

Story Summary

High in the sky, a peregrine falcon joins her mate for some swooping and diving before returning to her nest to guard her eggs. The couple doesn't know it yet, but they will lose most of these eggs; the first clutch to a volunteer scaling the cliff, and the next to the harmful effects of DDT. Told against the backdrop of scientists' efforts to understand the raptors' decline in the wild, this illustrated nonfiction book tells the story of several generations of falcons as they're taken to a sanctuary, reintegrated into the wild, and ultimately relocated to the ledge of a city skyscraper.

Celia Godkin is an award-winning author and illustrator best known for her debut book, *Wolf Island*, which won the Children's Literature Roundtables of Canada Information Book Award. She has continued to write and illustrate children's books with environmental themes including *Fire!* which was shortlisted for the Norma Fleck Award for Canadian Children's Non-Fiction. *Skydiver: Saving the Fastest Bird in the World* is a Bank Street Best Book and was nominated for the Green Earth Book Award and the Hackmatack Children's Choice Book Award, among others. Born in England, Celia lives in Eastern Ontario.

Nonfiction Picture Book Ages 6–9 | ISBN: 978-1-927485-61-3 (HC) / 978-1-927485-89-7 (PB) | Pages: 32

Themes:

Conservation, Global Citizenship

BISAC Codes

JNF003270 JUVENILE NONFICTION / Animals / Endangered

JNF003030 JUVENILE NONFICTION / Animals / Birds

JNF037020 JUVENILE NONFICTION / Science & Nature / Environmental Conservation & Protection

Reading Level

Fountas & Pinnell: O | Lexile Measure: AD910L

Additional Resources

Pair this book with:

Books

The Wolves Return: A New Beginning for Yellowstone National Park by Celia Godkin

Bat Citizens: Defending the Ninjas of the Night by Rob Laidlaw

Websites:

www.peregrinefund.org

<https://ebird.org/home>

National Geographic's resources about bees for kids

<https://video.nationalgeographic.com/video/news/0000014f-2de3-deef-a9ef-2fef955c0000>

AumSum's video about the decline of bees

<https://www.youtube.com/watch?v=7KQrbvaNhgC>

Resources for taking action against pesticides in Canada

<https://davidsuzuki.org/action/canada-must-ban-neonics-now>

Resources for taking action against pesticides in the United States

<https://foe.org/neonicotinoids-glyphosate/>

Curriculum Connections

Science: Life Systems, Social Studies: Global Citizenship

Activity/Activity Set	Main Subject Area	Specific Skills and Topics
Read-Aloud	Listening Comprehension Media Literacy Writing	Main Idea Fact Checking Word Choice – strong verbs
Food Chains	Science	Life Systems
Be an Activist!	Social Studies	Global Citizenship
Pesticide-Free Food	Science	Life Systems

The Read-Aloud

With its engaging text and beautiful oil paintings, *Skydiver* is best enjoyed uninterrupted on its initial reading, though students' questions should be acknowledged.

Learning expectations:

Students will:

- use listening comprehension strategies: use background knowledge to make predictions; ask questions to check understanding during and after listening
- demonstrate an understanding of the information and ideas in oral texts by restating the information, including the main idea
- evaluate the treatment of information in texts
- use some vivid language to enhance interest (e.g., strong verbs)

You Will Need

- *Skydiver: Saving the Fastest Bird in the World*
- Chart paper and markers
- Print and online reference texts

How To:

Before Reading

Before showing the book cover, remind students that the word “animal” includes everything that eats—birds, mammals, reptiles, fish, amphibians, and invertebrates. Then ask students “What is the fastest animal in the world?” Record some guesses on chart paper.

During Reading

Show the cover of *Skydiver* and read the title, subtitle,

and author. Ask if anyone knows what type of bird it is. If students know about peregrine falcons, have them share their knowledge. Read the book from cover to cover, including the Author's Note. If students have questions during the reading, record them on the chart. Later, use their questions to guide student-led inquiry.

