General Information

Lesson Parts & Duration

Total Duration: 1 hour
Food Chains & Food Webs: Key Details and Vocabulary

Subject(s)

ELA; Informational Text: Food Chains & Food Webs
Synthesizing of Text, Key Details, Vocabulary (RI.5.1-5.4)

Objective

Students will take literal interpretation of informational text to evaluation and synthesizing.

Materials

Required: copies of Informational Text: "Food Chains & Food Webs" by Jennifer Kaul (1 copy per student) (page 7)
blank paper
pencil
document camera or white board
Optional: printable "Exit Slip" (page 8)
Optional: printable "Break Up Your Day" brain/movement break ideas (page 10)

Protocols (page 9)

Used throughout lesson - be familiar with each protocol.

Throughout this lesson, you will find:

- ***Scripted Text*** indicates things that need to be said directly. Bullets starting with a **"T"** followed by *italicized type* indicate scripted text
- **Clarifiers** within scripted text are in orange
- **Teacher Directions** indicate things you should be doing
- **Side notes** provide helpful hints, ELL strategies, differentiation and information
- **Break Up Your Day** (Brain/Movement Breaks) are in green boxes (at the end)

Remember!

Quality over quantity. All components do not have to be accomplished; lessons may be ended at any time and resumed later.

Instructional Plan: 60 minutes

Introduction

- ***T*** *Today we are going to learn about living things and how they get their energy through the process of food chains and food webs.*
- ***T*** *Has anyone heard of either of these processes (food chains or food webs) or know anything about them?* **Call on a few volunteers to share their ideas. If no one volunteers, continue with the introduction.**
- ***T*** *How about living things and how they get their energy? Does anyone know how a flower gets its energy?* **Call on a few volunteers to share. Answer: flowers get energy by taking in light from the sun**
- ***T*** *In a few minutes, we will read an article that will mention flowers and other living things, and you will learn more about how these living things get their energy.*

Distribute 1 copy of the Informational Text, "Food Chains & Food Webs."

Vocabulary

- ***T*** *As soon as you have your copy of the text on food chains and food webs, please write your name on the top right corner.*
- ***T*** *First, I would like you to please read the text independently.*
- ***T*** *While you are reading, I want you to try to circle at least one unfamiliar word in each paragraph.*
- ***T*** *Then you also need to underline what you believe are the most important details in the text.*

Remember to walk around, amongst students, to make sure they are on task and reading.

- ***T*** *Now we are going to read the text together and discuss the meanings of the words you circled as well as important details you underlined.*

Read paragraphs 1 & 2 of text aloud to students. **Stop after paragraph 2 for discussion.**

- ***T*** *Throughout our lesson today we will be doing independent work, partner discussion and whole group discussions.*
- ***T*** *We will be using 3 key protocols that we will review right now.*
- ***T*** *A protocol is a way of doing something or a procedure.*
- ***T*** *In order to have discussions with multiple students we will use* On your feet/ Get ready to meet/ Go and Greet.
- ***T*** *When I say:* On your feet/ Get ready to meet/ Go and Greet *you will stand up, put your hand up and find someone else who has their hand up.*
- ***T*** *Once someone has their hand down that means they already have a partner.*
- ***T*** *You may only work with each partner once!*
- ***T*** *Once everyone is paired up and all hands are down, I will either ask you a question or give you a direction.*
- ***T*** *Let's try this now, please be sure to take your pencil and copy of the text with you.*
- ***T*** *Ok,* On your feet/ Get ready to meet/ Go and Greet *remember, hand up and find another partner with their hand up.* **Wait until all students have a partner and then pose the question.**

Ask, Answer, and Justify

T *Now that you have a partner the next thing we will do is for sharing our answers.*
T *We will be using the* Ask, Answer, and Justify *protocol.*
T *For this you will each pick the number 1 or 2.*
T *1's will ask the question first and 2's will respond, making sure that they justify their answer using information from the text.*
T *Then you will switch roles and 2's will ask 1's and 1's will respond.*
T *Let's try this with some questions.*

Ask, Answer, and Justify
- Put students in pairs: have them assign themselves a number 1 or 2
- Roles for number assignments:
  - 1's will ask the question first and 2's will respond
  - Then 2's will ask the question and 1's will respond

Partner discussion: Monitor to ensure that 1's are asking 2's and 2's are answering and then they switch and 2's ask 1's and 1's answer.

Ask, Answer, and Justify

Partner discussion:

- What facts/details really stand out to you, perhaps something you underlined in paragraph 1 or 2? Why?
- What did the author want you to know here? How do you know?
- What did you learn in this part of the text?

Note:
Throughout the lesson place Questions/Sentence Frames/Protocols on the document camera if available or recreate on a visual display (dry erase board or poster paper).

Give time to complete this task. Monitor students and provide assistance as needed.

T *Last, after partner discussions, I will bring the class back together to* Share out and check for understanding.
T *I will call on students or partners to share their ideas and answers with the class.*

Share out and check for understanding
- Follow the protocol for Ask and Justify
- Ask students to share their response to the question
- Verify that response or conclusion is correct
- If needed, provide clarification

Share out and check for understanding

T *Who would like to share some facts/details they discussed with their partner?* Call on 2-3 volunteers to share.

