163-169  
[http://www.edhelper.com](http://www.edhelper.com)  
[http://webinstituteforteachers.org/98/www4teach/teams/Eco-rangers/WaterPollution/Water_Pollution_Links2.htm](http://webinstituteforteachers.org/98/www4teach/teams/Eco-rangers/WaterPollution/Water_Pollution_Links2.htm)  
[http://www.mos.org/oceans/planet/cycle.htm](http://www.mos.org/oceans/planet/cycle.htm) | April |
- fresh and salt water in oceans, rivers, lakes, and glaciers
- reactant in photosynthesis.

| 3. Understand the geologic conditions that have resulted in energy resources (e.g., oil, coal, natural gas) available in New Mexico. | SE: 245 TWE: DIN 285 | http://science.pppst.com/index.html http://www.edhelper.com http://www.conservation.ca.gov/dog/kids_teachers/Pages/Kids%20and%20Educators.aspx | April |
# Grade 8 Science Curriculum Alignment with State Standards

**District:** Roswell Independent School District  
**Textbook:** Glencoe Level Blue  
**Strand:** SCIENCE AND SOCIETY

<table>
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<tr>
<th>Standard I: Understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by, individuals and societies.</th>
<th>5-8 Benchmark I: Explain how scientific discoveries and inventions have changed individuals and societies.</th>
</tr>
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</table>

## Grade 8 Performance Standards

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| **1. Analyze the interrelationship between science and technology (e.g., germ theory, vaccines).** | SE: 9, 24-27  
*National Geographic* 621, 632-633  
*Science and History* 512  
*Science & Society* 572, 600  
TWE: CUR 17  
FF 21  
FYI 7 | [http://science.pppst.com/index.html](http://science.pppst.com/index.html)  
[http://www.edhelper.com](http://www.edhelper.com)  
| **2. Describe how scientific information can help to explain environmental phenomena (e.g., floods, earthquakes, volcanoes, fire, extreme weather).** | SE: 9, 24-27  
*National Geographic* 621, 632-633  
*Science and History* 512  
*Science & Society* 572, 600  
TWE: CUR 17  
FF 21  
FYI 7 | [http://aspire.cosmic-ray.org/labs/seismic/index.htm](http://aspire.cosmic-ray.org/labs/seismic/index.htm)  
[http://nemo.sciencecourseware.org/VirtualEarthquake/VQuakeExecute.html](http://nemo.sciencecourseware.org/VirtualEarthquake/VQuakeExecute.html)  
[http://www.edhelper.com](http://www.edhelper.com)  
[http://thegreennews.net/issues/0506.htm](http://thegreennews.net/issues/0506.htm) | August |
| **3. Describe how technological revolutions have significantly influenced societies (e.g., energy production, warfare, space exploration).** | SE: 678-680  
*Accidents in Science* 716  
*National Geographic* 621, 632-633, 712  
*Science and History* 328, 512  
*Science & Society* 572  
[http://www.kurzweilai.net/articles/art0134.html?printable=1](http://www.kurzweilai.net/articles/art0134.html?printable=1) | August |
*Integrate History* 681  
*Integrate Life Science* 617  
TWE: FYI 165 | http://science.pppst.com/index.html  
http://www.edhelper.com  
http://www.teachersdomain.org/resource/phy03.sci.phys.energy.lp_energypr/  
http://www.freewebs.com/energypro/ | December |