

Digestion – The Fascinating Journey from Start to Finish

Grade Level: Second Grade

Presented by: Mandy Lohman, Cross Creek Charter Academy, Byron Center, MI

Length of Unit: Nine Lessons (including culminating activity)

I. ABSTRACT

This unit gives students a fun and informative introduction to the digestive and excretory systems and to balanced nutrition. Experiments and observations give them insight into how their bodies work. Students apply the scientific process to many class experiments dealing with each part of the digestive system. The hands-on activity of making a model of the digestive system also provides a solid basis for understanding the digestion process. Activities surrounding the food pyramid give students knowledge to make informed decisions regarding a healthful diet. The culminating activity brings the unit to a close and provides an opportunity for assessment.

II. OVERVIEW

- A. Concept Objectives
 - 1. Students will gain a full understanding of how the digestive and excretory systems work in their own bodies.
 - 2. Students will learn and apply knowledge about balanced nutrition.
- B. Content from the *Core Knowledge Sequence*
 - 1. The Digestive and Excretory Systems
 - 2. Taking Care of Your Body: A Healthy Diet
- C. Skill Objectives
 - 1. Students will be able to name the parts and functions of the digestive system.
 - 2. Students will be able to name the parts and functions of the excretory system.
 - 3. Students will be able to describe the path of food through the digestive system.
 - 4. Students will be able to assemble a model of the digestive system.
 - 5. Students will apply the scientific process to group experiments.
 - 6. Students will learn the components of a balanced diet.
 - 7. Students will be able to select a healthful daily menu using the food pyramid.

III. BACKGROUND KNOWLEDGE

- A. For Teachers
 - 1. *Make it Work! Body* by L. Wyse
 - 2. *The Human Body – The Nature Company Discoveries Library* by Dr. M. Rose
- B. For Students
 - 1. The Human Body from *What Your Kindergartener Needs to Know*
 - 2. The Human Body, Body Systems from *What Your First Grader Needs to Know*

IV. RESOURCES

- A. *What Your Second Grader Needs to Know*, E.D. Hirsch, Jr.
- B. *The Body Book: Easy-to-Make Hands-On Models that Teach*, D.M. Silver & P.J. Wynne
- C. *What Happens to Your Food?*, A. Smith
- D. *The Digestive System: A True Book*, D.R. Stille
- E. Pictures of food from all food groups of the food pyramid
- F. Model of the digestive system
- G. Poster(s) of the digestive system
- H. Floor “puzzle” of the digestive system (made by the teacher) - see appendix D

V. LESSONS

Lesson One: The Digestive System – Taste Buds

A. *Daily Objectives*

1. Concept Objective(s)
 - a. Students will gain a full understanding of how the digestive and excretory systems work in their own bodies.
2. Lesson Content
 - a. Taste buds
3. Skill Objective(s)
 - a. Students will be able to name the parts and functions of the digestive system.

B. *Materials*

1. toothpicks – four per student
2. salt
3. baking cocoa
4. sugar or sugar substitute
5. lemon juice
6. water
7. four plastic or paper cups
8. mirrors – one per student or pair of students
9. *What Happens to Your Food?*, A. Smith
10. *The Digestive System: A True Book*, D.R. Stille
11. large drawing of a tongue with the four taste bud areas defined

C. *Key Vocabulary*

1. taste buds – bumps on the tongue made up of cells that send messages to the brain about the flavor of different foods

D. *Procedures/Activities*

1. Prior to teaching the lesson prepare the following liquids in paper cups for the experiment.
 - a. Lemon juice
 - b. Salt water
 - c. Sugar water
 - d. Baking cocoa mixed with water
2. Explain to the students that they will be studying the digestive system. Ask if anyone knows any of the parts of the digestive system.
3. Read and discuss pages 5-8 of *The Digestive System: A True Book*.
4. Read and discuss pages 2-7 of *What Happens to Your Food?*
5. Pass out the mirrors and have students look at their own tongues and share what they see.
6. Show students the drawing of the tongue and point out where the four different types taste buds are located.
7. Ask students to share what flavors they like best and what flavors they dislike. As they do so, have them point out on the picture which area of the tongue tastes these flavors.
8. Explain to the students that they will be participating in an experiment using their taste buds.
9. Give each student four toothpicks and explain that each toothpick will be used only once to prevent spreading germs. It is helpful to have them put clean toothpicks on the left-hand corner of the desk and used toothpicks on the right-hand corner of the desk.