After Reading

1. Ask, “What is the main idea of this book?” Students will probably say things like “That scientists [or volunteers] saved the peregrine falcons.” Through discussion, encourage them to seek a broader main idea such as “Ordinary people can take action to save the environment.”
2. Discuss: “People make all kinds of claims, in speaking, in newspapers, in books, and on the internet. Sometimes we think that if something is written down or on the news, it must be true. One way to verify the truth of any statement is to see if multiple reliable sources agree with it. What claim does the author make in the subtitle of the book? (peregrine falcons are the fastest birds in the world.) How could we check to see if that claim is true?” Have students suggest ways to check this claim. Write down their suggestions and add to them if necessary. They should include both print and online sources. If students use online encyclopedias, encourage them to check the information found there on more scientific sites. Note how qualifiers affect the outcome of a search for information. For example *The Guinness Book of Records* doesn't mention the peregrine as

the fastest bird. Instead it lists four birds that attain speeds of 100 km/hr (the same speed as a cheetah) “in level flight”. Discuss how the peregrine uses gravity to attain higher speeds. (Relate to the grade three science topic of Forces Causing Movement and the grade six topic of Flight.) Have students do research and record on the chart the top known speed of all the animals they guessed were fastest, as well as Peregrines. (The speed given in the Author’s Note is supported by other sources, about 4 times as fast as a cheetah, for example) “How do authors check their facts when they want to write a book?” Read the author’s thanks at the top of the copyright page (opposite the dedication) to find out.

- (Ideal for grade 6, but beneficial for grades 3 and up) Reviewers have called the text in *Skydiver* “clear,” “concise,” “crisp,” and “engaging.” What is it that sets good writing apart from weak writing, and how can we teach students to make their writing stronger? There are many factors, but in this activity, we will focus on the idea of strong verbs, which are easy to find in *Skydiver*. A strong verb has a very specific meaning, and allows the reader to visualize readily, while minimizing the number of words needed. Weak verbs either leave the meaning vague or are followed by adverbs, which make writing clumsy when used often. Review what verbs are. Make a 2-columned chart with the headings “Strong Verbs” and “Ordinary Verbs.” Re-read *Skydiver*, pausing at the end of each page to ask students if they heard any strong verbs. Record these in the first column, and the “plain-language” meaning of them in the second column. You may have to model the first few. For example, on the first page, you would find “heads,” “spots,” “returns” and “descends.” Beside these, in the “Ordinary Verbs” column, you could write “goes,” “sees,” “comes back,” and “goes down,” respectively. Continuing through the book, you will find verbs like “impress,” “greet,” “plummet,” “swoop,” “tumble,” “hovering,” “hurtles,” “collide,” and many more. Read one or more pages, substituting the ordinary verbs for the strong ones, so the students can hear how the level of the writing is diminished when strong verbs are not used. Keep the Strong Verb chart posted in the classroom throughout

the year. Add to it during future read-alouds. During modeled writing lessons, explicitly choose verbs from it. Encourage students to do the same when they write. When you notice students using strong verbs, celebrate them and have them read their sentence, paragraph, or story to the class.

Activity 1: Food Chains

In this activity, students will learn about food chains through many learning modes, including viewing, reading, writing, video game, and physical activity. If appropriate for your students, teachers can easily extend the activities to include the idea of food webs.

