General Information

Lesson Parts & Duration

Total Duration: 1 to 1 ½ hours

- Food Chains & Food Webs: Text Features & Summarizing
- Food Chains & Food Webs: Illustration

Subject(s)

- ELA; Informational Text: Food Chains & Food Webs
- Synthesizing of Text, Key Details, Text Features, & Summarizing (RI.5.1-5.3, 5.8)

Objective

- Students will create and use two headings to write a summary of the informational text.
- Students will create a graphic organizer and complete an illustration of a chosen living thing and how it gets its energy.

Materials

- **Required:** copies of Informational Text: "Food Chains & Food Webs" (1 copy per student) (page 8)
- lined pieces of paper
- pencil & crayons/colored pencils
- document camera or whiteboard
- **Optional:** printable "Brainstorming Design" graphic organizer (page 9) or project using document camera for students to copy
- **Optional:** printable "Break Up Your Day" brain/movement break ideas (page 11)

Protocols (page 10)

- 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: 60-90 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.

Headings

- ***T*** *Today you will be writing a one paragraph summary about food chains and food webs.*
- ***T*** *Before we begin, let's take a few minutes to discuss headings and why they are used.*
- ***T*** *Please take a look at your text. You will notice that the article is broken up into paragraphs or sections.*
- ***T*** *Each section has its own heading or main idea.*
- ***T*** *Does anyone know why headings are used?* To give us an idea of what each section will be about
- ***T*** *I would like you to take about five minutes to identify the two headings in the article. You will complete this task independently.*
- ***T*** *You should reread each section and then come up with a heading for that section. This will assist you in your summary writing. Remember, a heading is the main idea of each section, telling you what the section will be about.*
- ***T*** *For example, if I was reading an article about summer and one of the sections discussed children going to the park, playing in the backyard, and swimming, I would write "Activities" as my heading since that is the main topic of the section. Notice that I capitalized the word "Activities," since it is serving as a title of a section.*
- ***T*** *Please use a different color for each heading and you may write directly on your paper.*
- ***T*** *Remember to capitalize your headings.*
- ***T*** *Raise your hand if you need help.*

Allow about five minutes for this activity. Adjust time as needed. Walk around and monitor students to be sure they stay on task, assisting as necessary. Differentiation ideas in box on the right.

Word Bank:

Photosynthesis Plants Animals Energy Food

Food Webs Living Things Sun Ecosystem

Interactions Food Chains Researchers Flowers

Differentiation:
Use a word bank of choices for Special Ed. Students, ELL students, or struggling students to help them complete the heading activity.

Partner Discussion:

- ***T*** *Now we will use the Ask, Answer, and Justify protocol to review your headings with a partner.*
- ***T*** *With your partner one of you will be a 1 and the other will be a 2.*
- ***T*** *1's will ask the question first and 2's will respond.*
- ***T*** *Then 2's will ask the question and 1's will respond.*
- ***T*** *Please ask your partner what he/she wrote down for each of the sections. Remember, you are taking turns asking and responding to each other. There should be a total of two headings to review.*

Call students back together as a whole class and go over the headings. Call on different students to share their answers, and write them on the whiteboard or project using a document camera. Answers: Food Chains, Food Webs

Writing a Summary

- ***T*** *Now you are going to use these two headings to assist you in writing your summary.*
- ***T*** *You can also use your compare and contrast graphic organizer (from Segment 2) to help you.*
- ***T*** *Remember, a summary is a shortened version of a text, not a recount of it.*
- ***T*** *Therefore, you will only include the main ideas and most import details when writing your summary.*
- ***T*** *You should begin your paragraph with a topic sentence and end with a concluding sentence that expresses the overall message of the article. Pay attention to key words the author uses at the beginning and end of the article to help you with these sentences.* Example: "Food chains and food webs illustrate how living things gain their energy." Assist as necessary.
- ***T*** *Your summary paragraph should be approximately 5-7 sentences.*
- ***T*** *You will use lined paper to write your summary.* Pass out 1 piece of lined paper per student.
- ***T*** *Write your name and date in the top right hand corner of your paper. Please title your paper "Food Chains & Food Webs – Summary"* Model this step so students can follow along with your example.
- ***T*** *You may use your informational text and remember to use your headings to help you organize your paragraph.*
- ***T*** *Be sure to use your own words, except for quotations. In that case, you will need to place the exact words from the text within quotes.*
- ***T*** *Make sure that you proofread your work.*
- ***T*** *Check your spelling, punctuation, and content to be sure your ideas make sense and flow smoothly.*
- ***T*** *There are many things you need to make sure you do when writing your summary.*
- ***T*** *Indent the first line only.*
- ***T*** *Start with a topic sentence.*
- ***T*** *Use complete sentences.*
- ***T*** *Use transition words.*
- ***T*** *Use details from the text and place the exact words from the text within quotes.*
- ***T*** *And lastly, be sure you end with a concluding sentence.*
- ***T*** *Remember to reread your paragraph a few times once you have finished and make any necessary changes.*