10. Bring around the cup of salt water. Students should each dip one toothpick in the water and taste. Be sure to tell them not to share what flavor they tasted until everyone has had a turn.
 11. After everyone has tasted the salt water, ask one student to share what flavor he tasted and identify on the picture the area of the tongue used to identify that flavor.
 12. Repeat this process with the remaining three liquids.
- E. *Assessment/Evaluation*
1. Teacher observation of student participation in class.
 2. The picture of the tongue can be left out with the names of the taste buds covered for students to practice naming them.
 3. As an optional follow-up activity to this lesson, the model on pages 17-19 of *The Body Book: Easy-to-Make Hands-On Models that Teach* can be completed with the students.

Lesson Two: The Digestive System – Salivary Glands, Esophagus

- A. *Daily Objectives*
1. Concept Objective(s)
 - a. Students will gain a full understanding of how the digestive and excretory systems work in their own bodies.
 2. Lesson Content
 - a. salivary glands
 - b. esophagus
 3. Skill Objective(s)
 - a. Students will be able to name the parts and functions of the digestive system.
 - b. Students will apply the scientific process to group experiments.
- B. *Materials*
1. Experiment Recording sheet (appendix A) – one per student
 2. soda crackers – two per student
 3. *The Digestive System: A True Book*, D.R. Stille
 4. *What Happens to Your Food?*, A. Smith
- C. *Key Vocabulary*
1. salivary glands – glands in the mouth that produce a liquid called saliva
 2. saliva – a liquid produced by the salivary glands that moistens and softens food for digestion
 3. esophagus – a tube leading from the mouth to the stomach
 4. peristalsis – the action of the muscles in the esophagus pushing food down to the stomach
 5. reverse peristalsis – the action of the muscles in the esophagus working backwards when the stomach rejects food or liquid
 6. hypothesis – a scientific guess based on prior knowledge
- D. *Procedures/Activities*
1. Review the information learned about taste buds from day one.
 2. Ask students what happens to their food when they put it in their mouths.
 3. Discuss chewing and what happens to the food when they chew it.
 4. Read pages 9-12 of *The Digestive System: A True Book*.
 5. Read pages 8-9 of *What Happens to Your Food?*
 6. Explain to the students that today they will become scientists and perform experiments as scientists would.

7. Pass out the experiment-recording sheet and explain that before scientists perform an experiment they form a hypothesis (a guess based on information they already know). Also explain that a hypothesis is not always correct and that is okay. Experiments are a learning tool. We learn whether the hypothesis is correct or incorrect.
 8. Explain that each student will receive a soda cracker. They will take one bite of the cracker, chew it slowly, and then hold it in their mouths.
 9. Ask the students to form a hypothesis as to what will happen to the cracker.
 10. Have the students write the hypothesis under *Experiment 1 – chewing* on the Experiment Recording sheet.
 11. Give a cracker to each student. Ask them to take one bite, chew, and hold it in their mouths for 20-30 seconds. They should observe that the cracker becomes soggy and begins to taste sweet. Explain that this happens because saliva is changing the starch of the cracker into sugar. This is the beginning of digestion. Digestion begins in the mouth.
 12. Have the students write what they learned from this experiment on the Experiment Recording sheet.
 13. Give the students another cracker and explain that they will be performing another experiment. They will find a place on the floor to lie down on their sides. They will take a bite of the cracker, chew it carefully, and swallow. Have the students form a hypothesis as to what will happen to the cracker when it is swallowed.
 14. Have the students write the hypothesis under *Experiment 2 – esophagus* on the Experiment Recording sheet.
 15. Complete the experiment. Discuss the results. Students should observe that the cracker did not stay in the esophagus but was pushed down by the muscles to the stomach. This is called peristalsis.
 16. Have the students write what they learned from this experiment on the Experiment Recording sheet.
 17. Explain to the students that when they are sick the muscles in the esophagus work in reverse to cause vomiting. This is called reverse peristalsis.
 19. Collect the Experiment Recording sheets to use for Lesson 3.
- E. *Assessment/Evaluation*
1. Teacher observation of student participation in class.
 2. A floor puzzle of the digestive system can be made available to the students for them to practice following the digestive system from beginning to end.

Lesson Three: The Digestive System – Stomach

A. *Daily Objectives*

1. Concept Objective(s)
 - a. Students will gain a full understanding of how the digestive and excretory systems work in their own bodies.
2. Lesson Content
 - a. stomach
3. Skill Objective(s)
 - a. Students will be able to name the parts and functions of the digestive system.
 - b. Students will apply the scientific process to group experiments.

