**2012 Charlotte-Mecklenburg Schools**

**Fourth Grade Science**

**North Carolina Essential Standards Resource Guide**

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| **Overview of 4th Grade Science** | |
| **Unit** | **Suggested Pacing** |
| **Force and Motion** | **5 – 6 weeks** |
| **Matter: Properties and Change** | **5 – 6 weeks** |
| **Energy: Conservation and Transfer** | **5 – 6 weeks** |
| **Earth in the Universe** | **2 – 3 weeks** |
| **Earth History** | **3 – 4 weeks** |
| **Ecosystems** | **5 – 6 weeks** |
| **Molecular Biology** | **2 – 3 weeks** |
| **Review** | **2 – 3 weeks** |

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| **Standard:** | **Essential Questions:** | **Text Resources:** | **Writing Tasks:** | **Discovery Education Resources:** | **Other Resources (Labs, etc.):** |
| **4.P.1.1 Magnetism**  Explain how magnets interact with all things made of iron and with other magnets to produce motion without touching them. | 1. Why do magnets attract some metal objects but not all of them?  What students need to know:  -a magnet pulls on all things made of iron without touching them, results in motion  -magnets attract some metals, not all of them  -magnets have a force field and poles that determine how a metal affected by the magnet will behave within its field  -an object that has been electrically charged pulls or pushes on all charged objects that results in motion  -electrical charges can result in attraction, repulsion or electrical discharge | 4th Grade  NCDPI Curriculum Unit: Magnetism and Electricity  Reading in Science Resources  Unit F p. 345 What is a magnet?  Unit F p. 328 Electricity and Magnetism  Unit F p. 333 What is Electrical Charge? | Writing  Explain how a magnet will pick up materials from cereal.  Vocabulary:  magnet, iron, metal, negative, force field, poles, electric charge, battery, path, pull, push, motion, bulb, attraction, repulsion, positive | Reading Passage  <http://player.discoveryeducation.com/index.cfm?guidAssetId=FB89272C-FF6C-4489-BD8E-3DDB047C4FB3&blnFromSearch=1&productcode=DSCE>  Reading Passage  <http://player.discoveryeducation.com/index.cfm?guidAssetId=5AD2D7D8-772F-41E7-AC82-17BA31ECFA69&blnFromSearch=1&productcode=DSCE>  Exploration  <http://player.discoveryeducation.com/index.cfm?guidAssetId=2CC0553D-B678-437A-97E0-C2F09421D8B7&blnFromSearch=1&productcode=DSCE>  Video  <http://player.discoveryeducation.com/index.cfm?guidAssetId=A8A88A8C-4B87-44BA-BE38-7EDB635E2B60&blnFromSearch=1&productcode=DSCE> | Mr. Parr’s Types of Magnets Song  <http://www.youtube.com/watch?v=_xwZmpBvUTk>  Forces and Motion Resources Online:  <http://sqworl.com/jh7ugx>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.P.1.2 Electricity**  Explain how electrically charged objects push or pull on other electrically charged objects-electrical charges can result in attraction, repulsion and electrical discharge. | 1. Why do electrically charged objects produce motion?  What students need to know:  -an object that has been electrically charged pulls or pushes on all other charged objects  -electrically charges can result in attraction, repulsion and electrical discharge | 4th Grade  Activity Resources  Unit F pgs. 193 – 197 Circuits | Pretend that you are a positive charge from a battery. Write about the path you take from the battery and back again to light a bulb.  Think of an invention that has more than one purpose. For example, a radio gives information and entertains. Then, write a letter to your classmates explaining the invention and how it can be used in two different ways. | Exploration  <http://player.discoveryeducation.com/index.cfm?guidAssetId=EC92A533-D5E7-4213-B13F-5235E7068330&blnFromSearch=1&productcode=DSCE>  FUN-damental  <http://player.discoveryeducation.com/index.cfm?guidAssetId=D49C2A25-F285-4C4E-B0F0-F9DCE6171431&blnFromSearch=1&productcode=DSCE>  Video  <http://player.discoveryeducation.com/index.cfm?guidAssetId=A6EE0014-C72D-4520-8F29-51C053F799D7&blnFromSearch=1&productcode=DSCE> | Mr. Parr’s Pumped Up Circuits Song  <http://www.youtube.com/watch?v=y3yoXh94Vp0>  Forces and Motion Resources Online:  <http://sqworl.com/jh7ugx>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.P.2.1 Properties of Matter**  Compare the physical properties of samples of matter (strength, hardness, flexibility, ability to conduct heat, ability to conduct electricity, ability to be attracted by magnets, reactions to water and fire). | 1. What are the observable properties of matter?  2. How can we describe matter?  3. What happens to matter as a result of testing properties such as strength, hardness, flexibility, ability to conduct heat/electricity, ability to attract magnets and reactions water and fire/heat?  4. Based on the process of their formation, how are rocks distinguished?  What students need to know:  -observable properties that can be measured  -described according to characteristics of the materials they are made from  -can test for the properties strength, hardness, flexibility, ability to conduct heat, ability to conduct electricity, ability to be attracted by magnets, reactions to water (dissolve) and heat/fire (melt, evaporate)  -minerals can be identified by tests for hardness and streak, color, luster and cleavage  -igneous/molten rock, sedimentary/deposited rock particles (sediments) compacted, metamorphic/igneous and sedimentary transformed through heat and pressure over long periods of time | 4th Grade  T E Lessons 3, 4, Lab E31  Reading and Science Resources: Unit E lesson 4 p 261, 275  Unit F Lesson 3/p 307  Cross Curricular Projects  Unit E p. 33 What’s the Matter with Books?  Imagine It!  -Magnetism  -How Ben Franklin Stole the Lightning  *3rd Grade*  *TE Building Blocks of Matter F24 – F33* | Writing Link p E49 in Science Text - What if the ice at Earth's poles changes from ice to water? How would life change for the people and animals on Earth?  