T *Once you have finished writing your summary, you will have the chance to share it with a partner.*
T *Raise your hand if you need any help and I will come to you.*

Remember to walk around, amongst students, to make sure they are on task. Provide assistance as necessary. Differentiation ideas in box on the right.

Partner Discussion:

T *Now we will use the Ask, Answer, and Justify protocol to share your summary with a partner.*
T *With your partner one of you will be a 1 and the other will be a 2.*
T *1's will share their summary first and 2's will listen.*
T *Then 2's will share their summary while 1's listen.*

Differentiation:

Struggling students: Have them circle or highlight details in the article and get them checked by another student before writing their summary.
Challenge: See if students can include more details in their summary.

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 11)

Checklist for TEACHERS

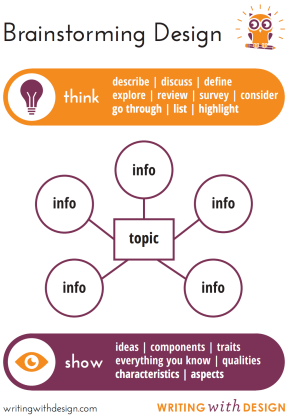
- I indented the first line only
- I started with a topic sentence (example: The informational text demonstrates how food chains and food webs show the process of how living things gain their energy.)
- I used complete sentences
- I used transition words (first, next, then, last)
- I used details from the text and placed the exact words from the text within quotes (example: One example of how food chains demonstrate this process is shown when "a fox gets its energy by consuming the small bird.")
- I finished with a concluding sentence (example: The informational text demonstrates how food chains and food webs show the transfer of energy between living things.)

Checklist for Students

- I indented the first line only
- I started with a topic sentence
- I used complete sentences
- I used transition words
- I used details from the text and placed the exact words from the text within quotes
- I finished with a concluding sentence

Illustrations

- ***T*** *Now you are going to complete an illustration.*
- ***T*** *You will have some choices for your illustration.*
- ***T*** *Not everyone will draw the same thing.*
- ***T*** *I would like you to illustrate a living thing and how it gets its energy.*
- ***T*** *For example, if a flower gets its energy from the light of the sun, you would draw just that.*
- ***T*** *There are many examples provided in the text.*
- ***T*** *You can choose one of these examples or something different if you have an idea.* Ask students to have their example approved by you if it is not one from the text.
- ***T*** *Your illustration will be completed on a blank sheet of paper that I will pass out shortly.*
- ***T*** *You should use a pencil to draw it and later (if time allows) you can use crayons or colored pencils to color it.*
- ***T*** *I would also like you to write a brief explanation (1 or 2 sentences) under your picture so that we know what you chose to illustrate.*
- ***T*** *So, if you chose the example I mentioned about the flower getting its energy from the light of the sun, you would write just that.*
- ***T*** *Please take a few minutes to look at your text and locate the different examples of living things and how they get their energy.* Provide a few minutes for students to find some examples.
- ***T*** *If you are having trouble, I will come around and assist you shortly.*
- ***T*** *Before making your decision about what to draw, I would like you to brainstorm some examples mentioned in the text.*
- ***T*** *And if you have any ideas that were not mentioned in the text, please raise your hand and I will come to you.*
- ***T*** *You will record the different examples on a graphic organizer.* Show graphic organizer to students.
- ***T*** *Who can tell me what brainstorm means?* Call on several students to share definitions. Possible answers: think, consider, list
- ***T*** *Yes, when you brainstorm, you consider different thoughts and it is helpful to write those ideas on paper.*
- ***T*** *Today's brainstorming will not require a lot of thinking since many examples are provided in the text for you.*
- ***T*** *However, recording this information will help you make a decision about what you will illustrate.*



Either pass out one piece of blank paper and project graphic organizer (using document camera) for students to copy or use the printable "brainstorming design" graphic organizer.

