

## Instructional Recipe

# What Happens When the Food Chain Is Interrupted?

7<sup>th</sup> Grade, Language Arts / Science

### Step 1 – Ask

**Objectives:** Students will explain the food chain process, simulate the sequence of events that occur when the chain is interrupted, and brainstorm ideas to prevent this from happening.

**Introduction:** What's for lunch?

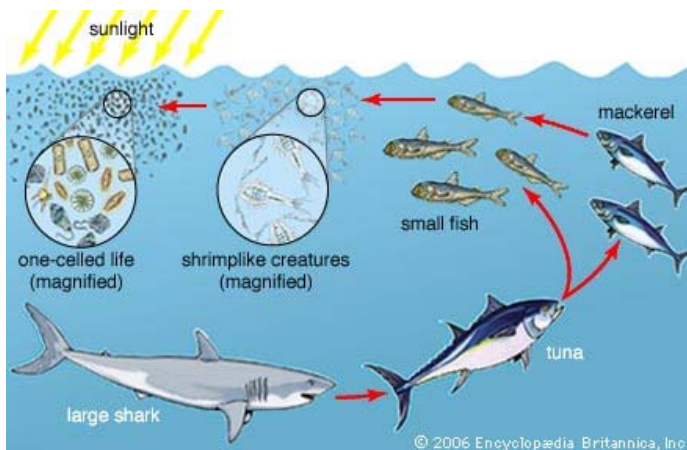


Image source: "food chain." Online Art. Encyclopædia Britannica Online School Edition. 15 Nov. 2007 <<http://school.eb.com/ebk/article?art-86714>>

**Ask:**

- ★ What makes up the food chain?
- ★ What is the difference between a food chain and a food web?
- ★ How does the food chain function?
- ★ What could interrupt the food chain?
- ★ What are some possible examples of this situation?
- ★ What can people do to prevent the food chain from breaking?

**Vocabulary:**

- ★ Food chain
- ★ Food web
- ★ Carnivore
- ★ Herbivore
- ★ Decomposer

**Science TEKS:**

(12) **Science concepts.** The student knows that there is a relationship between organisms and the environment. The student is expected to:

- (A) identify components of an ecosystem;
- (B) observe and describe how organisms including producers, consumers, and decomposers live together in an environment and use existing resources;
- (C) describe how different environments support different varieties of organisms; and
- (D) observe and describe the role of ecological succession in ecosystems.

**New ELA & Reading TEKS:**

(18) **Writing/Persuasive Texts.** Students write persuasive texts to influence the attitudes or actions of a specific audience on specific issues. Students are expected to write persuasive essays for appropriate audiences that establish a position and include sound reasoning, detailed and relevant evidence, and consideration of alternatives.

(23) **Research/Gathering Sources.** Students determine, locate, and explore the full range of relevant sources addressing a research question and systematically record the information they gather.

(24) **Research/Synthesizing Information.** Students clarify research questions and evaluate and synthesize collected information.

(25) **Research/Organizing and Presenting Ideas.** Students organize and present their ideas and information according to the purpose of the research and their audience.

**Technology Application TEKS:**

- (4) Information acquisition
- (B) apply appropriate electronic search strategies in the acquisition of information including keyword and Boolean search strategies
- (7) Solving problems
  - (G) integrate two or more productivity tools into a document including, but not limited to, tables, charts and graphs, graphics from paint or draw programs, and mail merge
- (11) Communication
  - (A) publish in a variety of ways including, but not limited to, printed copy, monitor display, Internet documents, and video

## Step 2 – Investigate

### K-12 Databases:

- ★ "[fish.](#)" Compton's by Britannica. 2008. Encyclopædia Britannica Online School Edition. 7 Nov. 2008 <<http://school.eb.com/comptons/article-200746>>.
- ★ [Spill's impact to be felt for years: Oil will poison habitats, infiltrate food chain for decades](#). By: Hannah, Dogen. Argus, The (Fremont, CA), 11/10/2007 (AN 2W62W63242645806)
- ★ [Too Hot to Handle?](#) Weekly Reader News - Edition 4, 12/9/2005, Vol. 87 Issue 13, p4-4, 2p, 2 maps, 8c
- ★ [LIFE in the Food Chain](#). By: Braaf, Ellen R.. Ask, Sep2008, Vol. 7 Issue 7, p6-13, 8p
- ★ [Food Web Woes](#). By: Sohn, Emily. Science News for Kids, 4/4/2007, p2-2, 1p

### Additional Websites:

[Chain Reaction – Build a Food Chain](#)

YouTube songs:

[Food Chains](#)

Bill Nye the Science Guy – [It's the Food Web](#)

### Book:

Food Chains by Peter D. Riley



## Step 3 – Create

Choose one of the following activities to organize the information read from the different sources:

- ★ Students will create a flow chart to identify plants and/or animals, and connect them to the next level of the food chain. They will images and a brief explanation of each step involved. This can be accomplished using paper, Inspiration or another concept mapping application such as Bubbl.us, or an interactive whiteboard.
- ★ Students will create a chain with paper links. They will label each link and connect to each level in the food chain.
- ★ Students will create a cause and effect chart to explain the food chain process.