- c. Students will be able to assemble a model of the digestive system.
- B. *Materials*
- 1. Experiment Recording sheet (appendix A) from Lesson 2
 - 2. sandwich or quart-size ziplock bag
 - 3. orange juice
 - 4. cottage cheese
 - 5. potato chips or crackers
 - 6. *The Digestive System: A True Book*, D.R. Stille
 - 7. *What Happens to Your Food?*, A. Smith
 - 8. Copies of pages 96-98 from *The Body Book: Easy-to-Make Hands-On Models that Teach* for each student
 - 9. glue stick or stapler
 - 10. scissors for each student
- C. *Key Vocabulary*
- 1. Stomach – an organ in the digestive system that breaks down food
 - 2. Digestive juices – liquid produced by the stomach that aides in breaking down food
 - 3. Chyme – the mixture of food and digestive juices in the stomach
- D. *Procedures/Activities*
- 1. Review information learned in Lessons 1 and 2.
 - 2. Pass out the Experiment Recording sheets from Lesson 2 and explain that the class will be performing an experiment dealing with the stomach.
 - 3. Explain that the plastic bag is like the stomach and that it will hold cottage cheese, orange juice (as digestive juice), and potato chips for the experiment.
 - 4. Ask the students to form a hypothesis as to what will happen to the food in the “stomach”.
 - 5. Have the students write the hypothesis under *Experiment 3 – stomach* on the experiment-recording sheet.
 - 6. Complete the experiment by placing the potato chips, cottage cheese, and orange juice in the plastic bag. Gently squeeze the bag from different directions to demonstrate how the stomach muscles work to break down the food. Discuss the results. Students should observe that the food is mixed together and made into smaller pieces by the movement of the “muscles”. This mixture is called chyme. Save this mixture for the small intestine experiment in Lesson 4.
 - 7. Have the students write what they learned from this experiment on the experiment-recording sheet.
 - 8. Collect the Experiment Recording sheets to use for Lesson 4.
 - 9. Read pages 13-17 from *The Digestive System: A True Book*.
 - 10. Read pages 10-11 from *What Happens to Your Food?*
 - 11. Pass out copies of pages 96-98 from *The Body Book: Easy-to-Make Hands-On Models that Teach* to each student. Make the model of the stomach together.
- E. *Assessment/Evaluation*
- 1. Teacher observation of student participation in class.
 - 2. Student completion of stomach model.
 - 3. A floor puzzle of the digestive system can be made available to the students for them to practice following the digestive system from beginning to end.

Lesson Four: Small and Large Intestines

A. *Daily Objectives*

1. Concept Objective(s)
 - a. Students will gain a full understanding of how the digestive and excretory systems work in their own bodies.
2. Lesson Content
 - a. The Digestive and Excretory Systems
3. Skill Objective(s)
 - a. Students will be able to name the parts and functions of the digestive system.
 - b. Students will be able to describe the path of food through the digestive system.
 - c. Students will apply the scientific process to group experiments.

B. *Materials*

1. *What Happens to Your Food?*
2. *The Digestive System: A True Book*
3. Food mixture from Lesson 3
4. Nylon stocking
5. Bowl
6. Rubber gloves (optional)
7. Experiment Recording sheet from Lesson 3
8. Empty plastic 2-liter bottle with a large vertical hole cut in the side
9. Marbles
10. Paper towel – 2-3 sheets
11. Salt water
12. Model and/or poster of the digestive system (optional)

C. *Key Vocabulary*

1. Small intestine – a long tube of muscle and tissue that breaks down and absorbs food.
2. Villi – finger-like tissues in the small intestine that absorb tiny food particles into the blood stream.
3. Large intestine – a wide tube of muscle and tissue that removes water from undigested food and fiber.
4. Rectum – the end of the large intestine.
5. Anus – opening where waste leaves the body.

D. *Procedures/Activities*

1. Review information learned in lessons 1-3. Have the students describe each step of the digestive process including names of organs and their functions. A poster or model of the digestive system may be helpful for review.
2. Read pages 18-27 of *The Digestive System: A True Book*.
3. Read pages 12-15 of *What Happens to Your Food?*
4. Review the procedures of performing an experiment.
5. Pass out the Experiment Recording sheets from Lesson 3 and explain that you will be performing two experiments dealing with the small and large intestines.
6. Explain that the nylon stocking acts as the small intestine. Ask the students to form a hypothesis about what will happen when you pour the “chyme” from Lesson 3 into the “small intestine”. Students should give explanations for their hypotheses.