Vocabulary:  Physical property, matter, characteristics, strength, hardness, flexibility, conduct, color, luster, cleavage, reaction, igneous, sedimentary, metamorphic, transform, composition, mineral, sediment, observable, molten, deposit, compacted, streak, classify | Video: Matter and Its Properties: Observing the Properties of Matter [http://player.discoveryeducation.com/index.cfm?guidAssetId=429E22B1-088E-4736-B769-A971B9E3B4DB&blnFromSearch=1&productcode=DSCE](http://player.discoveryeducation.com/index.cfm?guidAssetId=429E22B1-088E-4736-B769-A971B9E3B4DB&blnFromSearch=1&productcode=DSCE%20) (19:41)  Exploration:  Measuring Matter  <http://player.discoveryeducation.com/index.cfm?guidAssetId=7A1AA849-7668-4C40-9AE3-C788C18AF7A6&blnFromSearch=1&productcode=DSCE>  Passage: Properties of Matter  <http://player.discoveryeducation.com/index.cfm?guidAssetId=B10E87EC-E249-40BC-9E73-3A4DCEE03FDF&blnFromSearch=1&productcode=DSCE>  Passage: The Big Wheel  <http://player.discoveryeducation.com/index.cfm?guidAssetId=728A8AEF-41F6-4CD7-BED1-3572780014C5&blnFromSearch=1&productcode=DSCE>  Passage: Understanding Physical Properties of Matter  <http://player.discoveryeducation.com/index.cfm?guidAssetId=90F247A7-CB2F-4734-91AC-C5EFBF31A24A&blnFromSearch=1&productcode=DSC> | Mr. Parr’s 4 States of Matter  <http://www.youtube.com/watch?v=vDZhUkp30tE>  Properties and Change Online Resources:  <http://sqworl.com/64f6nt>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.P.2.2 Minerals**  Explain how minerals are identified using tests for the physical properties of hardness, color, luster, cleavage and streak. | 1. How can we identify mineral properties using tests?  What students need to know:  -know that minerals can be identified by using particular tests  -know how to perform tests for hardness and streak  -able to describe the color, luster and cleavage of a mineral | 4th Grade  C5 Explore Activity  How can you interpret clues in rocks?  Unit C Lesson 1 page C7-8, Lab C8  NCDPI Curriculum Unit: Rocks and Minerals  Activity Resources  p. 70 Observing Leaves  Reading in Science Resources  Pages 119, 121, 122  School to Home  Unit E Matter p. 29 | Research a mineral to determine its properties and uses. Describe how its properties contribute to its usefulness in this way.  Invent a new use for an existing mineral. Describe how the properties of the mineral would allow it to be used in this new way. | Video: Rocks - The Solid Earth Materials – Part 1 [http://player.discoveryeducation.com/index.cfm?guidAssetId=B51CD8CA-EC96-4983-B9F0-22B99275BBB7&blnFromSearch=1&productcode=DSC](http://player.discoveryeducation.com/index.cfm?guidAssetId=B51CD8CA-EC96-4983-B9F0-22B99275BBB7&blnFromSearch=1&productcode=DSC%20%20)  (20:00)  Video: Geologist’s Notebook: What Exactly Are Minerals?  <http://player.discoveryeducation.com/index.cfm?guidAssetId=302671EF-0FCA-43F1-975C-177FDB4C1D5E&blnFromSearch=1&productcode=DSCE> (10:00)  Exploration:Minerals  <http://player.discoveryeducation.com/index.cfm?guidAssetId=D4B83B2E-BC9C-4721-AC61-91F37BFEC14C&blnFromSearch=1&productcode=DSCE>  Passage: The Mineral Museum  <http://player.discoveryeducation.com/index.cfm?guidAssetId=FA362C07-E04D-4F68-A7ED-1AE26402CC39&blnFromSearch=1&productcode=DSCE>  Passage: Dig for Diamonds  <http://player.discoveryeducation.com/index.cfm?guidAssetId=6EB8AF4C-58F4-41FB-96EE-E0C385F2A02E&blnFromSearch=1&productcode=DSCE> | Properties and Change Online Resources:  <http://sqworl.com/64f6nt>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.P.2.3 Rock classify**  Classify rocks as metamorphic, sedimentary, or igneous based on their composition, how they are formed and the processes that create them. | 1. How do rocks change over time?  2. How can we classify rocks?  What students need to know:  -know that rocks are classified based on their creation  -igneous/molten rock  -sedimentary/deposited rock particles (sediments) that are compacted  -metamorphic/igneous and sedimentary transformed through application of heat and pressure over long periods of time | *3rd Grade*  *Textbook: E P58-59,*  *3rd Grade Textbook:*  *C1-C8*  *Unit C Lesson 1, 3 Lab C5*  *Reading in Science Resource :*  *Unit C p164*  *Activity Resources*  *Unit C*  *More Rocks p.68*  *How Can You Interpret Clues in Rocks?*  *p. 69*  *Observing Leaves p. 70*  *Identifying Minerals pgs. 71-72*  *Observing Sediments p. 73*  *Reading in Science Resources: P.113, 115-116* | Interview a Rock:  Choose to interview an igneous, sedimentary, or metamorphic rock. Ask the rock questions about how it is formed, where it is found, what it is used for, etc.  Imagine you are a specific type of rock. Write an adventure story about how you were formed. Don’t forget to use specific, relevant details about your rock type.  Write a poem about igneous, sedimentary, metamorphic rocks. Tell how rocks are formed, how they look, and use rhyming words at the end of the lines. | Video: Rocks - The Solid Earth Materials Part 2  <http://player.discoveryeducation.com/index.cfm?guidAssetId=F373599E-611E-49D4-9D91-2513AF3D6B4F&blnFromSearch=1&productcode=DSCE> (27:00)  Video:  Junior Geologist: Rocks and Minerals  <http://player.discoveryeducation.com/index.cfm?guidAssetId=3FDE84C9-8D2D-41E1-A8D1-13171F2FC9E1&blnFromSearch=1&productcode=DSCE> (8:28)  Video: Geologist’s Notebook – Three Rocks  <http://player.discoveryeducation.com/index.cfm?guidAssetId=54314B01-F475-409C-BAA3-7EEB326059CB&blnFromSearch=1&productcode=DSC> (11:00)  Video Segment:  The Rock Cycle  <http://player.discoveryeducation.com/index.cfm?guidAssetId=B8D99372-4B13-4F5C-BD2A-1474B94464D2&blnFromSearch=1&productcode=DSCE> (8:08)  Video Segment:  Types of Rocks  <http://player.discoveryeducation.com/index.cfm?guidAssetId=C7992E08-6D65-421D-8665-6D105FBAB6FA&blnFromSearch=1&productcode=DSCE> (4:12)  Video Segment: Rock Detectives – Igeneous or Sedimentary?  <http://player.discoveryeducation.com/index.cfm?guidAssetId=F879A59F-766B-4BFC-9382-371D9DD05892&blnFromSearch=1&productcode=DSC> (4:56)  Exploration: Rocks  <http://player.discoveryeducation.com/index.cfm?guidAssetId=46FACD02-4F9C-4DC8-A008-8EDF72D15DD6&blnFromSearch=1&productcode=DSCE>  Fun-da-mental: Our Changing Earth  <http://player.discoveryeducation.com/index.cfm?guidAssetId=4F4E36BF-BE58-4945-8DA6-CA8C68D2282B&blnFromSearch=1&productcode=DSCE>  Passage:  Solid as a Rock  <http://player.discoveryeducation.com/index.cfm?guidAssetId=D17C7AD9-31AE-4134-82B3-0A2F48FA95A0&blnFromSearch=1&productcode=DSCE>  Passage:  The Rocks of the Great Wall  <http://player.discoveryeducation.com/index.cfm?guidAssetId=A98526BF-251F-4EB7-94AB-84CDF3F3A1EA&blnFromSearch=1&productcode=DSCE> | Free Rock Kit: <http://mrl.ies.ncsu.edu/mrl-contact-rock.cfm> (one kit per request)    Labs:  -Journey on the rock cycle game (see master)  -Food labs for types of rocks (see master)  Mr. Parr’s Rock Cycle Song  <http://www.youtube.com/watch?v=53lMdHzvGCQ>  Properties and Change Online Resources:  <http://sqworl.com/64f6nt>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.P.3.1 Energy**  Recognize the basic forms of energy (light, sound, heat, electrical and magnetic) as the ability to cause motion or create charge. | 1. How can we compare the different forms of energy?  