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| **Structural Organization Within the Human Body** |
| **Indicator** |
| 7-3.1 Summarize the levels of structural organization within the human body (including cells, tissues, organs, and systems). |
| **Instructional Strategies** |
| 1. *Essential* - Create a chart (flow chart, concept map web) to explain the structure of a multi cellular organism. *Quadrant A*  Organ  Systems  Cells  tissues  organs  2. *Enrichment* - Use a Venn diagram or chart to compare and contrast the different types of cells and tissues. *Quadrant A*  3. *Enrichment* - Students draw and label one or more of the cells or tissues observed. *Quadrant B*  4. *Enrichment* - Students research uses of stem cells for tissue development. Students can debate ethical issues of stem cell use. *Quadrant D*  5. *Essential* - Using a model or chart of the human body, choose one system to discuss the different levels of organization of that system (structures). Tell how they work together to perform a particular function. *Quadrant C*  Digestive system    Esophagus stomach small intestines  blood muscle epithelial nerve (tissues) |
| **Resources** |
| **Text:** Glencoe/Mcgraw-Hill South Carolina Science  **Other Resources:** See **“DropBox”** for additional resources**.**  **Web Sites:**  02/20/09 - The Organ Trail Webquest – Wanted Poster - <http://www.sciencespot.net/Pages/otrail.html>  02/20/09 - Levels of Organization: Cells R Us worksheet – <http://tlc.ousd.k12.ca.us/~acody/7cif7.html>  02/20/09 - Tissues, Organs, and Organ Systems – <http://web.jjay.cuny.edu/~acarpi/NSC/14-anatomy.htm>  Study Island - [www.studyisland.com](file:///D:\user\My%20Documents\Dropbox\Curriculum\Early%20Childhood\www.studyisland.com)  **SC Science Standards Support Document at** [**http://scde.mrooms.org/index.php?page=14497**](http://scde.mrooms.org/index.php?page=14497)  **Differentiation:** Strategy/Activity #1 - Multi-cellular organisms – make word cards of each level of cellular organization, have students sequence them *Quadrant B;* Teacher shows pictures of each organizational level *Quadrant A*  Strategy/Activity #5- Students write a paragraph comparing and contrasting the different types of cells or tissues. *Quadrant C***reak** |
| **Assessment** |
| **Teacher Created Assessment** |

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| **Assessment** |
| **Teacher Created Assessment** |
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| **Major Organs of the Human Body and Their Funcitons** |
| **Indicator** |
| 7-3.2 Recall the major organs of the human body and their function within their particular body system. |
| **Instructional Strategies** |
| 1. Skeletal System   * + *Enrichment* - Students construct a skeleton model and label bones. *Quadrant B*   2. Muscular System   * *Enrichment* - Students construct a model of a human and label different kinds of muscles. *Quadrant B*   3. Digestive System   * *Essential* - Repeat Lesson 1.1, STC/MS Human Body Systems, p. 131 using the digestive organs only. The students will place the digestive organs in correct order extending from the mouth to the rectum. *Quadrant A* * *Essential* – Digestive System Board Game *Quadrant C*   1. Students create a board game to travel through the digestive system.   2. Students draw a complete diagram of all organs connected and labeled.   3. Students create questions to go along with each organ.   4. Students roll the dice and move along the board, moving from organ to organ. Students must answer the question correctly before rolling the dice again. * *Essential* – Digestive System Children’s Book   *Quadrant C*   * 1. Students create a children’s book that includes the following organs – mouth, esophagus, stomach, small intestines, large intestines, rectum and anus, pancreas, gall bladder, liver.   2. The story book pages should include:      + a title for the organ      + an illustration or picture of the organ      + a short description of the organ’s function     4. Circulatory System   * *Enrichment* - Students draw a heart and label the different parts. *Quadrant B* * *Enrichment* - Students compare and contrast arteries, capillaries, and veins. *Quadrant A* * *Enrichment* - Students make a Venn diagram comparing veins and arteries. *Quadrant A*   5. Respiratory System   * *Essential* - Explain the flow of air from the environment to the lungs. Describe the organs of the respiratory system the air will pass. *Quadrant C*   6. Excretory System   * *Essential* – Students explain how urine is processed from the body. *Quadrant A* * *Essential* - Students draw and label the excretory system. *Quadrant B* * *Enrichment* - Students construct a model of the excretory system illustrating how the nephrons filter the blood. *Quadrant C*   7. Nervous System   * *Enrichment* - *Alternative if have access to Aldridge and Alexander*. Students make an analogy of the nervous system to the fire department. Students make an analogy of the nervous system to the computer, *Quadrant C* * *Enrichment* - Students label the parts of the central nervous system and describe the function of each part. *Quadrant B* * *Essential* - From a diagram of the nervous system trace the path of the message from stimulus to response (i.e. fire alarm, hot pizza, tack). *Quadrant B* * *Essential* - Students make a table of the parts and their functions of the central nervous system (cerebrum, cerebellum, brain stem, and spinal cord. *Quadrant B*   **Also see 7th Grade Science Modules on S3 Curriculum at** <http://scde.mrooms.org/index.php?page=14497> |
| **Resources** |