7. Ask the students to record the hypothesis on the Experiment Recording sheet.
8. Holding the stocking over a bowl, pour the food mixture from Lesson 3 into the stocking. Squeeze the stocking so that the mixture is pushed down the stocking. (You may want to wear rubber gloves.) This demonstrates the wave-like motion of the muscles in the small intestine.
9. Students should observe that some of the liquid is coming out of the stocking. Have them explain why it is coming out and where it goes in the body during digestion.
10. Compare the results of the experiment with the hypotheses. Have students record the results on the Experiment Recording sheet.
11. Ask the students where the remainder of the food goes when it reaches the small intestine.
12. Explain that the bottle will be the large intestine. The marbles and water are the food coming from the small intestine and the salt is the vitamins and minerals still left in the food. The paper towel is the lining of the large intestine.
13. Ask the students to form a hypothesis as to what will happen when the paper towel is placed over the “food” in the large intestine. Have them record the hypothesis on the Experiment Recording sheet.
14. Lay the bottle on its side with the hole facing up. Place the marbles in the bottle and pour in the saltwater. Fold the paper towel and lay it gently over the marbles. Let the towels sit for a couple of minutes.
15. Bring the bottle around and have the students touch the towel and then taste their fingers. They will observe that they can taste the salt. Ask the students why they can taste the salt. They should explain that the large intestine absorbs some of the vitamins and minerals left in the food.
16. Compare the results of the experiment with the hypotheses. Have students record the results on the Experiment Recording sheet. Collect the recording sheets to be used in Lesson 6.
17. Review the process of digestion from start to finish. Have the students describe each step of the digestive process including names of organs and their functions.

E. *Assessment/Evaluation*

1. Teacher observation of student participation in class discussion and activities.
2. A model and/or poster of the digestive system can be available for the students to review the information learned in the first four lessons.
3. A floor puzzle of the digestive system can be made available to the students for them to practice following the digestive system from beginning to end.

Lesson Five: Digestive System Model

A. *Daily Objectives*

1. Concept Objective(s)
 - a. Students will gain a full understanding of how the digestive and excretory systems work in their own bodies.
2. Lesson Content
 - a. The Digestive and Excretory Systems
3. Skill Objective(s)

- a. Students will be able to name the parts and functions of the digestive system.
 - b. Students will be able to describe the path of food through the digestive system.
 - c. Students will be able to assemble a model of the digestive system.
- B. *Materials*
- 1. *The Body Book: Easy-to-Make Hands-On Models that Teach*
 - 2. Copies of pages 93-95 from *The Body Book: Easy-to-Make Hands-On Models that Teach* for each student
 - 3. Scissors
 - 4. Glue stick or tape
 - 5. Poster or model of the digestive system (optional)
- C. *Key Vocabulary*
- 1. Pancreas – an organ that creates bile to aid in the digestive process
 - 2. Liver – an organ that cleans the blood
- D. *Procedures/Activities*
- 1. Review all of the parts of the digestive system and their functions. Using a poster or model of the digestive system may be helpful for this activity.
 - 2. Pass out copies of pp. 93-95 from *The Body Book: Easy-to-Make Hands-On Models that Teach* to each student.
 - 3. Create the model of the digestive system using the step-by-step instructions from the book. Review each part of the digestive system as it is added to the model. Ask the students to explain the function of each part and what happens to the food at that point in digestion. (It is very helpful for the teacher to make a model along with the students, so they have any example to view.)
- NOTE: When adding the pancreas and the liver to the model, review with the students information read from *What Happens to Your Food?* and *The Digestive System: A True Book* as these organs were not focused on in previous lessons.**
- E. *Assessment/Evaluation*
- 1. Teacher observation of student participation in class discussion and activities.
 - 2. A model and/or poster of the digestive system can be available for the students to review the information learned in the first four lessons.
 - 3. A floor puzzle of the digestive system can be made available to the students for them to practice following the digestive system from beginning to end.

Lesson Six: The Excretory System

- A. *Daily Objectives*
- 1. Concept Objective(s)
 - a. Students will gain a full understanding of how the digestive and excretory systems work in their own bodies.
 - 2. Lesson Content
 - a. The Digestive and Excretory Systems
 - 3. Skill Objective(s)
 - a. Students will be able to name the parts and functions of the excretory system.
 - b. Students will apply the scientific process to group experiments

B. *Materials*

1. Two clear balloons
2. Clear plastic tubing (approx. one foot)
3. Colored water
4. Pasta, dry beans, or any objects bigger than the opening of the tubing
5. Experiment Recording sheets from Lesson 4
6. Poster of the excretory system (optional)

C. *Key Vocabulary*

1. Kidneys – organs that remove waste and water from the body
2. Ureters – tubes leading from the kidneys to the bladder
3. Bladder – a bag-like organ that holds urine
4. Urethra – the opening from the bladder that releases the urine from the body.