2. How is electricity transferred in an electrical circuit?  3. How are different forms of energy transferred?  What students need to know:  -basic forms of energy: light, heat, sound, electrical and energy of motion  -electricity flowing through an electric circuit produces magnetic effects  -electric circuit with battery to bulb to bell transfers the energy to their surroundings as light, sound and heat (thermal energy) | 4th Grade  Unit F lesson 1, 3, 5  Lab F53  Unit F lesson 4 Quick  Lab F49, F41  Explore Activity: F53 What does light pass through?  Reading in Science Resources:  Unit F pgs. 296, 310  Reading in Science Resources pgs. 313, 315, 316  Activity Resources  Unit F pgs. 183-184  Absorbing Light  Activity Resources  p.182 Seeing Different Colors  Imagine It!  -Energy Makes Things Happen  -Magnetism  Cross Curricular Projects  Unit F p. 41 Using Light and Sound  Unit F p. 46 Energy Stories  Unit F p. 47 Design a Toy | Writing Link F39 in Science Text – from the POV of a heat molecule  Writing Link F61in Science Text – persuasive about noise pollution.  The light bulb was a great invention. When turned on, a light bulb sheds light that makes it possible to see in the dark. Imagine you woke up and all the energy had disappeared from your town. What would you do? How would you eat? How would you play? How would you go to school? How would you shower? How?  Vocabulary:  Energy, light, sound, heat, electrical, magnetic, motion, circuit, thermal, energy, transfer, light, medium, reflected, refracted, absorbed, wavelength, spectrum | Video: Getting to Know Energy  <http://player.discoveryeducation.com/index.cfm?guidAssetId=FD5D90B6-3C2F-4651-A32E-495045ECC2BA&blnFromSearch=1&productcode=DSCE> (22:00)  Video: Heat, Temperature and Energy  <http://player.discoveryeducation.com/index.cfm?guidAssetId=7A294F04-B8E3-4ACF-8FD4-56DDE7AD62B2&blnFromSearch=1&productcode=DSCE> (23:00)  Video: Exploring Energy  <http://player.discoveryeducation.com/index.cfm?guidAssetId=635A8036-836F-4C3B-B7A4-50B6DD29CFB0&blnFromSearch=1&productcode=DSCE> (17:05)  Video: A First Look – Electricity  <http://player.discoveryeducation.com/index.cfm?guidAssetId=F51FEBCA-8DC3-4DDB-8AF0-C1575ED42DF9&blnFromSearch=1&productcode=DSCE> (20:00)  Exploration: Electric Circuit  <http://player.discoveryeducation.com/index.cfm?guidAssetId=24A78479-7BE7-46AC-8EEB-99EA097CA466&blnFromSearch=1&productcode=DSCE>  Animation: Electric Circuit  <http://player.discoveryeducation.com/index.cfm?guidAssetId=AEA307D7-EB8D-48C4-88FC-9126DC8A0CF4&blnFromSearch=1&productcode=DSCE> | Mr. Parr’s Heat Transfer Song  <http://www.youtube.com/watch?v=wr8Z4SCETPs>  Energy Conservation and Transfer Online Resources:  <http://sqworl.com/537c8v>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.P.3.2 Light**  Recognize that light travels in a straight line until it strikes an object or travels from one medium to another, and that light can be reflected, refracted and absorbed. | 1. How can light travel?  2. How can light interact with different media?  What students need to know:  - light travels in a straight line  - light can be refracted, reflected and/or absorbed | *3rd Grade*  *Student Book: F52-F59*  *Reading in science resource: Unit F p 305, 307, 308, 309, 313, 315, 316*  *Activity resources Book – p.173*  *Inquiry Skill: F58*  *Explore Activity*  *F41 What do you see when you mix colors of light?* | Writing Link Unit F p51 in Science Text  After interacting with the explorations in Discovery Education about light reflection and refraction:  Traffic lights make transportation by foot, bicycle, and car safer. Explain how light is used to make other forms of transportation safer.  Write from the point of the view of a beam of light to compare and contrast the effects of reflection and refraction on the beam of light.  Make a sculpture using crayons, tissue paper, wax paper, or other materials. Use some opaque materials and some that let light through. Explain in a paragraph how to make the sculpture and include the steps in the order your used them. | Video: Magic School Bus Makes a Rainbow  <http://player.discoveryeducation.com/index.cfm?guidAssetId=0C740560-91D2-40F5-8746-5BFA2E758C19&blnFromSearch=1&productcode=US> (28:06)  Video: Real World Science – Light  <http://player.discoveryeducation.com/index.cfm?guidAssetId=0D2CCF17-8C4E-4101-A1FF-D11305F6878C&blnFromSearch=1&productcode=DSCE> (17:45)  Video: Transparent, Translucent, and Opaque  <http://player.discoveryeducation.com/index.cfm?guidAssetId=77B39343-56D7-4D9F-AB02-4C5AB47CB419&blnFromSearch=1&productcode=DSC> (30:21)  Exploration: Reflection  <http://player.discoveryeducation.com/index.cfm?guidAssetId=3DD8B98A-F61B-4722-B4B3-6801D59AE9CA&blnFromSearch=1&productcode=DSCE>  Exploration: Refraction  <http://player.discoveryeducation.com/index.cfm?guidAssetId=3120DDBA-C285-4EC6-B95C-814724B549FF&blnFromSearch=1&productcode=DSCE>  Passage: Light – A Form of Energy  <http://player.discoveryeducation.com/index.cfm?guidAssetId=CACEED98-85CB-4A84-A0CC-8595ABDD4F41&blnFromSearch=1&productcode=DSCE>  Passage: Too Fast to Measure  <http://player.discoveryeducation.com/index.cfm?guidAssetId=D3484C17-79DA-4AFF-AF08-DE0A58A689BB&blnFromSearch=1&productcode=DSCE>  Passage: About Energy  <http://player.discoveryeducation.com/index.cfm?guidAssetId=4750B852-F49C-457E-99F4-0DC1659E08EB&blnFromSearch=1&productcode=DSCE>  Video: Real World Science – Light  <http://player.discoveryeducation.com/index.cfm?guidAssetId=0D2CCF17-8C4E-4101-A1FF-D11305F6878C&blnFromSearch=1&productcode=DSCE> (17:45) | Mr. Parr’s Light and Color Song  <http://www.youtube.com/watch?v=X1hIQvKbQDE>  Energy Conservation and Transfer Online Resources:  <http://sqworl.com/537c8v>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.E.1.1 Earth Rotation (Day/Night)**  Explain the cause of day and night based on the rotation of Earth on its axis. | 1. How are day and night affected by the Earth’s rotation?  