Verify responses and provide clarification if needed. Possible facts/details from the first 2 paragraphs may include: living things need energy to live, they get their energy in different ways, most plants get their energy from the sun through photosynthesis, animals get their energy by eating plants and other living things, the process of living things getting their energy is shown through food chains and food webs, a food chain shows this process in an easy way, a flower gets energy from the sun, a butterfly gets energy by drinking flower nectar, a fox gets energy by eating a small bird

T *What did the author want you to know here? How do you know?* Call on 2-3 volunteers to share. Possible answer: that living things get their energy in different ways. We know this because different examples are given to show us how living things get their energy.
T *What did you learn in this part of the text?* Call on 2-3 volunteers to share. Possible answers: there are many ways for living things to get their energy and the process is shown through food chains and food webs

On your feet/ Get ready to meet/ Go and Greet (with their pencil and text) then...

Ask, Answer, and Justify

Partner discussion:

- What were some of the unfamiliar words you circled?
- What do you think the word could possibly mean based on the context or words/phrases/sentences around it?

Give time to complete this task. Monitor students and provide assistance as needed.

Share out and check for understanding

T *Who would like to share the unfamiliar words they discussed with their partner?*

T *Please make sure to explain what you think the word means using context clues or the words/phrases/sentences around that word.* **Use equity sticks, if available, to call on 3 students to share what they think these words mean based on other words in the sentence.** Possible answers: photosynthesis = a process used by plants to get their energy from the sun, obtain = get/acquire, consuming = eating, ecosystem = environment

Verify responses, and provide clarification if needed. Project a few vocabulary words using a document camera, or write them on the whiteboard. The above words are from paragraphs 1 and 2. Additional vocabulary words may include: complex (complicated/involved) and interactions (communication). You may want to discuss these words throughout the reading, as necessary.

Read paragraphs 3 and 4 of text aloud to students. Then stop for discussion.

T *We will now discuss some important details together and then you will work in partners to talk about other details you may have underlined.*

T *If you look at paragraph 3, you will see that two things are being contrasted (showing differences). What is being contrasted?* **Call on a few volunteers to share.** Answer: Food chains and food webs

T *What is one signal word or phrase in the third paragraph that shows contrast?* **Call on a few different volunteers to share or use equity sticks, if available.** Answer: however

T *If you look at the first two sentences of paragraph 3, you will see some signal words that show comparing and contrasting.*

T *The first sentence uses the word "like" to tell us that both food chains and food webs show relationships in an ecosystem.*

T *The second sentence begins with the word "however" which tells us that something will be different (contrasted).*

T *It is telling us that though food chains and food webs are similar, food webs are much more complex.*

T *What are some other important facts/details in paragraph 3?* **Call on 3-4 students to share.** Possible answers: a food web is made up of many food chains, many living things eat butterflies, snakes, raccoons, and larger birds eat small birds, scientists can see more interactions/communication by developing food webs, researchers are able to observe patterns in different ecosystems

T *Ok, time to find a new partner,* On your feet/ Get ready to meet/ Go and Greet *remember, hand up and find another partner with their hand up.* Wait until all students have a partner and then pose the questions.

On your feet/ Get ready to meet/ Go and Greet (with their pencil and text)

then...

Ask, Answer, and Justify

Partner discussion:

- How does the author craft the organization of this article to add to the meaning?

- Why do you think the author wrote this article?

Give time to complete this task. Monitor students and provide assistance as needed.

Share out and check for understanding

T *Who would like to share how the organization of this article was crafted to add to the meaning?* **Use equity sticks, if available, to call on 2-3 students to share.** Answers: providing several examples for food chains and food webs and how living things get their energy, showing similarities and differences between food chains and food webs

T *Why do you think the author wrote this article?* **Call on a few volunteers to share.** Possible Answers: to teach us more about living things, to show us how food chains and food webs display information about how living things get their energy, to show us how food chains and food webs are similar and different

Verify responses, and provide clarification if needed.

Assessment Component

Either project the information for students to copy and answer on notebook paper –or- use the printable exit slips.

T *Now I will write down a few prompts for you to respond to individually.*
T *On the front of your paper, write your name, date, and the following prompts.*
T *Once you have set up your paper, take a few minutes to complete your mini assessment.*

Project the following prompts using a document camera, or write them on the whiteboard.

- 3 things you learned about food chains and food webs
- 2 connections you can make to the article
- 1 question you still have about food chains and food webs

***You may use the exit slip at the end of this lesson as a quick assessment of student understanding. Either print them out (page 8), or simply have students copy the prompts on a half sheet of paper.**

Name: __ANSWER KEY__Date: _____

Exit Slip:

Food Chains & Food Webs Answers will vary

- 3 things you learned about food chains and food webs

  Should be details that have come from the text

- 2 connections you can make to the article

  Should be connections related to examples in the article such as observing a flower bloom or seeing a small bird eat a butterfly

- 1 question you still have about food chains and food webs

  Should be questions that were not previously answered in the text

Make sure to "Break Up Your Day!"

