

**ITQ ARTS AND SCIENCE INTEGRATION
GRADE 4
DANCE AND LIFE SCIENCE**

**Everything is Connected!
Consumers
Lesson #2**

FOSS California, Grade 4, Environments, Investigation 3, Part 3

CONTENT STANDARDS

Dance Grade 4

- 1.1 Demonstrate mental concentration and physical control in performing dance skills.
- 2.1 Create, develop, and memorize set movement patterns and sequences.

Science Grade 4

- LS2b** Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in the ecosystem.

ESSENTIAL QUESTIONS (*Questions students might ask about the topic*)

- What is a consumer and what are the types of consumers in an ecosystem?
- How can I use dance to learn how consumers relate in an ecosystem?

OBJECTIVES & STUDENT OUTCOMES (*Students will be able to.....*)

- memorize and perform in a group, dance sequences that include changes in level, direction, speed and dynamics from beginning to end with control and focus.
- describe the role of consumers in an ecosystem.

ASSESSMENT (*Various strategies to evaluate effectiveness of instruction and student learning*)

- **Feedback for Teacher**
 - Student performance
 - Student response to inquiry
 - Science notebook entries
- **Feedback for Student**
 - Teacher Feedback
 - Peer feedback

WORDS TO KNOW

Dance

- **Dance Sequence:** The order in which a series of connecting movements and shapes occur.
- **Dance Study:** A short work of dance that investigates a specific idea or concept and shows a selection of movement ideas.

Science

- **Carnivore:** An animal that eats other animals.
- **Consumer:** An organism that cannot make its own food. Consumers eat other organisms.
- **Food Chain:**
- **Herbivore:** An animal that eats plants.
- **Onnivore:** An animal that eats both plants and other animals.

MATERIALS

- CD Player and music
- Food Pyramid Chart (from lesson #1) and markers
- Diagram #1, Chart of Rap #3 and Rap #4 for overhead
- Pictures of herbivores (diagram #2), carnivores (diagram #3), and omnivores (diagram #4)
- "Food Chain Rap and Dance Study" (diagram #5)
- "Performance Rubric" (diagram #6)
- Computer with access to youtube
- CD Player and music
- Science notebooks (1/student)

RESOURCES

- FOSS California, Grade 4, *Environments*, Investigation 3, Part 3
- List of herbivorous animals: http://en.wikipedia.org/wiki/List_of_herbivorous_animals
- Food Chain: Kids' Corner: <http://www.sheppardsoftware.com/content/animals/kidscorner/foodchain/producersconsumers.htm>
- Ecology: <http://idahoptv.org/dialogue4kids/season4/ecology/facts.cfm>
- You're an Omnivore Song: <http://www.youtube.com/watch?v=YVh2fGI9Jgo&feature=related>
- Flocabulary: <http://flocabulary.com/ecosystems/> (you must become a member to use this site) content is included at the end of this lesson.
- Slide Step: www.youtube.com/watch?v=mK_rsgrgAKk

PREPARATION

- Teach FOSS California, Grade 4, *Environments*, Investigation 3, Part 3
- A chart of the Food Pyramid (from lesson #1).
- Optional: 10 copies of the Rap 3 sheet (diagram #1)
- Frontload:
 - Have students read the rap text several times prior to teaching this lesson. It is recommended that students spend about five minutes for three or more days to become acquainted with the words. If you can teach the rhythm and students can speak the lines in rhythm, they will be better prepared for the dance portion of this lesson.

WARM UP *(Engage students, access prior learning, review, hook or activity to focus the student for learning)*

(10 minutes)

- Review Raps 1 and 2 from lesson 1 with **dance sequences**.
- Review ecosystem and producer.