What students need to know:  -Earth rotates on an axis  -rotation causes light rays on one side and darkness on the other (day and night)  -rotation takes 24 hours | 4th Grade  Unit C Lesson 6  C64 – C75  School to Home Activities  Unit C Earth and Beyond p. 20, Act it Out  Activity Resources p. 95 Modeling the Sun, Earth and Moon  *3rd Grade*  *Reading in Science Resources Unit D p. 201*  *D35 – Explore Activity – What causes Day and Night?*  *Explore Activity*  *C65 How do the Sun, Earth and Moon move?*  *Student Book*  *D36-D41 – What causes Day and Night?*  *Activity resources Book – p.111 Day or Night?*  *Activity resources:*  *p. 109-117*  *Quick Lab – D40 – Making a Sundial*  *Reading in Science Resources: p. 199, 201, 202*  *Science Magazine: Sally Ride Science: STAR Time D42-D43*  *Cross Curricular Projects:*  *Unit D – p. 24, 25, 26, 32, 31-38*  *School to Home Activities:*  *Unit D p.21-30* | Day/Night Journals:  Keep a journal of sunrise and sunset times, high and low temperatures in their time zone, as well as a location in a different time zone and hemisphere that has the opposite season during that time (ex. Australia) in a table or chart. Synthesize information to explain how day, night, and seasons are affected by the Earth’s rotation and Axis tilt.  Writing  How would life be different if we were either in constant darkness (night) or light (day)? Use the day and night of Alaska as an example.  Writing pg. D41 (3rd grade book): Describe how your life would change if Earth made one complete rotation every 12 hours. Compare and contrast this with 24 hours in your real life on Earth.  Writing/Poem – What do you think about when you gaze at the moon? Would you like to visit there? What do you think the trip would be like? Write a poem from blast-off to touchdown.  Vocabulary: rotate, revolve, axis, orbit, crater, phase, water table, run off, transpiration, orbit, cycle, wax, wane | Video: The Reasons for the Seasons  <http://player.discoveryeducation.com/index.cfm?guidAssetId=48E066E2-9007-4ABD-96D8-C5149B2E69AC&blnFromSearch=1&productcode=DSCE> (26:05)  Fun-damental: Cycles in the Sky  <http://player.discoveryeducation.com/index.cfm?guidAssetId=1BDBADFC-1851-46F9-864B-818D3B0C1D72&blnFromSearch=1&productcode=DSCE>  Video Segment: Day and Night  <http://player.discoveryeducation.com/index.cfm?guidAssetId=13B1BD8A-93F8-4047-9A73-567C4069F5CF&blnFromSearch=1&productcode=DSCE> (6:09)  Video Segment: Rotation and Revolution  <http://player.discoveryeducation.com/index.cfm?guidAssetId=D621326A-36AB-47BF-9CC7-77BE8EB7589A&blnFromSearch=1&productcode=DSCE> (4:47)  Passage: Land of the Midnight Sun  <http://player.discoveryeducation.com/index.cfm?guidAssetId=257DE73B-9626-4582-A9EC-B623A8DF77DE&blnFromSearch=1&productcode=DSCE>  Passage: Just How Long is One Day?  <http://player.discoveryeducation.com/index.cfm?guidAssetId=155FC923-0009-4A90-96B3-8736CEEF8A52&blnFromSearch=1&productcode=DSCE>  Passage: Land of the Polar Night  <http://player.discoveryeducation.com/index.cfm?guidAssetId=EE876A4F-C88F-4428-AABA-A2D59FEE93AE&blnFromSearch=1&productcode=DSCE> | Earth in the Universe Online Resources:  <http://sqworl.com/v1xrkh>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.E.1.2 Moon phases**  Explain the monthly changes in the appearance of the moon, based on the moon’s orbit around the Earth, | 1. How does the moon’s position impact its appearance in the sky?  2. How is the moon’s movement related to the movement of the Earth?  3. How can we describe the way the Moon looks in the sky?  What students need to know:  -moon rotates and revolves around the Earth  -moon’s appearance (phase) is determined by its position relative to the Earth and the Sun  -appearance changes in a specific pattern and repeats sequence over approximately 28 days  -during cycle moon’s visible portion appears to grow larger (waxes)  -next period the moon’s visible portion appears to reduce in size (wanes)  -phases/New Moon, First Quarter, Full Moon, Last Quarter | 4th Grade  Unit C Lesson 6  Moon Phase Calendar Activity C74  Reading in science resource: Unit C page 164  D45- Explore Activity – Why Does the Moon’s Shape Change?  Unit D Lesson 3  Explore Activity D27  What makes the ocean move?  Activity Resource  p. 115 Rising Water  *3rd Grade*  *Reading in Science Resource: Unit D page 205, 207, 208*  *Activity Resources: p.115 Seeing Hemispheres*  *Student Book:*  *D46-D51 – How Does the Moon’s Shape Change?*  *Inquiry Skill – D50 – Use Patterns*  *Reading in Science Resources pgs. 201, 203* | Using Unit C page 159 in Reading in Science Resources as an example, compose your own folktale about the origin of the moon phases and how they are used within the culture.  Writing D51 (3rd Grade book) – Write a science-fiction story about what it would be like to live on the moon. Include characters, a setting, and a sequence of events with a problem that is solved at the end. Perform your story for an audience.  Writing – suppose you are spending the day at the beach, describe what happens when the tide changes. | Video: A Closer Look at Space- The Moon  <http://player.discoveryeducation.com/index.cfm?guidAssetId=DF48EA8B-0872-4CB0-8C7E-F388D5E415B3&blnFromSearch=1&productcode=DSCE> (20:00)  Video: Space Exploration – Phases of the Moon  <http://player.discoveryeducation.com/index.cfm?guidAssetId=0F901E9D-BAF8-4DBF-9DD6-F9A5304B4D20&blnFromSearch=1&productcode=US> (2:30)  Exploration: Moon Phases  <http://player.discoveryeducation.com/index.cfm?guidAssetId=DAC072AD-6FD9-4E87-8F80-56096D9E25CD&blnFromSearch=1&productcode=DSCE>  Passage: The Far Side of the Moon  <http://player.discoveryeducation.com/index.cfm?guidAssetId=FB2FAF9A-A64B-45CB-874C-3C69AF8C258F&blnFromSearch=1&productcode=DSCE>  Passage: Once in a Blue Moon  <http://player.discoveryeducation.com/index.cfm?guidAssetId=ADEA8B23-8C1C-4609-9503-4E280C58D19A&blnFromSearch=1&productcode=DSCE>  Passage: An Inuit Legend  <http://player.discoveryeducation.com/index.cfm?guidAssetId=B1DB9231-BAEE-4F39-8979-93CA9593C907&blnFromSearch=1&productcode=DSCE> | Mr. Parr’s Moon Phase Song:  <http://www.youtube.com/watch?v=HkvlrWpsnuQ>  Earth in the Universe Online Resources:  <http://sqworl.com/v1xrkh>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.E.2.1 Fossils characteristics**  Compare fossils (including molds, casts, and preserved parts of plants and animals) to one another and to living organisms. | 1. How do fossil characteristics differ based on age, origin and environmental factors?  2. What are the similarities and differences between fossils and existing organisms?  3. Why do some living organisms eventually become fossils?  