D. *Procedures/Activities*

1. Ask the students what happens to food in the small intestine. They should explain that the villi in the small intestine take nutrients out of the food that the body needs.
2. Explain that the nutrients taken out by the villi are sent to cells in the body through the blood. The cells use what they need and send the rest to the kidneys through the blood. Blood flows through the kidneys. The kidneys filter the blood and take out water, sugars, salts, and the nitrogen waste called *urea*. The removed substances flow up and down long tubes inside the kidneys. As these substances flow, the blood absorbs back all the sugars, salts, and water the body needs. This blood flows back out of the kidneys. The extra water, urea, and other wastes are now urine and flow through the ureters to be stored in the bladder. The bladder has a ring of muscle at the bottom which holds the bladder tightly shut. As urine fills the bladder it stretches and tells the brain it should be emptied. The brain tells the muscle ring to relax and urine flows into the urethra on its way out of the body. The kidneys produce about a quart of urine every day. (It is very helpful to have a poster of the excretory system posted when explaining this process.)
3. Pass out the Experiment Recording sheets from Lesson 4 and explain that you will be performing an experiment dealing with the kidneys and the bladder.
4. Explain that the colored water, beans and pasta represent the blood; one balloon represents a kidney; the tubing represents a ureter; and the other balloon represents the bladder. You will put colored water, beans, and pasta into one of the clear balloons and attach the plastic tube to the balloon. The other balloon will be attached to the other end of the tube. The balloon with the water, beans, and pasta will be tipped up.
5. Ask the students to form a hypothesis about what will happen when you tip the “kidney” up. Students should give explanations for their hypotheses.
6. Ask the students to record the hypothesis on the Experiment Recording sheet.
7. Perform the experiment.
8. Ask the students to explain what they believe the beans and pasta represent and where it would go from the kidneys. They should describe that the beans and pasta represent the sugar, salt, and water that will go back into the body through the blood.

9. Compare the results of the experiment with the hypotheses. Have students record the results on the Experiment Recording sheet. (The Experiment Recording sheets can now be sent home with the students.)
 10. Ask the students what the colored water is and where it would go next. They should explain that it represents urine and would go through the urethra to be eliminated from the body.
 11. Ask a student to give a summary of the process that occurs in the excretory system.
- E. *Assessment/Evaluation*
1. Teacher observation of student participation in class discussion and activities.
 2. As an optional follow-up to this lesson, the model on pages 122-123 of *The Body Book: Easy-to-Make Hands-On Models that Teach* can be completed with the students.

Lesson Seven: The Food Pyramid

- A. *Daily Objectives*
1. Concept Objective(s)
 - a. Students will gain a full understanding of how the digestive and excretory systems work in their own bodies.
 - b. Students will learn and apply knowledge about balanced nutrition
 2. Lesson Content
 - a. Taking Care of Your Body: A Healthy Diet
 3. Skill Objective(s)
 - a. Students will learn the components of a balanced diet.
- B. *Materials*
1. Food pyramid worksheet (appendix B) – one per student
 2. Scissors
 3. Glue
 4. Crayons
 5. Construction paper – one piece per student
 6. Pictures of foods from all food groups (at least one picture per student) – It would be helpful to glue a magnet to each picture.
 7. White/chalk board
 8. Chart paper
- C. *Key Vocabulary*
1. Food pyramid – a pyramid that lists the food groups and the recommended number of daily servings
- D. *Procedures/Activities*
1. Ask the students to name their favorite foods. Make a list of these foods on chart paper. After the list is completed, hang the paper in the room where it will be visible during the lesson.
 2. Ask the students what a pyramid is. Explain that a pyramid is built out of blocks that support each other. All of the blocks are important. If one is missing, the pyramid won't stand up.
 3. Pass out the food pyramid worksheet to the students. Ask them to make observations about the different pieces of the pyramid that they see.
 4. Have the students color and cut out the pieces of the pyramid and glue them on a piece of construction paper. Students should keep the pyramid pictures on their desks for the remainder of the lesson.

