

## Lesson Design Template

### Planning

<b>Name:</b> Ricky Rio	<b>Subject Area:</b> Science/ELA	<b>Lesson Date:</b> 4/30/15
<b>Unit Title:</b> Human Body	<b>Lesson Plan Title:</b> Our Digestive Systems (2 <sup>nd</sup> phase)	<b>Grade Level:</b> 7 <sup>th</sup> -8 <sup>th</sup> Self-Contained/SKILLS
<b>Time Required:</b> 45-50 min.	<b>Materials and Media:</b> (texts, visuals, computer, projector, markers, websites) Smartboard with body slide and intestine slide, Digestive Table, body manikin, Newspaper, funnel, Small cup of water, Pipette or syringe, plastic bag rolled and taped to form a tube (with the bottom cut off), plastic sealable bag, stocking or leg from tights, small plastic bag with a small hole cut in the bottom, Kitchen towels, plastic bin bags, scissors, blank digestive table (6), 6 baggies with 8 pictures of body parts, 6 baggies with 8 pictures of body part functions.	
<b>Aligned Standards:</b> (Common Core/Content Area Standards)		
<p>AZ- Common Core State Standards (2012)          Subject: English Language Arts &amp; Literacy in History/Social Studies, Science, and Technical Subjects          Grade: Grade 6-8 students:          Content Area: English Language Arts          Strand: Speaking and Listening Standards          Domain: Presentation of Knowledge and Ideas          Standard:          4. Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.</p> <p>AZ- Common Core State Standards (2012)          Subject: English Language Arts &amp; Literacy in History/Social Studies, Science, and Technical Subjects          Grade: Graded 6–8 Students          Content Area: Literacy in Science and Technical Subjects          Strand: Reading Standards          Domain: Integration of Knowledge and Ideas          Standard:          9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.</p>		
<b>Measurable Objectives:</b> <i>Ensure that learning is focused clearly enough that both students and teacher know the intended result of instruction.</i>		
<p>Five out of the 6 students will be able to orally and visually identify the 4 organs associated with the Digestive System and their function (Mouth, Esophagus, and Stomach, and intestines), and score at least 6 pts. based on the Digestive Rubric.</p>		
<b>Criteria (Quantitative):</b>		
<p>5/6 students will score 6/9 pts. on rubric</p>		

### Assessment Tool:

Each student will be asked to orally and visually identify the 4 organs used in the digestive system (mouth, esophagus, stomach and intestines) and the organ's function, given a visual of the body's major organs (body manikin). Responses will be graded using a rubric (exceeds (3 pts.), meets (2 pts.), remediate (1 pt.) in the areas of content/ 4 organs, content/4 functions, and fluency). A total of 9 pts. is possible. Students will be pulled individually by teacher to alleviate distractions. Each student will be allowed one prompt, except for Seth and Emily who will be allowed 3 prompts.

**Differentiation:** *How will you meet the needs of all your students (variables could include readiness, rate of learning, interest, learning styles, flexible groups, products demonstrating mastery).*

- **Remediation:** *Re-teaching of the content using a multi-sensory approach or different method. Adapting and modifying instructional practices to deliver appropriate, responsive instruction for students.*

Based on the student's responses during the anticipatory set, a quick review may be necessary as a whole group. *For those students that can't remember the names of the 3 digestive organs they learned yesterday, we will refer back to the chart, and learn the "Digestion Song" along with a kinesthetic strategy of touching each body part when it is referred to in the song.*

- **Extensions:** *Enhancement of the content (Bloom's Taxonomy/Webb's Depth of Knowledge) that will go above and beyond the measurable goals.*

Cut pictures from magazines, that represent people digesting food at any stage, or the body part that represents a particular function, and glue on to the correct bubble of a bubble map of the digestive system.

## Delivery

**Anticipatory Set with Purpose:** *More than just words and discussion with your students. You can also engage in a brief activity or question-and-answer session to start the lesson plan off in a participatory and active manner which encourages engagement. (Lead-in \*written in Narrative Form):*

How many of you digested food this morning? All of you...WOW! Me too. What was the 1<sup>st</sup> way you digested your food Sam? Yes...you chewed it. Everyone point to the organ that people chew with...now show me chewing. Why did Sam chew his food? Absolutely!...he wanted to make his food smaller. What else happened in Sam's mouth to help the food get smaller?...Think back to our experiment yesterday, Emily put something on the food that Cam chewed in his hand. Jacob...what was that? Yes...Cam put water on it...so what is the water in our mouth called...Yes...Saliva. Jacob...what do you think Sam did after he chewed it and made it smaller...yep...he swallowed it. Everyone show me the organ where the food goes after you swallow it. You are all correct. Olivia...what is this organ called. Close...it's called the Esophagus...everyone say esophagus. Olivia...what does the esophagus do in the digestive system...YES!...it takes the food down to the next organ called the...?? (signal for everyone to say it)...you got it...the stomach. Seth...what did you pour into our imaginary stomach yesterday...yes...sprite.... What is in the stomach that helps to break down our food even more... that's right...stomach acid.

Why do we eat...besides because we are hungry? ...Sam...what do we get from food? ...No answer...If I don't eat I will feel tired (act sluggish) but after I eat I will have...what?...Yes, Olivia...I will have energy (run in place really fast). We eat to give our body energy throughout our day.

