

Puyallup Fair Teacher's Guide

INTRODUCTION

Nearly every teacher and student in the Puget Sound region will receive a complimentary gate ticket to the Puyallup Fair. This year our NIE program focuses on earth- and life-science concepts found at the Fair. The guide aligns with Washington state science standards for grades 4-8. All of the lessons are to be used with content that will appear in The Seattle Times on September 6, 11, 13 and 18. The guide will appear in September on both The Seattle Times Newspapers In Education (NIE) website (seattletimes.com/nie) and the Puyallup Fair's website (thefair.com).

NOTE TO EDUCATORS

Activities in this guide are built on knowledge and information provided in the e-Edition of The Seattle Times on September 7, 11, 13 and 18 and "Our Body: The Universe Within" and "Rainforest Adventure" exhibits at the Puyallup Fair. Both features are enhanced in the classroom after a visit to the Fair. You can visit the NIE website (seattletimes.com/nie) to find the exact location of the pages in the newspaper. Have students take notes from the in-paper content each week and at the Fair to use with this guide. Teachers are encouraged to modify the guide to fit their individual classroom needs.

THE SEATTLE TIMES NEWSPAPERS IN EDUCATION (NIE)

To enroll in The Seattle Times NIE program and receive free access to the electronic version (e-Edition) of the newspaper, lesson plans and curriculum guides, as well as the in-paper content for this guide, please email nie@seattletimes.com or call 206/652-6290, toll free: 1-888/775-2655.

Web: seattletimes.com/nie
Facebook: facebook.com/TimesNIE

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www.thefair.com



Inspiring Students To Learn

www.seattletimes.com/nie

Part 1: Rainforest Adventure

ACTIVITY 1: BEAN TO BAR

Step 1: Refer to the following websites to understand the process of producing chocolate:

www.papapaa.org

www.rainforest-alliance.org

Step 2: On a separate piece of paper, create a timeline or comic strip that outlines the steps of the process.

Step 3: What challenges do you believe cocoa farmers in the rainforest face?

Physical/Environmental Challenges	Economic/Financial Challenges

Step 4: Brainstorm with a partner how these challenges can be overcome.

ACTIVITY 2: FAIR TRADE GAME

You will be assigned one of the following roles. Review your role and have conversations with other role players in which you try to get what you want, such as asking for a good price. What challenges do you encounter?

Fair-trade cocoa farmers

You want to make the most money you can to support your family. You are pleased that you work with buyers who offer you a fair trade, which is a transaction that encourages equality for farmers.

Independent cocoa farmers

You also want to make money to support your family, but you are disappointed that you do not always get a fair trade from the cocoa buyers. Sometimes you are not paid enough to cover your costs to grow cocoa beans and support your family.

Fair-trade cocoa buyers

You want to get a good deal on cocoa beans from the farmers, but you also want to offer them a fair price. This means paying more for beans than non-fair-trade buyers do.

Non-fair-trade cocoa buyers

You are interested in getting the most cocoa beans for your money, and not in a fair trade with the farmers. You are looking for a good deal and want to make a profit.

Store owner

You want to get a good price on the chocolate bars you sell in your store. You like the idea of selling fair-trade chocolate, but it is often more expensive.

Wrap-up discussion

With which roles were you able to have an easy, mutually beneficial conversation? Which roles were difficult to talk about? Why? Which group do you believe makes the most money?

Part 1: Rainforest Adventure

ACTIVITY 3: PRODUCTS FROM THE RAINFOREST

Step 1: Think about the foods that you enjoy at the Puyallup Fair. Check which foods you ate that are on this list or made from these products:

- | | | |
|---|---|---|
| <input type="checkbox"/> Chewing gum (chicle) | <input type="checkbox"/> Macadamia nuts | <input type="checkbox"/> Avocado |
| <input type="checkbox"/> Brazil nuts | <input type="checkbox"/> Tapioca | <input type="checkbox"/> Cayenne red pepper |
| <input type="checkbox"/> Cashew nuts | <input type="checkbox"/> Tea | <input type="checkbox"/> Chili pepper |
| <input type="checkbox"/> Coffee | <input type="checkbox"/> Papaya | <input type="checkbox"/> Chocolate |
| <input type="checkbox"/> Guava | <input type="checkbox"/> Beef (from cattle) | <input type="checkbox"/> Cocoa |
| <input type="checkbox"/> Lemon | <input type="checkbox"/> Tangerine | <input type="checkbox"/> Cloves |
| <input type="checkbox"/> Mango | <input type="checkbox"/> Black pepper | <input type="checkbox"/> Ginger |
| <input type="checkbox"/> Lime | <input type="checkbox"/> Banana | <input type="checkbox"/> Nutmeg |
| <input type="checkbox"/> Orange | <input type="checkbox"/> Pineapple | <input type="checkbox"/> Paprika |

Step 2: Compare your list with a partner. Which products did you have in common?

