

## Curriculum Map

Name of Teacher \_Fahmida Salam\_\_\_\_\_

Subject \_Earth Science\_\_\_\_\_

### Unit/Theme

#### Maps and Measurements

##### Enduring Understandings

1. Students will be able to know the differences between observations and Inferences
2. Students will be able to understand scientific problem solving-using equipment properly
3. Students will be able to understand the origin of the Earth and our place in the universe
4. Students will be able to use measurements, reference tables, graphing, nature of Earth Science
5. Students will be able to locate points on the earth ,latitudes, longitude, maps
6. Students will be able to understand Isomap
7. Students will be able to understand GPS/GIS

##### Essential Questions

1. How are observations and Inferences different?
2. How do you solve scientific problems?
3. How do you calculate mass, weight, length Area, Volume Time and Density?
4. How can you measure and calculate density?
5. What are models of the Earth and Earth's dimension?
6. How can you draw graphs of direct, inverse relationships?
7. How do you use the reference table properly?
8. What do you need to know about field maps, Isoclines, contour lines?

##### Activities

- Hands on activities on drawing graphs
- Hands on activities on drawing isomap
- Labs
  - Graphing skills
  - Lab Safety rules
  - Metric Measurement

<p>Density</p> <p>Percentage Error</p> <p>Locate latitudes ,longitudes, drawing of Isomaps</p> <p>Observations and Inferences</p> <p>Scientific method</p> <p>Percent Error</p>
<b>Assessments</b>
<p>Formative (Throughout)</p> <ul style="list-style-type: none"> <li>· Unit Test</li> <li>· Solve and justify task</li> <li>    Guided practice</li> <li>· Corrections and reflection</li> <li>· Group work based on post it, agree or disagree</li> </ul>
<p>Summative (End of Year)</p> <ul style="list-style-type: none"> <li>· Standardized tests and quizzes</li> <li>    Regents Past paper questions</li> </ul>
<b>Time Frame/Month 18 days</b>
<p><b>Resources/Websites(Primary/Secondary)</b></p> <ul style="list-style-type: none"> <li>● Glencoe Earth Science textbook</li> <li>● Prentice hall Earth Science</li> <li>● Reference table</li> <li>● PowerPoint notes</li> <li>● Regents review book</li> <li>● Barron's regents</li> <li>● Various videos <a href="http://www.networkscienceteacher.com">www.network science teacher.com</a></li> </ul>
<p><b>Textbook Name (Chapters/Pages)</b></p> <p><b>Glencoe Earth Science text chapters 1,2,3</b></p>

***Curriculum Map***

Name of Teacher Fahmida Salam

Subject \_Earth Science

**Unit/Theme**

Dynamic Earth

**Enduring Understandings**

1. Students will be able to understand the structure of Earth and its properties
2. Students will understand the Eratosthenes Method for circumference.
3. Students will understand Evidence of movements
4. Students will be able to understand Plate Tectonics
5. Students will be able to understand major zones and parts of volcanoes
6. Students will understand about forces within Earth, measuring and locating Earthquakes
7. Students will be able to understand the types of seismic waves

**Essential Questions**

- 1 What are the structure of the Earth and its properties?
- 2 What is the Eratosthenes Method for circumference?
3. How does the movement of Earth's tectonic plates result in many geologic features?
4. What are the three types of plate boundaries and what are the features associated with each?
5. How do plate tectonics influence the formation of volcanoes and what are the major zones of volcanism?
6. What are the three types What are Earthquakes magnitudes and intensity and how are they measured?
7. What are the three types of seismic waves?