5. Write the names of the food groups on the board.
 6. Pass out the pictures of food to the students. (Each child should have at least one picture.)
 7. Have the students come up one at a time and place the pictures under the correct food group.
 8. Collect the food pyramid pages for use in Lesson 8.
- E. *Assessment/Evaluation*
1. Teacher observation of student participation in class discussion and activities.

Lesson Eight: A Balanced Diet

- A. *Daily Objectives*
1. Concept Objective(s)
 - a. Students will gain a full understanding of how the digestive and excretory systems work in their own bodies.
 - b. Students will learn and apply knowledge about balanced nutrition
 2. Lesson Content
 - a. Taking Care of Your Body: A Healthy Diet
 3. Skill Objective(s)
 - a. Students will learn the components of a balanced diet.
 - b. Students will be able to select a healthful daily menu using the food pyramid.
- B. *Materials*
1. Food pyramid worksheet from lesson 7
 2. Pictures of foods from all food groups from lesson 7
 3. List of students' favorite foods on chart paper from lesson 7
 4. White/chalk board
- C. *Key Vocabulary*
1. Food pyramid – a pyramid that lists the food groups and the recommended number of daily servings.
 2. Balanced diet – a recommended number of daily servings from the basic food groups to ensure proper nutrition.
- D. *Procedures/Activities*
1. Review the food groups from the food pyramid with the students. Ask them to give some examples from each group.
 2. Pass out the food pyramid papers from lesson 7. Discuss the importance of the number of servings from each food group. Remind the students that this is a pyramid, and it is important to have the right number of servings from each food group to have a balanced diet.
 3. Ask the students what they think might happen if a person does not have a balanced diet.
 4. Write the following categories on the board: breakfast; lunch; dinner; snacks.
 5. Put the food pictures from Lesson 7 on the board in random order.
 6. Tell the students that they are going to build a menu for one day. They should keep in mind the number of servings from each group. Remind them to use the food pyramid pictures to help them decide on the menu.
 7. Call students to select pictures to put under “breakfast” on the board. Repeat with “lunch”, “dinner”, and “snacks”.

8. After all of the categories are full, review the menu the students selected.
 9. Discuss whether it is balanced and have the students make any necessary changes.
- E. *Assessment/Evaluation*
1. Teacher observation of student participation in class discussion and activities.
 2. The pictures of the food can be available for the students to practice selecting daily menus. A food pyramid can also be posted to which the students can refer during the activity.

VI. CULMINATING ACTIVITY

- A. Students can be assessed during a culminating activity set up as centers or stations. Students will rotate through the following centers:
1. Model of the digestive system - Demonstrate knowledge of the parts of the digestive system by assembling a model of the digestive system. (Many models are available for purchase at teacher's stores or through catalogs.)
 2. Floor "puzzle" of the digestive system - Demonstrate knowledge of the path of food through the digestive system and the function of each part by walking through a large floor "puzzle" and naming and describing each part of digestion. (The puzzle used for daily review can be used for this activity.)
 3. Food pyramid - Demonstrate knowledge of a balanced diet by selecting food for one day based on the food pyramid. (The food pictures from Lesson 7 can be used for this activity. A poster of the food pyramid may also be displayed at this center.)
- B. Written Assessment – The written assessment (appendix C) may also be used during the culminating activity as a center. It may also be used as a separate assessment on another day.

VII. HANDOUTS/WORKSHEETS

- A. Appendices A-D

VIII. BIBLIOGRAPHY

- A. Hirsch, Jr., E. D. *What Your Second Grader Needs to Know*. New York: Dell Publishing, 1991, ISBN 0-385-31027-7.
- B. Rose, M. *The Human Body: The Nature Company Discoveries Library*. San Francisco: Weldon Owen, 1997, ISBN 0-7835-4802-8.
- C. Silver, D. M. & Wynne, P. J. *The Body Book: Easy-to-Make Hands-On Models that Teach*. New York: Scholastic Professional Books, 1993, ISBN 0-590-49239-X.
- D. Smith, A. *What Happens to Your Food?* New York: Scholastic Inc., 1997, ISBN 0-590-97321-5.
- E. Stille, D. R. *The Digestive System: A True Book*. New York: Children's Press, 1997, ISBN 0-516-26262-9.
- F. Wyse, L. *Make It Work! Body* New York: Scholastic Inc., 1994, ISBN 0-590-14230-5.

Appendix A - Digestion – The Fascinating Journey from Start to Finish



Name _____

Experiment Recording Sheet

Experiment 1 – chewing

I predict _____
_____.