| **Text:** Glencoe/Mcgraw-Hill South Carolina Science, p.66  **Science Kits:**STC/MS Human Body Systems  **Other Resources:** See **“DropBox”** for additional resources**.**  **Web Sites:**  02/20/09 - Body Quest - <http://library.thinkquest.org/10348/home.html>  02/20/09 - Innerbody - <http://www.innerbody.com>  02/20/09 - Human Body Systems - <http://www.stemnet.nf.ca/CITE/body.htm>  02/20/09 - Interactive Organ and Organ System Games – <http://www.bbc.co.uk/science/humanbody/body/index_interactivebody.shtml>  Study Island - [www.studyisland.com](file:///D:\user\My%20Documents\Dropbox\Curriculum\Early%20Childhood\www.studyisland.com)  **SC Science Standards Support Document at** [**http://scde.mrooms.org/index.php?page=14497**](http://scde.mrooms.org/index.php?page=14497)  **Differentiation:** Strategy/Activity #3a - “String Activity”, STC/MS Human Body System, pp. 20-24. Arrange the string on a life size poster. Label the organs and their function on poster. *Quadrant C;* Students cut out pattern of upper and lower arm. Color the muscles pink and the skin tone. Put the parts together with brads. Demonstrate contraction and release of muscles. *Quadrant C* |
| **Assessment** |
| **Teacher Created Assessment** |

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| **Major Organs of the Human Body and Their Function** |
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| 7-3.2 Recall the major organs of the human body and their function within their particular body system. |
| **Instructional Strategies** |
| 1. Skeletal System   * + *Enrichment* - Students construct a skeleton model and label bones. *Quadrant B*   + *Enrichment* - *Alternative if have access to Alexander*. Students complete “How Can the Composition of Bone Be Tested?” Alexander, Life Science, p. 402. *Quadrant C*   2. Muscular System   * *Enrichment* - Students construct a model of a human and label different kinds of muscles. *Quadrant B*   3. Digestive System   * *Essential* - Repeat Lesson 1.1, STC/MS Human Body Systems, p. 131 using the digestive organs only. The students will place the digestive organs in correct order extending from the mouth to the rectum. *Quadrant A* * *Essential* – Digestive System Board Game *Quadrant C*   1. Students create a board game to travel through the digestive system.   2. Students draw a complete diagram of all organs connected and labeled.   3. Students create questions to go along with each organ.   4. Students roll the dice and move along the board, moving from organ to organ. Students must answer the question correctly before rolling the dice again. * *Essential* – Digestive System Children’s Book   *Quadrant C*   * 1. Students create a children’s book that includes the following organs – mouth, esophagus, stomach, small intestines, large intestines, rectum and anus, pancreas, gall bladder, liver.   2. The story book pages should include:      + a title for the organ      + an illustration or picture of the organ      + a short description of the organ’s function     4. Circulatory System   * *Enrichment* - Students draw a heart and label the different parts. *Quadrant B* * *Enrichment* - Students compare and contrast arteries, capillaries, and veins. *Quadrant A* * *Enrichment* - Students make a Venn diagram comparing veins and arteries. *Quadrant A*   5. Respiratory System   * *Essential* - Explain the flow of air from the environment to the lungs. Describe the organs of the respiratory system the air will pass. *Quadrant C*   6. Excretory System   * *Essential* – Students explain how urine is processed from the body. *Quadrant A* * *Essential* - Students draw and label the excretory system. *Quadrant B* * *Enrichment* - Students construct a model of the excretory system illustrating how the nephrons filter the blood. *Quadrant C*   7. Nervous System   * *Enrichment* - *Alternative if have access to Aldridge and Alexander*. Students make an analogy of the nervous system to the fire department, Aldridge, Course 2, p. 241. Students make an analogy of the nervous system to the computer, Alexander, Life Science, pp. 467 or 470. *Quadrant C* * *Enrichment* - Students label the parts of the central nervous system and describe the function of each part. *Quadrant B* * *Essential* - From a diagram of the nervous system trace the path of the message from stimulus to response (i.e. fire alarm, hot pizza, tack). *Quadrant B* * *Essential* - Students make a table of the parts and their functions of the central nervous system (cerebrum, cerebellum, brain stem, and spinal cord. *Quadrant B*   **Also see 7th Grade Science Modules on S3 Curriculum at** <http://scde.mrooms.org/index.php?page=14497>**k** |
| **Resources** |
| **Text:** Glencoe/Mcgraw-Hill South Carolina Science, p.66  **Science Kits:**STC/MS Human Body Systems  **Other Resources:** Life Science by Peter Alexander, et. al., Science Interactions Course 2 by Bill Aldridge, et. Al  See **“DropBox”** for additional resources**.**  **Web Sites:**  02/20/09 - Body Quest - <http://library.thinkquest.org/10348/home.html>  02/20/09 - Innerbody - <http://www.innerbody.com>  02/20/09 - Human Body Systems - <http://www.stemnet.nf.ca/CITE/body.htm>  02/20/09 - Interactive Organ and Organ System Games – <http://www.bbc.co.uk/science/humanbody/body/index_interactivebody.shtml>  Study Island- [www.studyisland.com](file:///D:\user\My%20Documents\Dropbox\Curriculum\Early%20Childhood\www.studyisland.com)  **SC Science Standards Support Document at** [**http://scde.mrooms.org/index.php?page=14497**](http://scde.mrooms.org/index.php?page=14497)  **Differentiation:** Strategy/Activity #3a - “String Activity”, STC/MS Human Body System, pp. 20-24. Arrange the string on a life size poster. Label the organs and their function on poster. *Quadrant C*  Students cut out pattern of upper and lower arm. Color the muscles pink and the skin tone. Put the parts together with brads. Demonstrate contraction and release of muscles. *Quadrant C* |
| **Assessment** |
| **Teacher Created Assessment Winter Break** |