Choose one product and research in which rainforest it originates. Next, draw the path you believe the product takes to travel from the rainforest to the Puyallup Fair. How many people do you think handle the product? What do they do?

Step 3: What does it mean to grow a product sustainably? How can you find out if your product is grown sustainably?

If your product is not grown sustainably, what changes could be made to grow this product sustainably?

Part 1: Rainforest Adventure

ACTIVITY 4: ANIMAL INTERDEPENDENCE

Step 1: Animals of the rainforest depend on other animals and their surroundings to survive. Study the chart below, which outlines this interdependence. Then complete the right-hand column of the chart by listing rainforest animals or plants you have learned about that fit the category.

Type of animal	Description	Examples from the rainforest
Omnivores	Animals that eat both plants and other animals	
Carnivores	Animals that eat other animals	
Herbivores	Animals that eat only plants	
Producers	Plants that create food for others to eat	

Step 2: Choose an animal or plant from your list or another student's list and write it on an index card. Make sure that no other student has chosen the same plant or animal. Work as a class to form a circle, or food chain, holding up your index card with your plant or animal name. Go around the circle and state what animals or plants you eat and what animals eat you. What happens when one or more students step outside of the circle?

What other plants or animals are affected?

How are plants and animals in your community affected by the food chain?

ACTIVITY 5: VOCABULARY EXPANSION

Define and give rainforest examples of the following terms. Then discuss with your classmates how these terms relate to the types of animals and plants listed above.

Primary producers:

Primary consumers:

Secondary consumers:

Tertiary consumers:

References: <http://www.teachnet-lab.org/ps101/bgglasgold/rainforestlesson3.html>
<http://www.enchantedlearning.com/subjects/rainforest/Animals.shtml>

Part 2: Our Body: The Universe Within

Our Body: The Universe Within is a fascinating tour of the human body as a whole, taking your students through each of the body systems to see firsthand how they function and how they relate to all of the other systems. You will see actual full human bodies and individual specimens of bones, blood vessels, nerves, muscles, hearts, livers ... everything we have under our skin.

See and learn about your body and how each system supports the other. Use the anatomy activities that follow to further your understanding of these systems.



ACTIVITY 1: INTRODUCTION

Match the body systems with their primary functions.

- | | |
|-----------------------------|--|
| _____ 1. Musculoskeletal | A. Responsible for transport of materials around the body. |
| _____ 2. Central nervous | B. Responsible for gas exchange or bringing oxygen into the body and releasing carbon dioxide. |
| _____ 3. Peripheral nervous | C. Responsible for filtering waste from the blood. |
| _____ 4. Digestive | D. Responsible for processing information from nerves & senses; the control center for the body. |
| _____ 5. Respiratory | E. Responsible for movement and support of the human body. |
| _____ 6. Circulatory | F. Responsible for transmitting information from nerves throughout the body to the brain. |
| _____ 7. Excretory/Urinary | G. Responsible for breaking larger molecules into smaller ones to obtain nutrients. |



ACTIVITY 2: BRAIN AND CENTRAL NERVOUS SYSTEM

Name the sense and the parts of the body responsible for transmitting messages to the brain. Can you trace the message routes to the brain on a specimen?

The five senses	Body part or parts responsible



ACTIVITY 3: MUSCULOSKELETAL SYSTEM

Answer the following questions about the musculoskeletal system of the body:

1. What are the two types of muscles?

2. How are they different from each other?

Part 2: Our Body: The Universe Within

3. What does each type of muscle control?

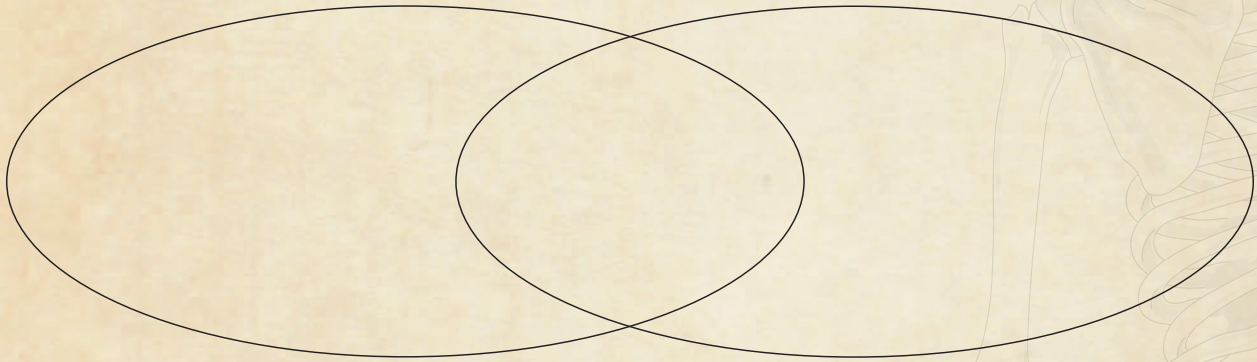
4. What is the job of the skeletal system?