**Activities**

Hands on activities on locating and finding latitudes and longitudes  
Finding plotting epicenters  
Plate boundaries

<b>Assessments</b>
Formative (Throughout) <ul style="list-style-type: none"> <li>· Unit Test</li> <li>· Solve and justify task</li> <li>  Guided practice</li> <li>· Corrections and reflection</li> <li>· Group work based on post it, agree or disagree</li> </ul>
Summative (End of Year) <ul style="list-style-type: none"> <li>· Standardized tests and quizzes</li> <li>  Regents Past paper questions</li> </ul>
<b>Time Frame/Month 20 days</b>
<b>Resources/Websites(Primary/Secondary)</b> <ul style="list-style-type: none"> <li>● Glencoe Earth Science textbook</li> <li>● Prentice hall Earth Science</li> <li>● Reference table</li> <li>● PowerPoint notes</li> <li>● Regents review book</li> <li>● Barron's regents</li> <li>● Various videos <a href="http://www.networkscienceteacher.com">www.network science teacher.com</a></li> </ul>
<b>Textbook Name (Chapters/Pages)</b> <b>Glencoe Earth Science text chapters 17,18,19</b>

**Curriculum Map**

Name of Teacher \_\_\_Fahmida Salam\_\_\_\_\_

Subject \_Earth Science\_\_\_\_\_

<b>Unit/Theme</b>
Rocks
<b>Enduring Understandings</b>
1.Students will be able to understand about Igneous rocks 2.Students will be able to understand about Metamorphic rocks 3.Students will be able to understand about Sedimentary rocks 4 Students will be able to understand the rock cycle

**Essential Questions**

1. What are Sedimentary rocks-classification origin, and use of reference table
2. What are igneous rock –classification origin, use of reference table?
3. What are the classification, origin, and the use of Reference table for metamorphic rock?
4. How do you explain Rock cycle?

**Activities****Lab activities on****Sedimentary Rock ID****Metamorphic Rock ID****Igneous rock ID****Assessments**

## Formative (Throughout)

- Unit Test
- Solve and justify task  
Guided practice
- Corrections and reflection
- Group work based on post it, agree or disagree

## Summative (End of Year)

- Standardized tests and quizzes  
Regents Past paper questions

**Time Frame/Month 16 days****Resources/Websites(Primary/Secondary)**

- Glencoe Earth Science textbook
- Prentice hall Earth Science
- Reference table
- PowerPoint notes
- Regents review book
- Barron's regents
- Various videos [www.network science teacher.com](http://www.networkscienceteacher.com)

**Textbook Name (Chapters/Pages)****Glencoe Earth Science text- chapters 5,6**

## Curriculum Map

Name of Teacher \_\_Fahmida Salam

Subject \_\_Earth Science

<b>Unit/Theme</b>  Landscapes
<b>Enduring Understandings</b>  1.Students will be able to understand how water cycle works 2.Students will understand about hydrology 3.Students will know about the weathering agents 4 Students will know about erosion and deposition 5.Students will be able to know about soil's porosity and permeability 6 Students will understand how mudslides occur
<b>Essential Questions</b>  1. How can surface water move weathered materials? 2. What physical features are characteristics of stream development? 3. How do mechanical and chemical weathering differ and what are the different factors that affect them? 4. What features are characteristics of the different types of erosion? 5. What factors affect soil formation? 6. What are the different soil horizons in a soil profile? 7. What are the different types and factors that affect mass movements?
<b>Activities</b>  Real world applications on agriculture and mudslides Using reference tables to find epicenter distances p waves and s waves
<b>Assessments</b>
Formative (Throughout) · Unit Test · Solve and justify task · Guided practice · Corrections and reflection · Group work based on post it, agree or disagree
Summative (End of Year)  · Standardized tests and quizzes

Regents Past paper questions

**Time Frame/Month 28 days**

**Resources/Websites(Primary/Secondary)**

- Glencoe Earth Science textbook
- Prentice hall Earth Science
- Reference table
- PowerPoint notes
- Regents review book
- Barron's regents
- Various videos [www.network science teacher.com](http://www.networkscience.com)

**Textbook Name (Chapters/Pages)**

**Glencoe Earth Science text- chapters 7,8,9**

**Curriculum Map**

Name of Teacher \_\_\_Fahmida Salam

Subject \_\_\_Earth Science

**Unit/Theme**

**Earth History**

**Enduring Understandings**

1. Students should be able to understand about fossils
2. Students will be able to understand Geologic time
3. Students will be able to know about Radioactive decay and absolute dating
4. Students will understand the Early hominids
5. Students will learn the use of geologic history on NYS chart on reference table

**Essential Questions**

1. Why do Scientists need a geologic time scale and interpreting of the past?
2. What is relative dating and bedrock correlation?
3. What are the differences between absolute age dating and relative age dating?
4. Why should they learn about hominids
5. How can the reference table be used on geologic history?