MODELING *(Presentation of new material, demonstration of the process, direct instruction)*

(20 minutes)

- Ask: What is a **consumer**? [Think, pair share and report answers].
- Say:
 - Organisms that eat other organisms are called **consumers**. Insects such as grasshoppers and snails eat plants that have stored energy in the form of sugar, which in turn gives them energy. Animals such as deer, rabbits and cows also eat and get energy from plants. **Consumers** such as these are called **herbivores**. (Explain to students the compound word: "herbi" means plant and "vore" means one that eats.). **Herbivores** eat only plants. (Refer to Diagram #2 Types of Consumers)
 - Animals, like lions, crocodiles, sharks, hawks, eagles, owls, and snakes eat other animals to get their energy. They are called **carnivores** (meaning meat eaters). (Refer to Diagram #3 Types of Carnivores)
 - Animals that eat both plants and animals are called **omnivores** (omni meaning all). Examples of these animals are humans (people), pigs, bears, chipmunks, rats, raccoons, and chimpanzees.

(Refer to Diagram #4 Types of Consumers-The Omnivores)

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- Draw another line on the Food Chain chart and label it **consumers**.
- *Say: Today, we will learn **dance sequences** #3 and 4; all about **consumers**. This will be part two of our **dance study**.*
- Teach Rap #3 rhythm:
 - *Say (and students repeat): **Consumers** depend on producers for food. They'll even eat each other for their dinner, dude! **Herbivores, carnivores, and omnivores, too. Consumers** eat organisms for food.*
 - The **Consumers** Step (cha-cha step).
 - Start with the right foot. Step forward with the right foot, rock back on the left, step back with the right, step left, step right in place. (Cue: forward, back, cha, cha, cha, or count one, two, three and four). Arms move in opposition and are held loosely throughout.
 - Repeat on the left (step forward with the left, back on the right, step left-right-left in place), beats five through eight.
 - On the word "dude" students will raise up their arms, palms up.
 - Repeat two more times for a total of 32 beats. On the word "dude" the hands are placed in the air.

GUIDED PRACTICE (*Application of knowledge, problem solving, corrective feedback*)

(15 minutes)

- Arrange students in smaller groups of even numbers (six or eight).
- Post Rap #3 on the overhead or distribute a copy to each group.
- Have raps #1 and 2 ready to post for the last five minutes of this section.
- Post "Food Chain Rap and Dance Study" (diagram #5) or provide handouts per group. This will help students remember both the rap and the movement.
- *Say: You will be rehearsing in small groups. Practice each line of the first rap, one at a time, until you are able say the rap and perform the steps at the same time. When you feel comfortable with the third rap, try and add it to raps one and two. I will give you 10 minutes to work on the third rap then I will stop and check to see how you are doing. You will then have another five minutes to work on putting the three raps together. (Post raps 1 and 2 the last five minutes of guided practice).*
- Move from group to group checking on progress. Take notes on which students seem to prefer, moving or rapping. This will be significant information for lesson three.
- Option: Divide the class in half. One half of the group will rap and the other half will dance. Switch groups and repeat.

DEBRIEF & REFLECT (*Identify problems encountered, ask and answer questions, discuss solutions and learning that took place. Did students meet outcomes?*)

(5 minutes)

- Record answers in your science notebooks to the following prompts:
 - What are **consumers**?
 - What are the three types of **consumers**?
 - What role do producers and **consumers** play in an ecosystem?
 - Have students work in pairs or small groups to recall the words and dance steps for rap 3. Have each student make notes of the dance steps that correspond to the rap. Refer to Diagram #3: Food Chain Rap and Dance Study in lesson #1.
 - How did the rap and dance steps help you to understand the role of producers and consumers in an ecosystem?

EXTENSION (*Expectations created by the teacher that encourage students to participate in further research, make connections, and apply understanding and skills previously learned to personal experiences.*)

- Allow students to rehearse raps 1, 2, and 3 throughout the week until they are memorized.
- Introduce rap 4 so that students are prepared to begin rapping and dancing in lesson #3.