#### Step 4 – Discuss

Choose one of the following projects:

- A recent oil spill in the Texas Coast killed thousands of shrimp and crab. The seagulls and other sea birds are disappearing. The plankton population is at all times high. How can we solve this problem? You are an environmental scientist working for Texas Parks and Wildlife and have been given the task to create a campaign to keep this from ever happening again. You can choose to create a poster, a podcast for the local radio station, a public service announcement in the local TV channel, or a persuasive article for the local newspaper.

Technology link – Use GarageBand or Audacity to create your podcast. Use iMovie or Windows Movie Maker to create a PSA. Use desktop publishing software such as Pages or Publisher to create the newspaper article. Don't forget to include images from Britannica and the EBSCO Image Collection to illustrate your point.

- Students will create a photo book of the food chain using iPhoto or PhotoStory.
- Create a paper chain with a link for each level of the food chain. If the chain is broken, propose ways to repair it. (Idea: Check the Chain Game article from Scholastic SuperScience in Kids Search)
- Fishermen are out of work. Restaurants have significantly increased the price of shrimp and crab dishes. How does the interruption of the food chain impact the local economy? You have been hired by the City Council to investigate the situation. Write a list of recommendations to be implemented in the community.



#### Step 5 – Reflect

Allow students to present their projects to the rest of the class. Use the following suggested rubric to assess the students' work. Make sure that the students are familiar with the rubric *before* they begin creating their project. They should refer to the rubric repeatedly to monitor their progress in creating their project.

🔗 Technology Link: You can also create your own rubric with your students at <http://rubistar.4teachers.org/index.php>.

## Rubric Newspaper Article

CATEGORY	4	3	2	1
Note Taking and Organization	Note cards are organized in a neat and orderly fashion.	Note cards are somewhat organized.	Note cards are somewhat disorganized.	Note cards are organized only with assistance and reminders.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Use of Language	No grammatical, spelling or punctuation errors.	Almost no grammatical, spelling or punctuation errors	A few grammatical spelling and/or punctuation errors.	Many grammatical, spelling and/or punctuation errors.
Sources	All sources are accurately cited.	All sources are accurately cited, but a few are not in the desired format.	Not all sources are accurately cited.	Few sources are accurately cited.
Attractiveness	Diagrams and illustrations are neat, accurate and add to the reader's understanding of the topic. Article is enhanced by appropriate use of fonts, colors, images, and format.	Diagrams and illustrations are accurate and add to the reader's understanding of the topic. Article is somewhat enhanced by appropriate use of fonts, colors, images, and format.	Diagrams and illustrations are neat and accurate and sometimes add to the reader's understanding of the topic. Article has very little use of fonts, colors, images, and format.	Diagrams and illustrations are not accurate OR do not add to the reader's understanding of the topic. Article lacks appropriate use of fonts, colors, images, and format.

**Rubric**  
**Podcast or Public Service Announcement**

<b>CATEGORY</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
Accuracy of information	Student accurately describes the problem, its causes and consequences.	Student accurately describes most causes and consequences of global warming.	Student accurately describes some causes and consequences of global warming.	Student describes only a few causes and consequences of global warming.
Persuasiveness	Student provides numerous convincing reasons and steps to support his/her position.	Student provides several convincing reasons and steps to support his/her position.	Student provides only few convincing reasons or steps to support his/her position.	Student does not provide any convincing reasons to support his/her position.
Creativity	The student includes many creative elements in the announcement.	The student includes some creative elements in the announcement.	The student includes very little creative elements in the announcement.	The announcement lacks any creative elements.
Delivery of Presentation	Student delivers the announcement with enthusiasm and fluency. Student has obviously practiced for the announcement.	Student delivers the presentation with enthusiasm and fluency. Student has obviously rehearsed for the announcement, although he or she may make a few minor mistakes.	Student struggles with the delivery of the announcement, but the information is still easily understood by the audience.	Student struggles with the delivery of the announcement, making it difficult for the audience to hear or understand the information.