<p><b>Activities</b></p> <p>Reading of Geological time graphs          Important geologic events in NYC          Half-life</p>
<p><b>Assessments</b></p> <p>Formative (Throughout)          Unit Test          Solve and justify task          Guided practice          Corrections and reflection          Group work based on post it, agree or disagree</p> <p>Summative (End of Year)</p> <p>Standardized tests and quizzes          Regents Past paper questions</p>
<p><b>Time Frame/Month 12 days</b></p>
<p><b>Resources/Websites(Primary/Secondary)</b></p> <ul style="list-style-type: none"> <li>● Glencoe Earth Science textbook</li> <li>● Prentice hall Earth Science</li> <li>● Reference table</li> <li>● PowerPoint notes</li> <li>● Regents review book</li> <li>● Barron's regents</li> <li>● Various videos <a href="http://www.networkscience.com">www.network science teacher.com</a></li> </ul>
<p><b>Textbook Name (Chapters/Pages)</b>  <b>Glencoe Earth Science text –chapters 21,22,23</b></p>

**Curriculum Map**

Name of Teacher \_Fahmida Salam

Subject \_\_\_Earth Science

<p><b>Unit/Theme</b></p> <p>Minerals</p>
<p><b>Enduring Understandings</b></p> <ol style="list-style-type: none"> <li>1. Students will be able to know about minerals, mining and natural resources</li> <li>2. Students will be able to know how minerals are formed and classified.</li> <li>3. Students will be able to know properties of minerals</li> </ol>



4. Students will understand how to identify minerals
5. Students should be able to know the major mineral groups and how they are used.

**Essential Questions**

1. How are minerals defined?
2. How are minerals formed and classified?
3. What are the properties of minerals?
4. How are minerals identified?
5. What are the major groups and uses of minerals?

**Activities**

Lab  
Identification of minerals

**Assessments**

Formative (Throughout)  
Unit Test  
Solve and justify task  
Guided practice  
Corrections and reflection  
Group work based on post it, agree or disagree

Summative (End of Year)  
  
Standardized tests and quizzes  
Regents Past paper questions

**Time Frame/Month 14 days**

**Resources/Websites(Primary/Secondary)**

- Glencoe Earth Science textbook
- Prentice hall Earth Science
- Reference table
- PowerPoint notes
- Regents review book
- Barron's regents
- Various videos [www.network science teacher.com](http://www.networkscienceteacher.com)

**Textbook Name (Chapters/Pages) chapter 4**  
**Glencoe Earth Science text**

## Curriculum Map

Name of Teacher \_\_Fahmida Salam

Subject \_\_Earth Science

<b>Unit/Theme</b>  Meteorology
<b>Enduring Understandings</b>  <ol style="list-style-type: none"><li>1. Students will be able to understand the methods of heat transfer</li><li>2. Students will understand about the different weather variables</li><li>3. Students should be able to understand about dew point, humidity and cloud formation</li><li>4. Students will understand different station models</li></ol>
<b>Essential Questions</b> <ol style="list-style-type: none"><li>1. What are the three methods of heat transfer and what are the factors affecting their rates?</li><li>2. How are the different weather variables such as pressure, temperature, dew point, wind, speed, humidity measured?</li><li>3. What is dew point, humidity and cloud formation?</li><li>4. How can station models be drawn and read?</li></ol>
<b>Activities</b>  Writing activity on Weather Lab: Absorption and Radiation of energy
<b>Assessments</b>  Formative (Throughout) Unit Test Solve and justify task Guided practice Corrections and reflection Group work based on post it, agree or disagree
Summative (End of Year)  Standardized tests and quizzes Regents Past paper questions
<b>Time Frame/Month 14 days</b>