What students need to know:  -fossils are evidence of living organisms that once existed on Earth  -fossils share some characteristics based on where, how and from what they formed  -today’s live organisms will under the right conditions leave fossil evidence | 4th Grade  Unit C Lesson 2  Explore Activity C17  Quick Lab C19  Explore Activity – C21  How are fossils formed?  Activity Resources Unit A pgs. 13-16 How can we use skeletons to compare organisms?  Activity Resources book: p.77 Clay Stories  *3rd Grade*  *Uncovering the Mammoth article A62-63*  *Unit A lesson 3*  *Explore Activity A29*  *Reading in Science Resources Unit C pgs. 127, 128*  *3rd Grade Textbook:*  *C22-C27* | Writing Link p C25 in Science Text  Interview an extinct animal:  Discuss habitat, habits, and environmental factors and explain how they may have contributed to their extinction and becoming a fossil.  Suppose that you are a wooly mammoth. Write a letter to an elephant in the future. Include questions as a wooly mammoth might ask an elephant.  Vocabulary:  Fossil, evidence, imprint, mold, weathering, cast, amber, extinct, embryo, erosion, landslide, earthquake, volcano, impact, geologist, fault, seismic, wave, crust, glacier, mantle, outer core, inner core, vibration | Video: Real World Science – Fossils and Dinosaurs  <http://player.discoveryeducation.com/index.cfm?guidAssetId=B5AE6400-5F97-4751-9B9A-BFDE93613287&blnFromSearch=1&productcode=DSCE>  Video: Fossil Life – An Introduction  <http://player.discoveryeducation.com/index.cfm?guidAssetId=0674E1F7-FBB4-485E-B428-D26468BEAEDF&blnFromSearch=1&productcode=DSCE> (20:39)  Virtual Lab: No Bones About It  <http://player.discoveryeducation.com/index.cfm?guidAssetId=A8D24F34-CC0B-42EE-9888-E1ABA585738C&blnFromSearch=1&productcode=DSCE>  Animation: Fossil  <http://player.discoveryeducation.com/index.cfm?guidAssetId=B96B7A94-220E-4B98-BDD2-C5926C6FEDCC&blnFromSearch=1&productcode=DSCE>  Animation: Dinosaur  <http://player.discoveryeducation.com/index.cfm?guidAssetId=E4CF57EF-E125-4C5C-A5C2-AB20C98A061D&blnFromSearch=1&productcode=DSCE>  Video Segment: Horseshoe Crab  <http://player.discoveryeducation.com/index.cfm?guidAssetId=8DEDA9A5-D867-42CE-9C44-58B4559AA2F9&blnFromSearch=1&productcode=DSCE> (2:10)  Passage:Fossils  <http://player.discoveryeducation.com/index.cfm?guidAssetId=12FB2E59-976A-4F17-BF50-498CF379ECDC&blnFromSearch=1&productcode=DSCE>  Passage: Make Your Own Fossil  <http://player.discoveryeducation.com/index.cfm?guidAssetId=723FC16E-F430-46E7-995D-BFC78D19FB30&blnFromSearch=1&productcode=DSCE> | Earth History Online Resources:  <http://sqworl.com/xxc2je>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.E.2.2 dating fossils/organisms**  Infer ideas about Earth’s early environments from fossils of plants and animals that lived long ago. | 1. How can fossils provide information about the environment in which the organism lived?  What students need to know:  -fossils provide environmental conditions where, when and how the organism lived | 4th Grade  Unit A Quick Lab A31  Reading in Science Resource:  Unit A page 19, 21, 22  Unit C 117  Cross Curricular Project  Unit C p. 17 A Very Old Secret  Unit C p. 19 Fossil Mix-Up  Unit C p. 21 Ice-Age News  Activity Resources  Unit C  What Can You Learn from Fossils? p.74  Making Molds and Casts p. 78  Use Numbers p. 79 | Archaeologist:  Provide student with pictures of fossils and background information. Synthesize this information to explain what they can learn from the fossil regarding its environment and habitat in a newspaper article format.  Writing  Explain some possible causes of animal extinction today. | Video Segment: Fossils – Prehistoric Clues  <http://player.discoveryeducation.com/index.cfm?guidAssetId=D8E36D04-834C-4939-B437-57FD54539140&blnFromSearch=1&productcode=US> (8:02)  Exploration: Fossils  <http://player.discoveryeducation.com/index.cfm?guidAssetId=239AE140-5AAC-435E-9437-787C20606C14&blnFromSearch=1&productcode=DSCE>  Video Segment: Dinosaurs and Fossils  <http://player.discoveryeducation.com/index.cfm?guidAssetId=D6487398-DA41-40A0-97E2-F4009B539F22&blnFromSearch=1&productcode=DSCE> (5:37)  Passage: The Big Five  <http://player.discoveryeducation.com/index.cfm?guidAssetId=4794C2E0-D681-4719-BE79-0D893968F366&blnFromSearch=1&productcode=DSCE> | Earth History Online Resources:  <http://sqworl.com/xxc2je>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.E.2.3 Earth Changing over time**  Give examples of how the surface of the earth changes due to slow processes such as erosion and weathering and rapid processes such as landslides, volcanic eruptions and earthquakes. | 1. Why does the surface of the Earth Change over time?  2. What effects do weathering and erosion have on the Earth?  What students need to know:  -surface of earth changes over time  -processes that change earth are erosion and weathering  -changes can be slow, rapid, subtle or drastic  -wind, water (including ice) and chemicals break down rock and carry soil from one place to another  -gravity can cause large sections of soil/rock to move suddenly down an incline (landslide)  -solid rock can deform or break with sufficient pressure (earthquake)  -volcanic eruptions occur when heat and pressure of melted rock and gases (underground) cause the crust to crack and release the materials | 4th Grade  Uncovering the Past article C 26-27  Unit E page 58  Unit C lesson 3, 5  Wind and Water Unit C pages C40-41  Lab C36 “Flow of a Glacier”  Reading in Science Resource  Unit C page 116  School to Home  Unit C Earth and Beyond p. 16 Glacial Drop  Cross Curricular Project Unit C p.23  Shake-Proof Skyscrapers  Unit C Earthquake Vibrations pgs. 91-92  Imagine It!  -The Snowflake: A Water Cycle Story  -What Rot! Nature’s Mighty Recycler  Unit D Lesson 4  Explore Activity D37  Reading in Reading Resources pgs. 207, 209, 210  Unit C Lesson 3  Explore Activity C33  Reading in Science Resources pgs. 137, 139, 140  *3rd Grade*  *Reading in Science Resources Unit C p147, 151, 152, 157, 158, 164*  *Activity Resources*  *Unit C How do Glaciers scratch and move rock? pgs. 80 – 84*  *Planet Movement p. 120* | News Reports:  -Research a historical landslide, earthquake or volcanic eruption. Explain its effects and impacts on the area.  -Report on the benefits and dangers associated with erosion and weathering of two areas (ex. desert rocks, river beds, delta of Mississippi River, etc.) using scientific vocabulary and reporting on the cause/effect relationships associated with weathering and erosion.  