Learning Expectations

Students will:

- analyze the positive and negative impacts of human interactions with natural habitats and communities, taking different perspectives into account, and evaluate ways of minimizing the negative impacts
- build food chains consisting of different plants and animals, including humans
- demonstrate an understanding of food chains as systems in which energy from the sun is transferred to producers (plants) and then to consumers (animals)
- classify organisms, including humans, according to their role in a food chain (e.g., producer, consumer, decomposer)
- assess the benefits that human societies derive from biodiversity (e.g., thousands of products such as food, clothing, medicine, and building materials come from plants and animals) and the problems that occur when biodiversity is diminished (e.g., monocultures are more vulnerable to pests and diseases)

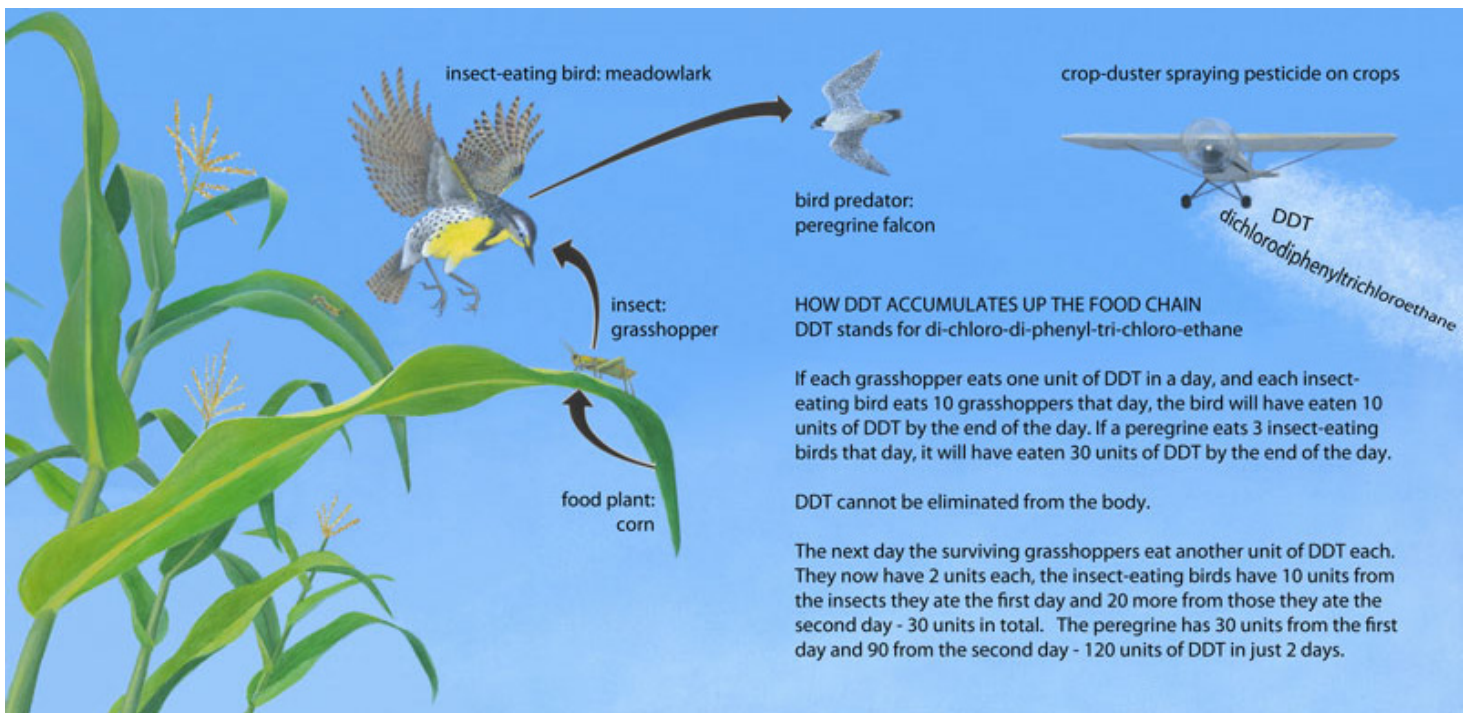
You Will Need

- Skydiver*
- internet access
- chart paper and markers
- art materials: paper, coloring tools, scissors, glue
- 120 small tokens (e.g. pennies), 90 small sandwich bags, 6 lunch-sized paper bags, 1 larger paper bag, permanent marker
- outdoor play space plus additional materials listed in the link to the Survival Game