- ***T*** *Please write your name and date in the top right hand corner of your paper.*
- ***T*** *On your paper please title it with: "Food Chains & Food Webs – Brainstorming".* Model this so students can copy your example.
- ***T*** *Then we are going to make 1 box in the center.*
- ***T*** *That will be your topic which is "living things getting their energy."*
- ***T*** *Please write that in the topic box.* Model this so students can copy your example.
- ***T*** *Next, we will draw 5 circles that will go around the topic box.* Show graphic organizer to students again and continue to model for them to copy.
- ***T*** *These circles will contain some of the examples from the text of different living things and how they get their energy.*
- ***T*** *Again, if you have an idea that was not mentioned in the text, you may add it to your graphic organizer.*
- ***T*** *But, raise your hand first and I will come to you.*
- ***T*** *It is always helpful to brainstorm a lot of information even if you do not use it all.*

- ***T*** *You will only be selecting one example to illustrate, but listing many different examples should help you decide what you would like to draw.*
- ***T*** *Use a different colored pencil for each example.*

Provide time and ensure that students have correctly replicated the graphic organizer.

Brainstorming Graphic Organizer

- ***T*** *Remember, each circle will have an example from the text as to how different living things get their energy.* Differentiation ideas in box on right.
- ***T*** *You will need the text to find the different examples.*
- ***T*** *However, you should not copy word for word what the text says and should simplify your writing.*
- ***T*** *For example, the text says, "for example, a flower gets its energy by taking in the light of the sun."*
- ***T*** *You could write "a flower takes in light from the sun."*
- ***T*** *You will be working independently to complete your graphic organizer.*
- ***T*** *Raise your hand if you need any help and I will come to you.*

Differentiation:

Struggling Students: Point to different examples in the text and help them make a decision about what to draw, if necessary.
Challenge: See if students can think of examples not from the text and add them to their graphic organizer.

Provide time for students to complete this task and be sure to walk around and monitor them as they work. They do not need to share their graphic organizer since they will have the same examples. If any students come up with examples not in the text, they will share and get them approved by you.

Pass out one piece of blank paper to each student.

Illustration

- ***T*** *Hopefully you had enough time to complete your brainstorming graphic organizer.*
- ***T*** *If not, you will need to take a few minutes to quickly finish before choosing what to draw and beginning your illustration.*
- ***T*** *You will now use your graphic organizer to select one example of a living thing and how it gets its energy.*
- ***T*** *You will do this on the blank paper I just gave you.*
- ***T*** *Please write your name and date in the top right hand corner of your paper.*
- ***T*** *On your paper please title it with: "Food Chains & Food Webs – Illustration".* Model this so students can copy your example.
- ***T*** *Let's go over a few reminders before you begin.*
- ***T*** *You are only selecting one example from your graphic organizer to illustrate.*
- ***T*** *Be sure to use pencil to draw your picture.*
- ***T*** *Once your picture is complete, please write a brief explanation (1 or 2 sentences) of your drawing directly below it.*
- ***T*** *Please also check your spelling, grammar, and punctuation for your written explanation.*
- ***T*** *Then please use crayons or colored pencils to color your picture.*
- ***T*** *Whatever you do not finish in class today will be finished at a later time.*
- ***T*** *Please raise your hand if you need help.*

Checklist for Students

- I selected only one example from my graphic organizer to illustrate
- I used pencil to draw my picture
- I wrote a brief explanation (1 or 2 sentences) of my drawing directly below it
- I checked my spelling, grammar, and punctuation for my written explanation
- I used crayons or colored pencils to color my picture

Provide time for students to begin their illustrations and be sure to walk around and monitor them as they work. They should be collected for accountability (whether they are finished or not) and to check student progress. They can finish at a later time, if necessary.