- Continue to take notes on which students perform the rap or dance best. Begin to assign a different rapper and dancers for rap.
- Show videotape to students and ask them to observe and make corrections. Use diagram #6 to prepare students for performance.

DIAGRAM #1

RAP #3

Consumers depend on producers for food.

*They'll even eat each other for their dinner,
dude!*

Herbivores, carnivores, and omnivores, too.

Consumers eat organisms for food.

Diagram #5

Food Chain Rap and Dance Study

Rap #	Rap Words	Dance Sequence
1	<p>Small as a puddle or large as the sea, living and non-living thrive in harmony.</p> <p>Animals, plankton, water, soil, air. Ecosystems are everywhere!</p>	<p>The Thrive/Ecosystem Step (down, up, isolate ribs) – 16 beats</p> <p>Repeat 16 beats</p>
2	<p>What do producers need to make their own food? Sunlight, water and CO₂.</p> <p>Algae, grass, plants and vegetables, too. Producers make, make their own food.</p>	<p>The Producer's step (step to the side, cross behind) – 16 beats</p> <p>Repeat 16 beats</p>
3	<p>Consumers depend on producers for food. They'll even eat each other for their dinner, dude!</p> <p>Herbivores, carnivores, and omnivores, too. Consumers eat organisms for food.</p>	<p>The Consumers Step (step forward, back, cha-cha-cha) - 16 beats</p> <p>Repeat 16 beats</p>
4	<p>Dead animals and plants disappear in the ground from microscopic organisms breaking them down.</p> <p>Decomposing matter's nutrients are good for the soil. Nothing is wasted. Decomposers are loyal.</p> <p>Fungi, bacteria, and earthworms too. Decomposers really benefit you.</p> <p>Yeah!</p>	<p>Decomposers Step (the Cat Daddy) – 16 beats</p> <p>Repeat 16 beats</p> <p>Move to ending group shape – 16 beats</p> <p>Freeze</p>

Diagram #6 - Performance Rubric

4 – The rap is clearly understood (rhythm, volume and articulation) and the dance sequences are clear and correctly executed. Both the words and the dance sequences are memorized and performed without hesitation. Students need no coaching from the teacher. The group cooperates well together. The dance clearly shows an introduction to the next part of the dance study (groups 1-3), or a frozen shape (group 4) to end the dance study. Students may add “beat box” or other rhythmic sounds.

3 – The rap is understood (volume and articulation) and the dance sequences are recognizably executed. The rap and dance sequences are mostly memorized and may show some hesitation. Students might need to stop, discuss briefly or receive prompting from the teacher as to dance sequence, rhythm of the rap, or coordination. The group cooperates well together. The dance clearly shows an introduction to the next part of the dance study (groups 1-3), or a frozen shape (group 4) to end the dance study.

2 – The rap is mostly understood (volume and articulation) and the dance sequences are identifiable. Students have some difficulty with memorization and may hesitate several times or may even stop and start over. Not all members of the group are fully engaged. The dance does not show a clear introduction or frozen shape.

1 – The rap is not understood and the dance sequences are roughly executed. Vocals and movement is sloppy. The rapper and dancers have difficulty getting through the rap without coaching or stopping and starting. Students do not work well as a team. The dance has no clear ending.

Rap No.	Voice	Dance	Teamwork	Score			
#1 Names:	Memorization Articulation Volume Rhythm	Memorization Correct placement Rhythm	Cooperation Leadership Encouragement	4	3	2	1
#2 Names:	Memorization Articulation Volume Rhythm	Memorization Correct placement Rhythm	Cooperation Leadership Encouragement	4	3	2	1
#3 Names	Memorization Articulation Volume Rhythm	Memorization Correct placement Rhythm	Cooperation Leadership Encouragement	4	3	2	1
#4 Names:	Memorization Articulation Volume Rhythm	Memorization Correct placement Rhythm	Cooperation Leadership Encouragement	4	3	2	1