Our digestive system breaks down our food into really tiny parts...so that the nutrients (good stuff like vitamins) can go to all our body parts. What might happen if the food we eat didn't get broken down? You bet! ...you could choke!! It would be impossible to get a big fat steak down this tiny hole (point to the fake esophagus model), or in these tiny veins (point to the veins in your arm). We couldn't get nutrients to our brain without our digestive system.

**Instructional Sequence:** *Numbered steps which detail teacher facilitated instruction with evidence of modeling, guided practice, active engagement strategies and checking for understanding (throughout the lesson) and differentiation of instruction.*

#### INPUT and MODELING

Where does the broken down food go? Does it sit in our stomach? Yesterday we learned about the 1<sup>st</sup> three organs of the digestion system. Today we are learning about the 4<sup>th</sup> organ, called the "intestine". Everyone repeat "intestine". One more time..."intestine"!

1. Bring up the digestive table on the Smartboard (3 columns with the headings "Organ", "Action", and "Why". There will be 4 rows each having a picture of a digestive organ (mouth, esophagus, stomach, intestines).
2. Point to the 1<sup>st</sup> three that you did yesterday, and then introduce the intestines.
3. Describe the function of the intestines. (It is here where the body decides what to keep and what to throw away. The body will take all the nutrients from the food we eat, but needs to get rid of what we don't use.
4. Fill out the table for the Intestines using kid friendly terms. Have kids help you remember.
5. Point to the model of the human body parts and describe how the intestines are broken down into two parts (small intestines and large intestines). Show students a slide on the Smartboard of how long the intestine is and how far the food travels.
6. Ask the students what happens to the food that we don't need. (You might get some choice words, just let them know that our bodies must get rid of the food we don't use so that food doesn't rot and become like poison to our body.

Now we are going to move to the floor where you see a bunch of newspapers spread out. Sit around the newspaper so we can finish making our own model of the digestive system. (A second bag of stomach contents was made for demonstration purposes the previous day.)

#### GUIDED PRACTICE

1. **Students sit in a circle around you.** Explain that today, together, you are all going to finish constructing a human digestive system in the classroom. Remind students to keep everything over the floor covering and use kitchen towels to clean themselves if they need to.
2. **Show students that bag of food, representing the stomach, that they did yesterday.**
3. **Next describe how the students will cut a small hole in the bottom of the bag (representing the pyloric sphincter) and with a partner, pours 'food' into only the top 1/3 of the stocking/tights leg (representing the small intestine).** This will take two people. While one cuts the hole, the other holds the leg open at the top and uses their other hand to squeeze the material together a bit lower down, in order to prevent the food from going immediately down the whole leg! (use Jacob and Olivia). Review the directions several times asking students to repeat them to you. Model how to do it with Miss Nell, using another bag of food (created before class), and another stocking.
4. **When they have the food in the top 1/3 of the leg, use the pipette to squirt the water with the food coloring (representing bile) in and say you are squirting in bile which breaks down fats.** Make sure to do this over a bin, as the water will seep out of the panty hose.
5. **Have them take turns squeezing the food through the stocking (the small intestines).** The water coming out through the walls represents the nutrients going to the rest of the body.
6. **At the end of the stocking leg is the foot (large intestine).** Explain there are 'good' bacteria here and last bits of water and nutrients are absorbed into the body. Teacher cuts a hole in the end as the food approaches.
7. **Next have two students squeeze the remaining food into the small plastic bag with a small hole cut in the bottom.** Then have them squeeze their waste through the hole in the cup into a bowl (imaginary toilet). Point out again, that this how we get rid of food that we don't need.

Make sure everyone is clean and all the 'mess' is on the covered part of the floor. Afterwards, go through the digestive system using a body diagram. Point out key functions of each organ

#### INDEPENDENT PRACTICE/ASSESSMENT

Pass out a blank table (like the digestive table we filled out earlier) and a baggie to each child with pictures of 8 body parts (including

the digestive organs). Students will need to select and glue the picture of the digestive organ in the correct column and row of the table. When done, ask the students to raise their hand. Miss Nell will come by and check for accuracy. When students have it correct she will pass out a 2<sup>nd</sup> baggie of 8 body part function pictures. Students will select and glue them in the correct row/column. When they are finished, have them raise their hand and Miss Nell will come and check for accuracy.

As they finish, one at a time, they will meet at the teaching table with me. Each student will be asked to orally and visually identify the 4 organs used in the digestive system (mouth, esophagus, stomach and intestines) and the organ's function, given a visual of the body's major organs (body manikin). Responses will be graded using a rubric (exceeds (3 pts.), meets (2 pts), remediate (1 pt.) in the areas of content/ 4 organs, content/4 functions, and fluency). A total of 9 pts. is possible. Students will be pulled individually by teacher to alleviate distractions. Each student will be allowed one prompt, except for Seth and Emily who will be allowed 3 prompts.

**Closure:** *Revisit/reflect on Anticipatory set and help students organize the information into a meaningful context in their minds. (\*written in Narrative Form)*

Great work class! When you go home today, who will be digesting their food from lunch? (All hands go up). Why do you think it's important to eat foods that have a lot of vitamins in them...Sam? No answer...what happens to our food in the intestines...think back to our experiment when I poured the water (nutrients) into the stocking...where did the water go? Correct. The water seeped out of the stocking or the intestines. That water was our imaginary nutrients. We want as much water (nutrients) going into our bodies so they stay healthy. )