

## Lesson Design Template

### Planning

<b>Name:</b> Ricky Rio	<b>Subject Area:</b> Science	<b>Lesson Date:</b> 4/29/15
<b>Unit Title:</b> Human Body	<b>Lesson Plan Title:</b> Our Digestive Systems (1 <sup>st</sup> phase)	<b>Grade Level:</b> 7 <sup>th</sup> -8 <sup>th</sup> Self-Contained/SKILLS
<b>Time Required:</b> 30-40 min.	<b>Materials and Media:</b> (texts, visuals, computer, projector, markers, websites) Smartboard with body slide and Digestive Table, Newspaper, small banana, digestive biscuit or cracker, funnel, small container of Sprite with very small amount of food coloring in it (preferably green), 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. 6 organ pictures in one baggies (36 pictures and 6 baggies), 3 digestive action pictures + 3 body part actions in one baggies (36 pictures and 6 baggies).	
<b>Aligned Standards:</b> (Common Core/Content Area Standards)  AZ- Common Core State Standards (2012) Subject: English Language Arts & 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.		
<b>Measurable Objectives:</b> <i>Ensure that learning is focused clearly enough that both students and teacher know the intended result of instruction.</i>  <ol style="list-style-type: none"> <li>1. Five out of the 6 students will be able identify the first 3 organs associated with the Digestive System (Mouth, Esophagus, and Stomach)</li> <li>2. Five out of the 6 students will be able to correctly match those three organs' functions to the name of the organ using a visual.</li> </ol>		
<b>Criteria (Quantitative):</b> <ol style="list-style-type: none"> <li>1. 5/6 students with 100% accuracy</li> <li>2. 5/6 students with 100% accuracy</li> </ol>		
<b>Assessment Tool:</b> Each student will get a baggie with 6 pictures of different body parts. The student will need to find the 3 digestive organs discussed today (mouth, esophagus, and stomach) out of the 6 pictures and lay them face up on their desk. Teacher will check each student. A 2 <sup>nd</sup> bag will be distributed containing 6 different actions, written in simple terms. The student will need to match the correct action with the correct organ. Teacher will check each student when done. (The actions may need to be read to Emily and Seth. Provide direction prompts as needed).		
<b>Differentiation:</b> <i>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).</i>		

- **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.*

During the assessment (independent activity), if a student isn't getting it, I will pull them to the small table, and reteach using all visuals (organ and action). During this instruction I will have them touch their mouth as they chew something (cracker), feel their throat as it goes down the esophagus, and touch their stomach as they feel it leaving their esophagus.

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

For those who get it right away, I will give them a blank drawing of an outlined figure (head and torso). They can draw what happens to the food as it goes through each organ.

## 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):*

Here is a picture of a body (visual of body on Smartboard). Picture yourself eating dinner last night. (Pause) Seth, what did you have to eat last night? (ask several other students) Wow...you all ate pretty well last night! Who can come up here and show me the first thing you did to eat your food? Okay...Cam...tell us what happened to your hamburger. You ate it...yes...now show me with what body part you ate it with...yes, your mouth. Did you swallow it whole...no...what did you do...yes you chewed it. (**model chewing**) Once you chewed it, what happened...hopefully you swallowed it?. Now, let's have Emily come up here. Em what do you think happened to Cam's hamburger...? (Continue asking questions of different students until you get to the intestine. At each different stage ask another student to come up.) We just followed Cam's hamburger through the DIGESTION process.

Why do you think Cam ate his hamburger? Yes...because it was good... but why does Cam need to eat? Why do we all need food to eat? That's correct...we eat to give our body energy. We need to understand our digestive system so in case something goes wrong with it, we will be able to tell the doctor which area is affected. f

**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

Our digestive system helps us break down the food we eat into energy and nutrients to keep our body healthy and functioning. Can every one say together "Digestion"? (**CforU**) Today we are going to learn about the first 3 organs that help with digestion (leave the word digestion blank and ask students to tell you what it is.) ...the "mouth", the "esophagus" and the "stomach". We'll learn about the "intestines tomorrow".