I learned _____
_____.

Experiment 2 – esophagus

I predict _____
_____.

I learned _____
_____.

Experiment 3 – stomach

I predict _____
_____.

I learned _____
_____.

Appendix A - Digestion – The Fascinating Journey from Start to Finish

Experiment 4 – small intestine

I predict _____
_____.

I learned _____
_____.

Experiment 5 – large intestine

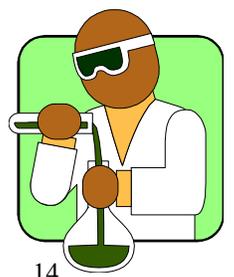
I predict _____
_____.

I learned _____
_____.

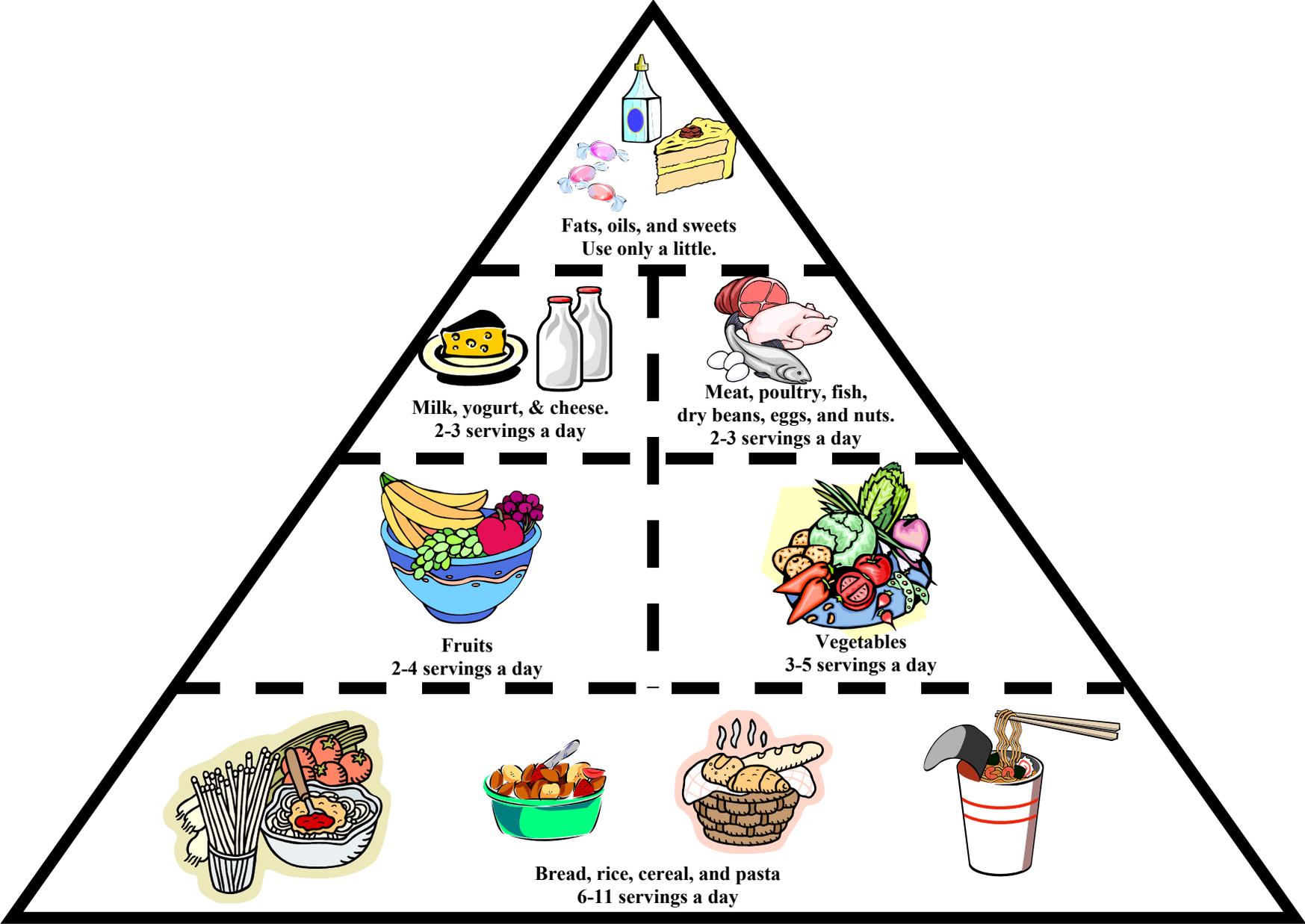
Experiment 6 – excretory system

I predict _____
_____.