Now is a great time to take a break and get students re-energized.
See our list of engaging movement and brain break ideas to get your students moving and ready to refocus! (see page 10)

Food Chains & Food Webs

by Jennifer Kaul

Living things need energy to live, and they get their energy in different ways. Most plants, for example, get their energy from the sun in a process called photosynthesis. Animals get their energy from eating these plants and other living things. Regardless of which living thing is involved and how they gain their energy, the process can be shown through food chains and food webs.

By demonstrating the flow of energy in a food chain, it is easy to show how plants and animals obtain energy. For example, a flower gets its energy by taking in the light of the sun. A butterfly gets its energy by drinking the nectar of the flower and, in turn, provides energy when it is eaten by a small bird. A fox then gets its energy by consuming the small bird. These living things are able to transfer energy because they are all part of the same ecosystem.

Like food chains, food webs show relationships in an ecosystem. However, they are much more complex. A food web is made up of many food chains like a spider's web is made up of many threads. For instance, small birds are not the only creatures that eat butterflies. Spiders also eat butterflies, as do wasps, toads, and several other living things. Snakes, raccoons, and larger birds also eat small birds. When scientists develop food webs, they can see more interactions than is possible in a single chain. Studying these complex interactions between living things allows researchers to observe patterns within and across different ecosystems.

While food chains and food webs are different, both display how energy is transferred between living things. This helps people gain an understanding of the importance of each plant and animal in an ecosystem and how they are connected.

References

Chesapeake Bay Program. (n.d.) *Food Web.* Retrieved from http://www.chesapeakebay.net/discover/bayecosystem/foodwebs.
CK-12 Foundation. (2017.) *Food Chains and Food Webs.* Retrieved from http://www.ck12.org/biology/food-chains-and-food-webs/lesson/Food-Chains-and-Food-Webs-BIO/.
Geography for Kids. (n.d.) *Ecosystems.* Retrieved from http://www.kidsgeo.com/geography-for-kids/0164-ecosystems.php.

Name: _____Date: _____

Exit Slip:

Food Chains & Food Webs

- 3 things you learned about food chains and food webs

_____

_____

_____

- 2 connections you can make to the article

_____

_____

- 1 question you still have about food chains and food webs

_____

Name: _____Date: _____

Exit Slip:

Food Chains & Food Webs

- 3 things you learned about food chains and food webs

_____

_____

_____

- 2 connections you can make to the article

_____

_____

- 1 question you still have about food chains and food webs

_____

Protocols:

Ask, Answer, and Justify

- Put students in pairs: have them assign themselves a number 1 or 2
- Roles for number assignments:
  - 1's will ask the question first and 2's will respond
  - Then 2's will ask the question and 1's will respond
  - The next time 2's ask the question first

On your feet/ Get ready to meet/ Go and Greet (should take less than one minute)

- Students stand up and put their hand up in the air
- Students find another student that has their hand up to have a "new" partner (and get them moving around)
- Once they are with their new partner, they put their hands down and face the teacher

Give one & Get one

- Students share information in Ask & Justify
- Each student in the pair writes down the information shared by their partner
- If the information is already written, a check is put by the information

Back to Back and Face to Face

- When in pairs, direct students to stand back to back
- Ask the students to consider the question
- Give students at least a minute to consider their response
- Have them turn face to face
- Follow the protocol for Ask and Justify

Share out and check for understanding

- Follow the protocol for Ask and Justify
- Ask students to share their response to the question
- Verify that response or conclusion is correct
- If needed, provide clarification

(Used throughout lesson - be familiar with each protocol.)

Note: Place Protocols under a document camera (if available) as necessary throughout the lessons

Make sure to "Break Up Your Day!"

These can be used in the middle of a lesson or at the end of your lesson.

Here are a few engaging movement and brain break ideas to get your students moving and ready to refocus!

Break Up Your Day: Think Like a Scientist!

- A scientist uses logic to formulate a hypothesis.
- The definition of logic is to reason through validity or truth.
- We are going to find logic in our classroom. For example, if it was raining outside and it was time for lunch, what would be the logical thing to do?
- Students discuss with shoulder buddy.
- Call on 1 or 2 students for possible answers.
- Now, be logical like a scientist.
- If you lived below a glacier's river, what would you do if the glacier was melting at a higher rate every year?
- Talk with your buddy and "Think Like a Scientist!"

Break Up Your Day: Inventions!

- Students brainstorm with a shoulder buddy an invention that would make their lives better.
- Logistics and practicalities do not matter - tell them to shoot for the moon. (example: tennis shoes that float, pencils that write what you say, lunch sacks that are edible).
- Students then draw, label and write a short description of the invention on a half piece of paper.
- Students may share their inventions with the class or with a shoulder buddy.

Break Up Your Day: Thumbs Up!

- Student is called on (use name cards or equity cards if available) to state a quality they see in themselves (kindness, honesty, hard work, humor).
- Other students signify whether they see that quality in themselves.
- Tally their responses.
- The quality with the most votes or Thumbs Up is the theme for the classroom!