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. Starting with the mouth describe what happens. Talk about the function of the teeth (chewing), Saliva (dissolving), and tongue (swallowing). Ask the students "why" they think we chew. Point out the size of the esophagus using the model and how we need to chew and dissolve our food so it can fit into the esophagus without choking.
3. Fill out the table for the Mouth using kid friendly terms. Have kids help you remember.
4. Describe the next step of the digestive system, the "esophagus". Use the model to show students the esophagus again. Describe how the swallowing process gives the food momentum to move down esophagus tube. Point out that it is in the esophagus that choking can happen. Food that is too big, gets stuck and blocks the tube from getting air. Ask one student to come up and help you write "What Happens" and "why" is the correct box. The student can ask for help.

5. Ask students where they think the food goes next? Show them the model of the stomach. Let them know that the stomach is where the majority of our food gets broken down. The esophagus brings the food that was chewed to the stomach where it's mixed with stomach acid. Food usually sits in the stomach for about 6 hours!

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 make our own model of the digestive system.

#### GUIDED PRACTICE

1. **Students sit in a circle around you.** Explain that together you are all going to construct a human digestive system in the classroom. Everyday materials will represent each main part (so they will need to use their imagination) and students will follow the journey that a banana (moist food) and a biscuit (dry food) would take as they travel through the body, starting at the mouth. Ask for volunteers to help with each part of the digestive process and ask them to help you keep everything over the floor covering and use kitchen towels to clean themselves if they need to.
2. **One student 'chews' the biscuit by placing in their hand and squashing and grinding it (chewing).** Put a few drops of water (representing saliva) into their hands as they are 'chewing'. They should end up with a ball of food (bolus) just as we do in our mouths.
3. **Chop up the banana with scissors (representing teeth).** Another student pushes the biscuit and chopped banana, with their finger (representing tongue), through the funnel and into the plastic bag tube (representing the esophagus).
4. **Another student uses hands to grip and squeeze food hand over hand, down the 'esophagus' into the sealable bag (representing the stomach).** Pour a little bit of Sprite (representing stomach acid) into the bag.
5. **Another student seals the bag (representing closing the valve to the stomach) without much air in the bag.** Ask what happens if there is too much air in the bag (stomach)? They burp/belch from their mouths. (Note: Wind from the other end is what happens when they have gas in their intestine!)
6. **Have them squeeze the food and water in the 'stomach' until it's fairly liquid and smooth.** While they are doing this ask pupils what is happening and draw out that digestion is taking place here. At this point explain that if food escapes from the top seal (valve) this is what happens when a person vomits. However, normally food stays in your stomach for around 6 hours.

Unfortunately we can't come back in 6 hours to see how the rest of our digestion happens, but I am going to put this in the refrigerator so we can finish up tomorrow.

#### INDEPENDENT PRACTICE/ASSESSMENT

Miss Nell has put a baggie with pictures of body parts on your desk. Quietly go back to your desk but don't open the baggie yet.

Thanks for moving quietly to your desks. Inside your baggie are pictures of body parts. When I'm done talking, I want you take them out and find the three digestive organs we talked about today. (**modeling - hold up your own bag**) When you are done, raise your hand (**model raising your hand**), and Miss Nell and I will come by to check what you found. If you have found all 3 of the organs (hold up three fingers) we talked about today, we are going to give you another baggie.

Sam...tell me the first thing that you will do when I get done talking...Yes, open your baggie. Jacob...what is the next thing you are going to do...that is correct...you will find the pictures of the 3 organs. Olivia...what will you do once you've found them...you got it...you'll raise your hand so Miss Nell or I can check. (**CforU**)

*Give students approximately 7 minutes to do this. Walk around and help open bags if necessary. As students begin raising their hands, check to see if they correctly identified all 3 organs (mouth, esophagus, and stomach). Make a note on clipboard how many each student identified.*

Well done! Now Miss Nell and I are going to hand you another baggie with three digestive actions. Under each organ picture, you need to put the correct action under the picture. If you can't read your actions, Miss Nell and I will come by and help you read them. When you have matched each picture with an Action, raise your hand so Miss Nell and I can help you.

(Walk around and read the actions to Emily and Seth. Prompt them by saying "Now which organ does that? Put the action under the organ picture. )

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

So tonight, when you are eating your dinner, what will you be doing (Turn to your partner and whisper in their ear...absolutely...you will be chewing, swallowing and dissolving your food. What is this called process called. Yes...digestion!!! Tomorrow we will learn what happens with our food when it leaves your stomach.