**Resources/Websites(Primary/Secondary)**

- Glencoe Earth Science textbook
- Prentice hall Earth Science
- Reference table
- PowerPoint notes
- Regents review book
- Barron's regents
- Various videos [www.network science teacher.com](http://www.networkscienceteacher.com)

**Textbook Name (Chapters/Pages)****Glencoe Earth Science text chapters 12,13****Curriculum Map**

Name of Teacher \_\_ Fahmida Salam \_\_\_\_\_

Subject \_\_ Earth Science \_\_\_\_\_

**Unit/Theme**

Climate

**Enduring Understandings**

- 1.Students will be able to understand the different factors that affect climate
2. Students will be able to know how different temperatures in different regions on Earth differ.
- 3.Sttudents will know about the difference between short and long term climatic changes
4. Students should be able to know the natural causes of climate change.

**Essential Questions**

1. What are the different factors that affect climate?
2. How do temperatures in different regions on Earth differ?
3. What is the difference between short term and long term climatic changes?
4. What are the natural causes of climatic change and why do they occur?

**Activities****Research on factors affecting climate****Assessments**

<p>Formative (Throughout)</p> <ul style="list-style-type: none"> <li>· Unit Test</li> <li>· Solve and justify task</li> <li>  Guided practice</li> <li>· Corrections and reflection</li> <li>· Group work based on post it, agree or disagree</li> </ul>
<p>Summative (End of Year)</p> <ul style="list-style-type: none"> <li>· Standardized tests and quizzes</li> <li>  Regents Past paper questions</li> </ul>
<p><b>Time Frame/Month 13 days</b></p>
<p><b>Resources/Websites(Primary/Secondary)</b></p> <ul style="list-style-type: none"> <li>● Glencoe Earth Science textbook</li> <li>● Prentice hall Earth Science</li> <li>● Reference table</li> <li>● PowerPoint notes</li> <li>● Regents review book</li> <li>● Barron's regents</li> <li>● Various videos <a href="http://www.networkscienceteacher.com">www.network science teacher.com</a></li> </ul>
<p><b>Textbook Name (Chapters/Pages)</b>  <b>Glencoe Earth Science text chapter 14</b></p>

**Curriculum Map**

Name of Teacher \_\_\_Fahmida Salam\_\_\_\_\_

Subject \_\_\_Earth Science\_\_\_\_\_

<p><b>Unit/Theme</b></p> <p>Astronomy</p>
<p><b>Enduring Understandings</b></p> <p>1.Students should know about phases of moon</p> <p>2.Students will be able to understand the Evolution of the Universe</p>

3. Students should understand the solar, lunar and annular eclipse
4. Students will be able to understand about Kepler's three laws
5. Students should know what causes tides
6. Students will be able to understand angle of insolation and sun's path
7. Students should know about the celestial coordinate system, gravity and inertia
8. Students should be able to know about the rotation of the Earth and its effects

**Essential Questions**

1. What are the properties and phases of the moon?
2. What are the life cycles of the stars, electromagnetic radiation, red-shift, bright-line spectra
3. What is the solar, lunar and annular eclipse and how do they occur?
4. What are the three laws of Kepler?
5. What causes tides?
6. What is the angle of insolation and what are the sun's path?
7. What is the celestial coordinate system (altitude and azimuth), gravity and inertia?
8. What are the effects of Earth's rotation on apparent celestial motions of the stars, the Moon, the sun and the planets

**Activities**

Lab activity on Eccentricity  
Sunspot Analysis

**Assessments**

Formative (Throughout)

- Unit Test
- Solve and justify task
- Guided practice
- Corrections and reflection
- Group work based on post it, agree or disagree

Summative (End of Year)

- Standardized tests and quizzes
- Regents Past paper questions

**Time Frame/Month 30 days**

**Resources/Websites(Primary/Secondary)**

- Glencoe Earth Science textbook
- Prentice hall Earth Science

- Reference table
- PowerPoint notes
- Regents review book
- Barron's regents
- Various videos [www.network science teacher.com](http://www.networkscienceteacher.com)

**Textbook Name (Chapters/Pages) chapters 27,28,29,30**  
**Glencoe Earth Science text**