Collect their brainstorming graphic organizer as well as their illustrations as assessment pieces for the teacher. The teacher may then return any unfinished illustrations for students to complete at home or in class another day.

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 11)

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.

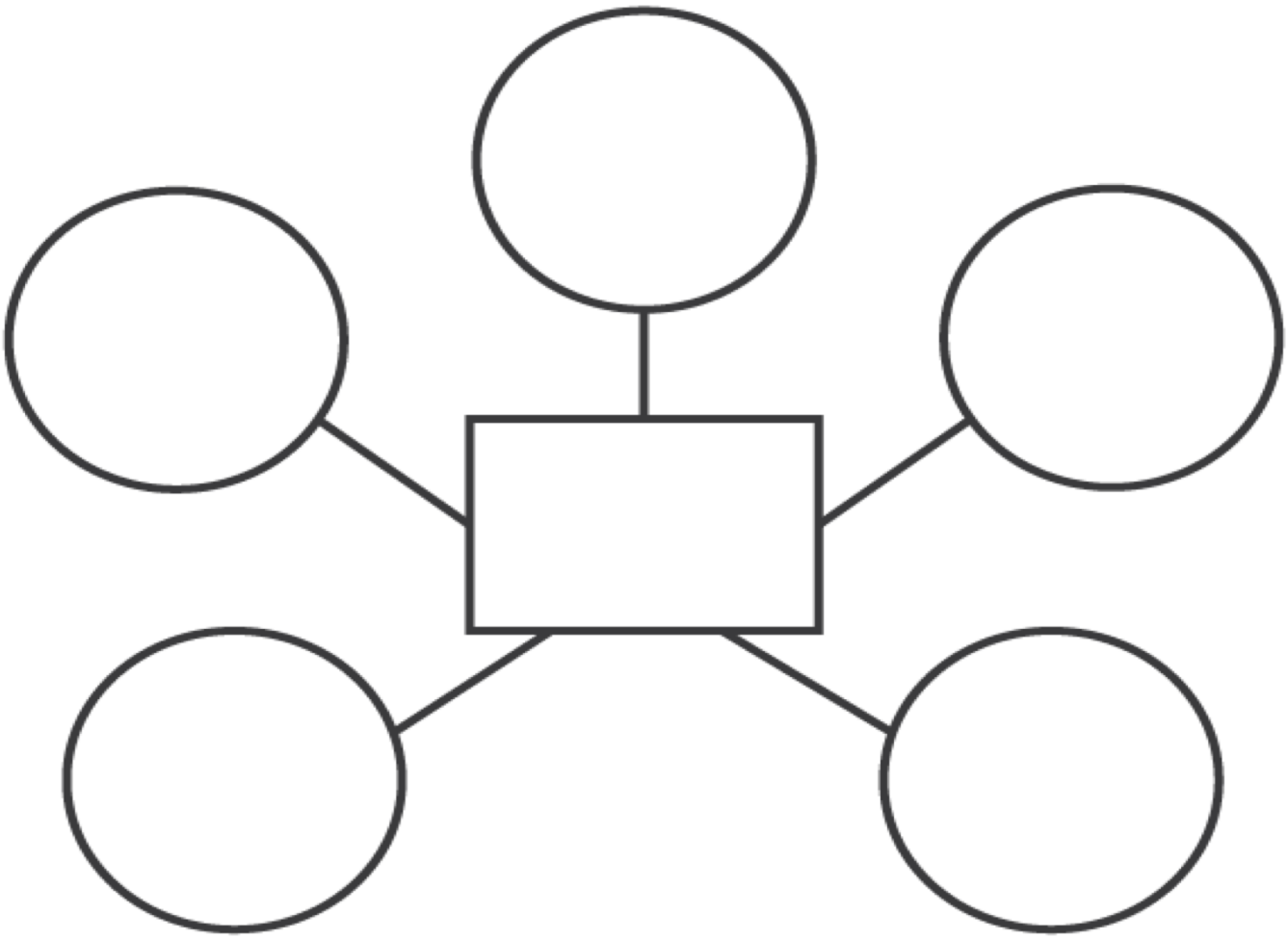
References

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: _____

Brainstorming:
Food Chains & Food Webs - Illustration

Brainstorming Design



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!