There are many ways to explain how the Grand Canyon was formed. Ancient people used stories to explain how the Grand Canyon was formed. Draw pictures to help you tell your story.  Have you lived through a bad storm? If not, ask a friend or adult who has. Then, write a public service announcement that tells how to prepare for a storm. Tell how the storm changes people, plants, animals or the land quickly.  Writing – How could people live during an ice age? Write a story that takes place during an ice age. | Video: Magic School Bus Rocks and Rolls  <http://player.discoveryeducation.com/index.cfm?guidAssetId=940DDC9E-ED34-46BB-AFFE-622EDE16F670&blnFromSearch=1&productcode=US> (26:12)  Video: Weathering and Erosion  <http://player.discoveryeducation.com/index.cfm?guidAssetId=6B1E329E-5A77-4B36-BFA9-1D307F75441C&blnFromSearch=1&productcode=DSC> (20:00)  Virtual Lab: Erosion – Here Today, Gone Tomorrow  <http://player.discoveryeducation.com/index.cfm?guidAssetId=CD2F0CCC-B917-4D35-9426-0B593EE91C29&blnFromSearch=1&productcode=DSCE>  Video Segments: Earth Changes Slowly & Earth Changes Quickly  <http://player.discoveryeducation.com/index.cfm?guidAssetId=C17A60E2-27CE-4020-AB82-8C0D80F5697B&blnFromSearch=1&productcode=DSCE> (2:32 & 3:38)  Video: Junior Geologist – Our Planet Earth  <http://player.discoveryeducation.com/index.cfm?guidAssetId=BA85CEFE-F1A8-4B0F-A6F8-647769F143B8&blnFromSearch=1&productcode=DSCE> (10:52)  Exploration: Erosion and Deposition  <http://player.discoveryeducation.com/index.cfm?guidAssetId=13E41367-886C-4413-9A36-68961182CD80&blnFromSearch=1&productcode=DSCE>  Fun-damental: Our Changing Earth  <http://player.discoveryeducation.com/index.cfm?guidAssetId=4F4E36BF-BE58-4945-8DA6-CA8C68D2282B&blnFromSearch=1&productcode=DSCE>  Video: TLC Elementary School: Geologic Processes  <http://player.discoveryeducation.com/index.cfm?guidAssetId=9BE2C7CB-2A2B-4047-8F3A-5FDC6EA20C8B&blnFromSearch=1&productcode=DSCE> (24:36)  Video Segments for Erosion:  <http://player.discoveryeducation.com/index.cfm?guidAssetId=5BA34F2D-EB30-4C21-9D93-6023AA357B6E&blnFromSearch=1&productcode=DSCE> (2:29)  <http://player.discoveryeducation.com/index.cfm?guidAssetId=BF653A97-7DFB-4DFC-99FF-2FF8EC79F779&blnFromSearch=1&productcode=DSCE> (2:47)  <http://player.discoveryeducation.com/index.cfm?guidAssetId=F094D3EC-9E7F-4B19-B8CD-7D6E452E91A4&blnFromSearch=1&productcode=DSCE> (4:42)  <http://player.discoveryeducation.com/index.cfm?guidAssetId=7216EC51-B5CC-4C7D-9174-4475439193DE&blnFromSearch=1&productcode=DSCE> (3:33)  <http://player.discoveryeducation.com/index.cfm?guidAssetId=65085BD1-4EC7-4E81-9BCC-05918FBDF740&blnFromSearch=1&productcode=DSCE> (2:32)  Passage:Weathering  <http://player.discoveryeducation.com/index.cfm?guidAssetId=F9D7055A-2D74-4CF3-8EB7-92C09C5F948B&blnFromSearch=1&productcode=DSC>  Passage: Weathering and Erosion  <http://player.discoveryeducation.com/index.cfm?guidAssetId=8DF01D39-7CA0-4A29-A39A-A6E452488E35&blnFromSearch=1&productcode=DSCE>  Passage: Land and Water  <http://player.discoveryeducation.com/index.cfm?guidAssetId=62A5AAAB-88C8-40D2-8268-8DAE3EF571F5&blnFromSearch=1&productcode=DSC>  Passage: Erosion  <http://player.discoveryeducation.com/index.cfm?guidAssetId=33A208F4-3836-47DF-8121-9723617A8A88&blnFromSearch=1&productcode=DSC>  Passage: Sculptures of Sand and Stone  <http://player.discoveryeducation.com/index.cfm?guidAssetId=72817735-0402-4312-BDCA-D6347340CB70&blnFromSearch=1&productcode=DSC> | Mr. Parr’s Earth Changing Song  <http://www.youtube.com/watch?v=QeanQ-Pu7Vk>  Earth History Online Resources:  <http://sqworl.com/xxc2je>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.L.1.1 Organisms and Ecosystems**  Give examples of changes in an organism’s environment that are beneficial to it and some that are harmful. | 1. How can changes in an environment negatively and positively impact organisms?  What students need to know:  -for any environment some kinds of plants and animals survive some do not  -when an insect population grows, birds that eat insects grow  -when an insect population decreases by disease, bird population will be reduced | 4th Grade  Unit A Lesson 5 pA54-57  Explore Activity A55  Reading in Science Resource:  Unit A WCS7, 33, 35, 36  Activity Resources  Unit A p.21 Terrarium Ecosystems  p. 28 Changing the amount of Sunlight  Performance Assessment A96 Ecosystem Poster  TE: Unit A p. 8 Class Project – Ecosystem Mapping  NCDPI Curriculum Unit : Animal Behaviors and Adaptations (link on Sqworl)  *3rd Grade textbook:*  *Unit B, Chapter 4*  *B4-B11, B14-B33, B40-B45, B48-B67*  *Inquiry Skill – B15 – Where does food come from?*  *B25 – How do living things meet their needs?*  *Unit A Lesson 4*  *Explore Activity A39*  *Activity Resources p. 21* | Community Evaluation:  Research how the school positively and negatively impacts its surrounding environment. Generate a report of their findings and make recommendations for improving their impact on the environment.  – Interview a family member about a neighborhood they know. How has it changed through the years?  Compare two kinds of wolves (red vs. gray)  Writing – Write a story about a food chain, which plants and animals will you use as characters? What problems will you write about? Write a dialogue for your characters.  Vocabulary: environment, adaptation, behavior, survive, drought, predator, organism, survive, population, interact, overpopulation, prey, ecosystem, community, habitat, producer, pollution, ecology, consumer, decomposer, food chain, food web, acid rain | Video: TLC Elementary School – People and the Environment  <http://player.discoveryeducation.com/index.cfm?guidAssetId=56CAE996-65EF-41CA-9B32-4BB2739AC5E9&blnFromSearch=1&productcode=DSC> (25:32)  Video Segment: All Living Things Respond to the Environment  <http://player.discoveryeducation.com/index.cfm?guidAssetId=F4CCE4BD-8EC3-4B61-A8E8-87952CFE1A3E&blnFromSearch=1&productcode=DSCE> (3:43) | Mr. Parr’s My Biome Song  <http://www.youtube.com/watch?v=0A5eeE93uEA>  Ecosystems Online Resources:  <http://sqworl.com/l415cd>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.L.1.2 Animal Adaptation**  Explain how animals meet their needs by using behaviors in response to information received from the environment. | 1. How do animals adapt their behavior and appearance to survive in their habitat?  