How To:

1. Watch a video on food chains. Teachers can find one suited to their specific grade level by searching YouTube food chains.
2. Make a food chain. Turn to the seventh spread of *Skydiver*. What is happening? (Corn leaves are being eaten by a grasshopper which is in turn being hunted by a meadowlark. The meadowlark is being hunted by the peregrine.) Begin a flowchart diagram on chart paper, showing the peregrine near the top and the meadowlark below it. You can write the names in circles or use drawings or cut-out pictures. Ask "Does anything eat peregrines?" Turn to the twelfth spread if students have forgotten that a great horned owl eats peregrine chicks. Add a great horned owl above the peregrine. Add the grasshopper below the meadowlark and leaves below the grasshopper. Place a sun on the page, with an arrow showing that the plant gets its energy

3. Color in the plant at the bottom of the food chain, using a red marker. State that this represents the application of a chemical pesticide such as DDT (also shown in the illustration on the seventh spread). Discuss how the DDT is transferred to each animal in the food chain as it eats the one below it. Have students color in the members of the food chain to illustrate the chemical traveling up the chain, until it reaches the peregrine. With older students, discuss how DDT accumulates up the food chain, using this illustrative example:



HOW DDT ACCUMULATES UP THE FOOD CHAIN

DDT stands for di-chloro-di-phenyl-tri-chloro-ethane

If each grasshopper eats one unit of DDT in a day, and each insect-eating bird eats 10 grasshoppers that day, the bird will have eaten 10 units of DDT by the end of the day. If a peregrine eats 3 insect-eating birds that day, it will have eaten 30 units of DDT by the end of the day.

DDT cannot be eliminated from the body.

The next day the surviving grasshoppers eat another unit of DDT each. They now have two units each; the insect-eating birds have 10 units from the insects they ate the first day and 20 more from those they ate the second day—30 units in total. The peregrine has 30 units from the first day and 90 from the second day—120 units of DDT in just two days.

4. Do this activity to illustrate accumulation: Place at least 120 small tokens around the classroom (e.g. paper squares, counters, or pennies). These represent DDT. Give each student a few small sandwich bags labeled “Grasshopper” in permanent marker. Use 90 sandwich bags altogether. Some students will get more than others. That’s okay. Just hand them out until they are all used up, ensuring all students get at least 2–3. Invite students to help their grasshoppers “find food.” Have them find and place one token in each of their sandwich bags. The food is imaginary. The token represents the DDT. Help them understand that when the grasshoppers eat their food, they don’t know that they are eating poison at the same time. Hold up 6 small paper bags labeled “Meadowlark”. Have students bring forward their sandwich bags and place 10 in each paper bag. Have students hang onto any leftover “grasshoppers.” Explain that in this example, each meadowlark eats 10 grasshoppers a day. Next, bring out a large paper bag labeled “Peregrine Falcon.” In this example, the Peregrine Falcon eats 3 insect-eating birds a day, so place 3 “Meadowlarks” inside the larger bag. Ask students to predict how much DDT the peregrine has consumed. Depending on the age of your students, collaboratively work out the math on a chart, or remove and count the tokens to arrive at the total (30), replacing them in the bag afterward. Have students take their uneaten “grasshoppers” back to their desks and put their heads down.