5. Describe one specific way that the skeletal system helps you.



ACTIVITY 4: RESPIRATORY SYSTEM

Use this Venn diagram to compare healthy and unhealthy lungs just like you see on display at Our Body: The Universe Within.



ACTIVITY 5: EXCRETORY/URINARY

1. What are the principal waste products eliminated by the urinary system?

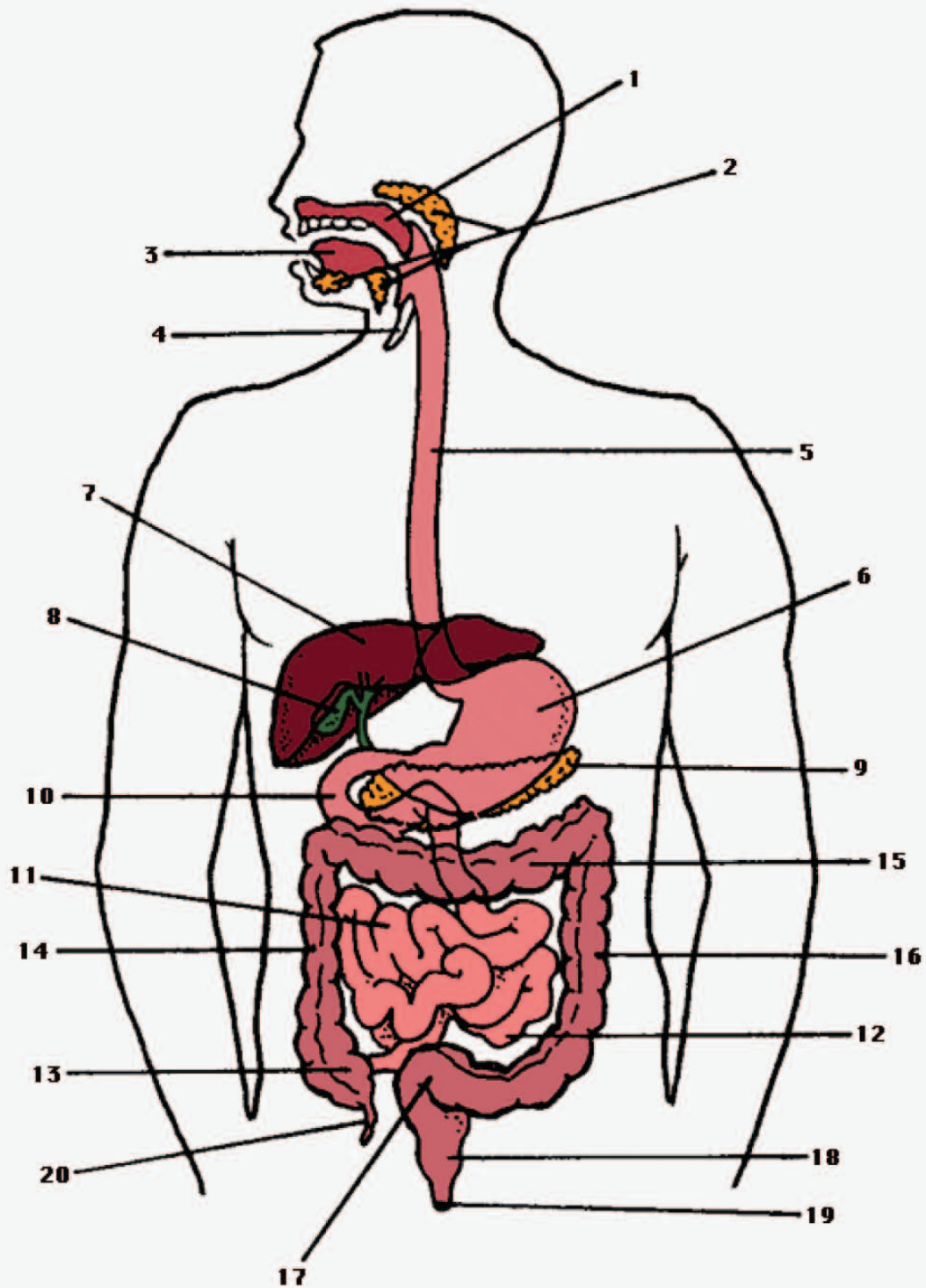
2. Draw a kidney as its actual size.

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ACTIVITY 6: DIGESTIVE SYSTEM

In the space below, diagram the path your food takes through the digestion process. Include the mouth, esophagus, stomach, small intestine and large intestine.



Part 2: Our Body: The Universe Within



ACTIVITY 7: CIRCULATORY SYSTEM

Label as many parts of the heart as you can.