What students need to know:  -animals collect information about the environment using their senses  -animals exhibit instinctive (inborn) behaviors | 4th Grade  Unit B Lesson 6  B 74 Dancing Bees  Imagine It!  -Who Eats What? Food Chains and Food Webs  Reading in Science Resource: Unit B pgs. 108, 109  School to Home: Unit A p. 4 An Ecosystem Diary  Cross Curricular Project: Unit B p. 11 The Living Dragon  Activity Resources: Unit A pgs. 26 – 33 What Causes Ecosystems to Change? | Writing/Research  Choose an animal from one of the regions in North Carolina. Research the animal and its habitat to describe its adaptations, habitat/surrounding environment and how they relate to its ability to survive.  Imagine you are stranded in either the arctic or desert biomes. You are allowed to choose one adaptation to help you survive one week in that biome. Which adaptation would you choose. Use at least 5 facts from your research to support your answer.  Writing/Personal Narrative  Ask students to imagine that they have gone on a trip to photograph rare animals in the wild. Then have them write a photo essay explaining how they took photographs of three different animals, including how they got close enough to each animal to take its picture. Encourage students to “create” each of the photographs with art materials and to explain their work. | Video Segment: Predators and Prey in the Arctic Tundra  <http://player.discoveryeducation.com/index.cfm?guidAssetId=3FDFAA69-154D-407A-9565-2F0A611D3DD6&blnFromSearch=1&productcode=DSCE> (6:07)  Video: Animal Adaptations  <http://player.discoveryeducation.com/index.cfm?guidAssetId=D42358D9-B1E1-4B18-8DCD-E5D15BE2A95C&blnFromSearch=1&productcode=DSCE> (24:00)  Video: Animals Around Us – Animal Adaptations- What Are They?  <http://player.discoveryeducation.com/index.cfm?guidAssetId=0A8E65FD-D8F1-4A3D-9004-E66D1A481731> (14:00)  EBook: Hide and Seek  <http://player.discoveryeducation.com/index.cfm?guidAssetId=46931455-A4AC-4795-9739-2739BB5F0373&blnFromSearch=1&productcode=DSCE>  Exploration: Animal Defense – Go Away!  <http://player.discoveryeducation.com/index.cfm?guidAssetID=d9d8bf7c-1ac4-4707-8d5b-8f05745f4585&productCode=DSC> | Mr. Parr’s Adaptation Song:  <http://www.youtube.com/watch?v=l-1WzDLCHmA>  Ecosystems Online Resources:  <http://sqworl.com/l415cd>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.L.1.3 Humans in the environment**  Explain how humans can adapt their behavior to live in changing habitats (e.g., recycling wastes, establishing rain gardens, planting trees and shrubs to prevent flooding and erosion). | 1. How can we adapt our behavior to preserve our environment?  2. What effects do we have on the our environment?  What students need to know:  -humans can adapt their behavior in order to conserve the materials and preserve the ecological systems that they depend on for survival | 4th Grade  Unit A p58-61, 52-53, 36-37  Reading in Science Resource:  Unit A 36  Imagine It!  -The Great Kapok Tree | Choose an animal. Write a story about a scientist who studies that animal and learns more about humans in the process.  (Example page B78)  After reading The Great Kapok Tree (Imagine It! Book), write a similar style story that addresses another negative effect that humans have on our environment (ex. Car pollution, greenhouse gas emitions, over-fishing, illegal hunting/fishing, etc.) | Virtual Lab: An Insect’s Home Sweet Home  <http://player.discoveryeducation.com/index.cfm?guidAssetId=35E38369-1FEF-44D3-8F70-DDD7AD4F3391&blnFromSearch=1&productcode=DSCE> Video Segment: How Human Activities Affect the Balance of Nature  <http://player.discoveryeducation.com/index.cfm?guidAssetId=68A27CBD-B6C9-4095-9E04-22C4265BC76F&blnFromSearch=1&productcode=US> (3:17)  Video: TEAMS – Ecosystems – Humans in the Ecosystem  <http://player.discoveryeducation.com/index.cfm?guidAssetId=805C026F-50A2-425C-81B9-B9933E22A5CB&blnFromSearch=1&productcode=US> (30:00)  Video Segment: Humans and Their Environment  <http://player.discoveryeducation.com/index.cfm?guidAssetId=56E0685B-9511-45BF-81AA-7F4ADBE3847B&blnFromSearch=1&productcode=DSC> (5:47)  Video Segment: Impact of Human Activity on the Environment – Global Warming  <http://player.discoveryeducation.com/index.cfm?guidAssetId=98E68EB5-0109-488B-A5D3-542F49E81812&blnFromSearch=1&productcode=DSCE> (4:10)  Passage: Populations and Pollution  <http://player.discoveryeducation.com/index.cfm?guidAssetId=55DB1860-0BA1-4B69-8D1F-6690D4C1D2A6&blnFromSearch=1&productcode=DSCE>  Passage: Human Effects on Ecosystems  <http://player.discoveryeducation.com/index.cfm?guidAssetId=1BAEC2B6-72F1-4134-B123-33C1E52A7BF1&blnFromSearch=1&productcode=DSCE>  Animation: Pollute  <http://player.discoveryeducation.com/index.cfm?guidAssetId=E445232D-3D19-4681-A70C-A8496CB7FC43&blnFromSearch=1&productcode=DSCE>  Video Segment: Protecting the Rain Forest  <http://player.discoveryeducation.com/index.cfm?guidAssetId=4BF45BBC-3DD3-4341-8537-E3254381F89B&blnFromSearch=1&productcode=DSC> (2:55) | Ecosystems Online Resources:  <http://sqworl.com/l415cd>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.L.1.4 Specific adaptations within a species**  Explain how differences among animals of the same population sometimes give individuals. | 1. How do differences in animals within the same population affect their ability to survive?  What students need to know:  -there is a variation among individuals of one kind within a population  -the variation results in individuals having an advantage in surviving and reproducing | 4th Grade  Unit B page 66  Reading in Science Resource:  Unit B pgs. 105, 107, 108  Cross Curricular Projects: Unit A p. 6 Observing Ecosystems  Activity Resources: Unit B pgs. 64-68 How can body color help an animal survive?  p. 66 Designing Tigers  Explore Activity C65  How can body color help an animal survive? | Research two different animals from the same species. Use images and research to compare and contrast their features, habitats, habits, and adaptations that allow them to survive in their habitat. Generate an “encyclopedia article” for each animal that describes why they are able to survive in their habitats. Write a short report describing why these adaptations are important and how they would not be as capable of surviving in the other animal’s habitat, despite them belonging to the same species.  