Some students may have more grasshoppers left than others. Some may have none left. That’s okay. After a moment or two, announce that it is the next day and the grasshoppers are hungry again. Even though the food they ate yesterday is gone (used up through activity), the poison they ate by accident yesterday is still in their bodies. They can’t get rid of it. Have students again help their grasshoppers “find food” and place another DDT token in each bag. Students can readily see that the grasshoppers now have twice as much poison in their bodies as they did on Day 1. Call students forward to place 10 grasshoppers in each of the 3 surviving meadowlarks. Guide them through the process of calculating (or counting) that each meadowlark is consuming 20 tokens today, but they still have the 10 from yesterday, so now they have 30. So the grasshoppers’ poison load has doubled since yesterday, but the birds’ poison load has tripled! Next, have the peregrine “eat” the 3 remaining meadowlarks. Have students predict how much poison is now in the peregrine. As before, guide the students through counting, adding, or multiplying, as appropriate, to verify the number of tokens inside the large paper bag. There should be 120. That is 4 times as much as it had on Day 1. This activity should make clear for most students how the amount of DDT ingested increases as we move up the food chain. Older students could predict how much DDT would be present in each creature at the end of Day 3.

5. Older students could also challenge themselves to answer the following problem: If a great horned owl eats one peregrine chick in a day, how much DDT will it have accumulated on the first day, and how much on the second?

A. Day one 30 units, the same as the peregrine. Day two 30 (from day 1) plus 120 (from day 2) = 150. Even if the owl eats only one peregrine in a day, and nothing else (unlikely), it will still accumulate more DDT than the peregrine.

6. Food chains are affected by biodiversity, and not only because it affects the variety in animals' diets. A lack of biodiversity in agriculture (i.e. monoculture farming) leads to increased use of pesticides, which travel up the food chain, causing harm to all the creatures in the chain. As we saw in *Skydiver*, that harm included thinning the shells of peregrine eggs to the point where fewer chicks survived. Discuss/research how monoculture farming has led to the need for more pesticides, and how biodiversity on our farms can help. A kid-friendly explanation of monoculture can be found here:

<https://wiki.kidzsearch.com/wiki/Monoculture>

A simplified video is:

https://www.youtube.com/watch?v=VH_wt8xBrm4 .

Have students listen for how ordinary consumers can help (e.g. by supporting local farms). For professional reading, try <http://www.macleans.ca/society/how-crop-monocultures-are-threatening-our-food-supply> Research permaculture farming as an alternative. This video can get you started:

<https://www.youtube.com/watch?v=cMuBlhx8oRI>

7. Have students make food chain posters or chain-like mobiles.
8. Watch *The Biggest Little Farm*, a 2018 documentary directed by John Chester.

Activity 2: Be an Activist!

Students will actively participate in global citizenship initiatives.

Learning Expectations

Students will:

- Work for the common good in local, national, and global communities
- become responsible, active citizens within the diverse communities to which they belong.
- solve problems and communicate ideas and decisions about significant developments, events, and issues
- create a plan that outlines some specific ways in which they can responsibly interact with the built and/or natural environment in the local community (Gr. 1)
- demonstrate an understanding of the importance of sustainability in people's interrelationship with their natural environment and of some of the consequences of sustainable and/or non-sustainable actions (Gr. 2)
- gather and organize a variety of data and information on the environmental effects of different land and/or resource use, and on measures taken to reduce the negative impact of that use (Gr. 3)
- describe some key actions taken by both industries and citizens to address the need for more sustainable use of land and resources (Gr. 4)
- create a plan of action to address an environmental issue of local, provincial/state/territorial, and/or national significance (Gr. 5)
- gather and organize information on global issues of environmental importance, including their impact and responses to them, using a variety of resources and various technologies (Gr. 6)

You Will Need

- inspirational poster or quote
- internet access
- field trip permission
- picture books about bees
- *Skydiver*
- wildflower seeds
- used or new envelopes
- art materials such as colored pencils, paper, scissors, glue

How To:

1. Post an inspirational quote about social action in the classroom. E.g., “Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever has.”—Margaret Mead
2. Gather information: visit the websites listed in the Author’s Note on the last page of *Skydiver*.
3. Get up close and personal. If possible, arrange a visit to a local bird sanctuary or rehabilitation center.
4. Research the chemicals that are still being used in agriculture in Canada and the United States. (e.g. neonicotinoids). Discuss the possible impacts of declining bee populations. Students will readily see the loss of honey, but may need your help to understand how important bees and other pollinators are in the production of much of our food. Your school library may have some good books on that subject. See “Additional Resources” on page 1 of this guide for more websites where your class can learn about bees.
5. Re-read the eighth spread of *Skydiver* (the DDT protest). Discuss how people come together to change the way things are. Note the protest sign that reads “Silent Spring” and explain to students that this was the title of a book published in 1962, which sparked anti-DDT demonstrations like the one depicted and kick-started the environmental movement which continues to this day. Its author, Rachel Carson, was an aquatic biologist with the US Bureau of Fisheries at a time when women were a rarity in science. Research other women who have made important contributions to science throughout history up to the present time. Recall other activists the students know about, especially young activists like Greta Thunberg, Ryan Hreljac, Craig Kielburger, or those highlighted in *Bat Citizens: Defending the Ninjas of the Night* or *The Dog Patrol: Our Canine Companions and the Kids Who Protect Them* by Rob Laidlaw. Make a list of actions your class can take toward protecting bees or some other endangered species. Check out <http://www.beesmatter.ca>. Actions might include donating to organizations that protect bees; planting wildflowers; making posters that encourage people to buy organic and local produce; learning about, visiting, and/or supporting permacul-

ture or a local community garden; writing letters to government representatives urging a ban on harmful chemicals; planting an organic or bee-friendly garden near the school or at home; choosing pesticide-free food (see next activity). Prioritize the initiatives and begin acting on the first one right away.

6. Purchase (in bulk or large package) organic, bee-friendly wildflower seeds. Have students decorate envelopes to use as seed packets and include messages and pictures about avoiding pesticides and the importance of preserving bee populations. They could make a draft and edit it before writing on the actual seed packet. Place a spoonful of seeds in each envelope and tape tightly shut. Students can give the packets as gifts to family members, or sell them at a “Save the Bees” fundraiser.

Activity 3: Pesticide-Free Food

One of the most powerful actions consumers can take toward reducing pesticides in the environment is to refuse to buy food that has been grown with pesticides.

Learning Expectations

Students will:

- work for the common good in local, national, and global communities
- become responsible, active citizens within the diverse communities to which they belong.
- solve problems and communicate ideas and decisions about significant developments, events, and issues

You Will Need

- organic foods (see menu ideas)
- bamboo skewers
- field trip permission (optional)

How To:

1. Ahead of time, research available organic and local food sources in your area (community garden, farmer’s market, small polyculture farm, supermarket, health food store).
2. If possible, visit one or more sources with your class and purchase ingredients for a snack or meal. Alternately, purchase foods yourself and bring them to class.

3. Show students examples of “imperfect” fruit and vegetables. Discuss why it’s important for consumers to buy such produce; the demand for perfectly-formed produce contributes to the demand for pesticides, as well as to unnecessary food waste.
4. Possible menu items:
 - Fruit Kababs: Students can thread chunks of locally-grown, organic fruit onto bamboo skewers. (snip the sharp tip off the skewers with large scissors to make them safer)
 - Fruit Smoothies: In a blender, purée (imperfect) frozen fruit, milk (or water or juice), and a bit of local honey.
 - Pizza: Small, organic wraps topped with organic tomato sauce and grated local cheese. Bake on cookie sheets until the cheese melts. If an oven is not available, just roll and eat!
5. Have students research available locally raised, pesticide-free produce, eggs, and meat and create flyers to take home to their families.

Bibliography

<http://www.edu.gov.on.ca/eng/curriculum/elementary/scientec18currb.pdf>

<http://www.edu.gov.on.ca/eng/curriculum/elementary/language18currb.pdf>

<http://www.edu.gov.on.ca/eng/curriculum/elementary/sshg18curr2013.pdf>



Ontario

Ontario Media Development
Corporation

Société de développement
de l'industrie des médias
de l'Ontario

This guide was created with
support from the Ontario Media
Development Corporation.