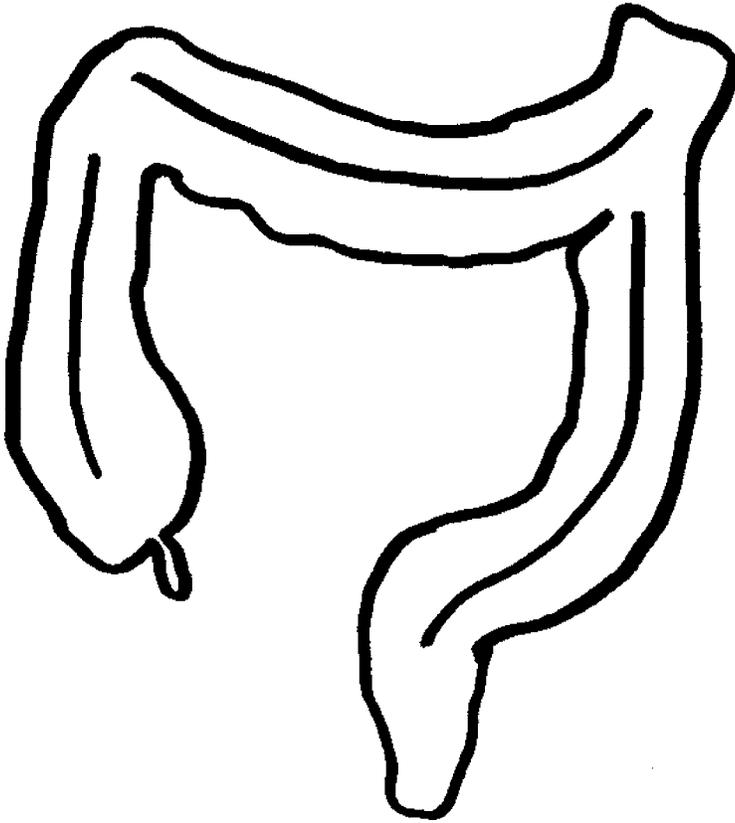
I learned _____
_____.



Appendix B - Digestion – The Fascinating Journey from Start to Finish



large intestine

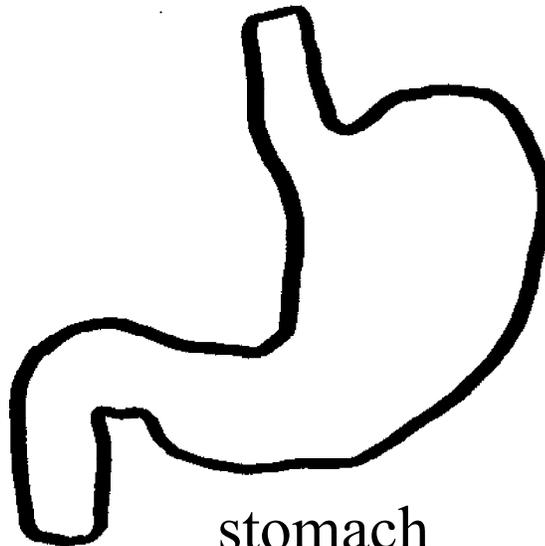
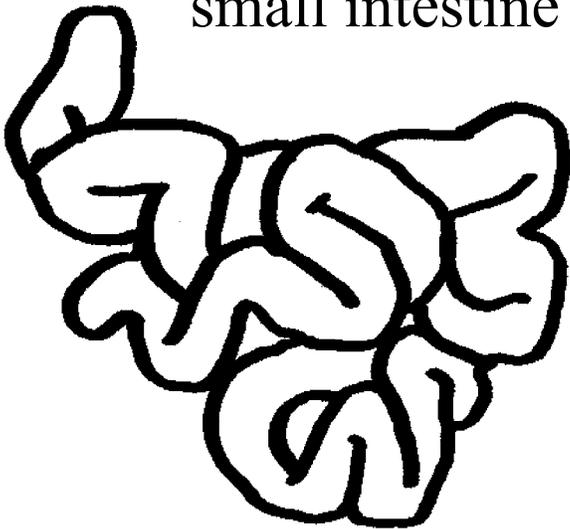


esophagus



To make the floor puzzle, copy this page onto a transparency and trace onto posterboard or fabric.

small intestine



stomach