Imagine that the snowshoe hare did not change colors as its environment changed. What other ways could the snowshoe hare adapt to its environment? | Video: Life – Birds  <http://player.discoveryeducation.com/index.cfm?guidAssetId=DDB7182B-F61F-49A3-87A0-260432E91849> (43:34)  Video: Exploring the Diversity of Life – Not What They Seem  <http://player.discoveryeducation.com/index.cfm?guidAssetId=ADC8632E-214F-4B34-8D5C-0CDB31716FEB&blnFromSearch=1&productcode=US> (10:00)  Video Segment: Evolution of a New Species  <http://player.discoveryeducation.com/index.cfm?guidAssetId=00C5DA6A-4A27-4E5E-B976-53F6D5AD5E54&blnFromSearch=1&productcode=US> (3:38)  Ebook: Ecosystems, Changes and Adaptations  <http://player.discoveryeducation.com/index.cfm?guidAssetId=F662194B-872B-4491-9E6B-3DC21C812F54&blnFromSearch=1&productcode=DSCE> | Lab: Bird Beak Experiment (see master)  Ecosystems Online Resources:  <http://sqworl.com/l415cd>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.L.2.1**  **Food and Energy**  Classify substances as food or nonfood items based on their ability to provide energy and materials for survival, growth and repair of the body. | 1.How does food provide energy?  2. How do foods and non-foods differ in their ability to promote survival, growth and bodily repair?  What students need to know:  -living things derive their energy from food  -plants produce their own food while other organisms must consume plants or other organisms in order to meet their food (energy) needs | 4th Grade  TE R27 Activity Pyramid  Food, Growth and Energy (Supplemental Reproducible Book)  pgs. 1 - 24  NCDPI Curriculum Unit: Food and Nutrition | Provide students with several pictures of meals and ask them to choose the most balanced and make a persuasive argument for why someone should eat the meal they chose.  Food Journal-  Keep a food journal for at least 7 days. Tally how many servings of each food group you eat daily and evaluate whether or not your diet is balanced. Describe ways in which you make good food choices and make at least one goal for improving your diet.  Write Haikus about energy, food, growth and the body.  Vocabulary: vitamins, minerals, exercise, energy, growth, repair, healthy, diet, supplements | Video: MyPlate Guidelines for Healthy Living  <http://player.discoveryeducation.com/index.cfm?guidAssetId=7064ADBC-CEA5-4256-85A3-FF089A345509&blnFromSearch=1&productcode=DHC> (16:52)  Skill Builder: Grain Grab  <http://player.discoveryeducation.com/index.cfm?guidAssetId=34EF0A69-7249-4BCA-BABD-7FBF91449A33&blnFromSearch=1&productcode=US>  Passage: Choose MyPlate – Ten Tips to a Great Plate  <http://player.discoveryeducation.com/index.cfm?guidAssetId=867613C5-2C3C-4488-A35E-AC3AEFC1FC08&blnFromSearch=1&productcode=DSCE>  Video Segment: Food and Energy  <http://player.discoveryeducation.com/index.cfm?guidAssetId=38E436C0-27F9-4390-B02F-E62B349ED2C5&blnFromSearch=1&productcode=US> (1:38)  Video: Food, Energy and You  <http://player.discoveryeducation.com/index.cfm?guidAssetId=38E01511-350F-476E-AE4E-713F24C108EC&blnFromSearch=1&productcode=DHC> (20:00) | [www.choosemyplate.gov](http://www.choosemyplate.gov)  Mr. Parr’s Digestion Song  <http://www.youtube.com/watch?v=8sDMVgw9d-c>  Molecular Biology Online Resources:  <http://sqworl.com/i5s5nu>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |
| **4.L.2.2**  **Nutrition**  Explain the role of vitamins, minerals and exercise in maintaining a healthy body. | 1.What role do vitamins, minerals and exercise have in maintaining a healthy body?  What students need to know:  -humans have needs for vitamins, minerals and exercise in order to remain healthy  -movement is essential for growth, development and maintenance of the human body and its systems  -vitamins and minerals are found in healthy foods as dietary supplements | 4th Grade  R27, R35-40  Food, Growth and Energy (Supplemental Reproducible Book) pgs. 1 -24 | Diary/Interview/Story:  Create two fictional diaries comparing and contrasting the lifestyles of the following people.  \*The first person maintains a healthy diet and exercised for at least 20 minutes each day, gets 8 hours of sleep each night, and limits their TV/video game time to 2 hours or less per day.  \*The second person lives a somewhat unbalanced lifestyle and eats fast food three times per week, only plays at recess at school, and watches at least 5 hours of TV per night, often when he is supposed to be asleep.  Think of a new exercise that would make kids “want” to exercise, write about it. | Video: Why Exercise?  <http://player.discoveryeducation.com/index.cfm?guidAssetId=2B2CA582-884F-46A3-A7A2-3A5490BBC956&blnFromSearch=1&productcode=DHC> (14:33)  Video: Food and Nutrition Part 2  <http://player.discoveryeducation.com/index.cfm?guidAssetId=2A11AB57-22F0-4A7A-91BC-2AD5727F1604&blnFromSearch=1&productcode=DHC> (16:00)  Video: The Adventures of Slim Goodbody in Nutri-city  <http://player.discoveryeducation.com/index.cfm?guidAssetId=4A54DFA6-C23E-4927-8BA0-589C2D04C981&blnFromSearch=1&productcode=US> (28:29)  Passage: A Disappearing Act  <http://player.discoveryeducation.com/index.cfm?guidAssetId=65176E53-056F-456F-8421-DC09129C1E5C&blnFromSearch=1&productcode=DSCE>  Video: MyPlate – Dietary Guidelines for Elementary Students  <http://player.discoveryeducation.com/index.cfm?guidAssetId=C54E6A8F-5F38-462B-AEE2-1E6A9523D477&blnFromSearch=1&productcode=DHC> (24:02)  Passage: The Heart of the Matter  <http://player.discoveryeducation.com/index.cfm?guidAssetId=D9B4757F-8738-46E9-9DC4-5A3707FFE570&blnFromSearch=1&productcode=DSCE>  Passage: A Day in Your Digestive System  <http://player.discoveryeducation.com/index.cfm?guidAssetId=6D881966-A64F-4E80-9CC6-9CA403718599&blnFromSearch=1&productcode=DSCE>  Passage: Water for Life  <http://player.discoveryeducation.com/index.cfm?guidAssetId=9F489B14-17AA-427D-B174-A333D82D492F&blnFromSearch=1&productcode=DSCE>  Passage: Are You Nuts?  <http://player.discoveryeducation.com/index.cfm?guidAssetId=C984C889-92B1-4EAE-B265-44B86ECB58DB&blnFromSearch=1&productcode=DSCE>  Video  <http://player.discoveryeducation.com/index.cfm?guidAssetId=C54E6A8F-5F38-462B-AEE2-1E6A9523D477&blnFromSearch=1&productcode=DHC> | Virtual Lab  <http://player.discoveryeducation.com/index.cfm?guidAssetId=5711A3A3-2E69-4291-A958-CDBE5976F323&blnFromSearch=1&productcode=DSCE>  Mr. Parr’s Nutrition Song  <http://www.youtube.com/watch?v=6fhSGWdbm9g>  Molecular Biology Online Resources:  <http://sqworl.com/i5s5nu>  General Science Resources Online:  <http://sqworl.com/4m5mo8> |