

TUCKER'S COUNTRYSIDE

Language Arts

Grades 3–4

OBJECTIVES

CONTENT

Students will learn how to make inferences about the feelings and interests of the characters in *Tucker's Countryside* by using details from the text. Students will determine the overall message of the author (the theme of people working together for change). Students will also learn what a conflict of interest is and ways of trying to settle such conflicts.

THINKING SKILL/PROCESS

Students will learn to solve problems skillfully by clearly stating the problem, generating possible solutions, and finally selecting the best solutions on the basis of consequences.

METHODS AND MATERIALS

CONTENT

Students will read the book *Tucker's Countryside*, by George Selden. Students will take on the role of a group of neighborhood children representing their own interests in working to save a meadow from being turned into apartments.

THINKING SKILL/PROCESS

An explicit thinking map, graphic organizers, and structured questioning guide students' thinking step-by-step as they learn the problem-solving strategy.

LESSON

INTRODUCTION TO CONTENT AND THINKING SKILL/PROCESS

- Today, I want to talk about taking on new challenges and solving problems. Some people might want to run and hide when they hear those two words, “challenges” and “problems.” But, not you! I know you are always up for a challenge, right? Raise your hand if you like trying to do things you have never done before. Show of hands. A lot of times when we face a challenge, we are also facing a problem of some kind. For example, I want you to think about a time when you found yourself in a challenging situation with a problem to solve. It could be something you knew was going to be tough or a problem situation that became challenging once you were in it. Maybe it was last week, or maybe it was when you were four or five years old. Tell the person sitting next to you about that problem and its outcome. Give students a minute or so to share experiences with partners. Students often comment on situations in which they had to learn to do something new, like a new sport or something new in school. Is there anyone willing to share an experience with us in which you were not too successful with solving the problem or meeting the challenge?** POSSIBLE STUDENT RESPONSE: *I wanted to learn how to ride a two-wheeler and I wasn't ready to try it on my own. I needed to practice more. I fell off my bike and got hurt.*
- I recently moved into a very old house. It is in pretty good condition, but I wanted to restore certain parts of the house back to the way they were when it was first built. One of these areas was the woodwork and mouldings that had been painted and painted and painted over the years. I ran into a challenging problem when I decided to strip the layers of paint and varnish off this woodwork. I want to show you how I worked on this problem, and I have a thinking map that will help.** Display the thinking map for skillful problem solving in a

place where students will be able to refer to it throughout the lesson. Read over the questions together.

- **I knew what my problem was right away. All the layers of paint were gone, and all the varnish that was on the surface of the wood finally came off. But, I just couldn't get the varnish that had soaked deep into the wood to come off. The reason why this was a problem for me was because I wanted to restrain the wood a much lighter color. If I couldn't get the dark color out of the wood, I wouldn't be able to lighten it. So, I knew what the problem was and why it was a problem. The next thing I did was to think about every possible method I could find to remove that stain. This is question three on the thinking map. Why do you think it is important to brainstorm many possible solutions?** POSSIBLE STUDENT RESPONSES: *You might miss one if you don't think of a lot, one of them will probably work. I went to the store to look and found out about scrapers, regular sandpaper, electric sanders, wood bleach, all kinds of varnish removers, and strange-looking spinning contraptions. I even called to get advice from a professional wood finisher. He said I was doing everything right. I was very proud of that, but very frustrated with this problem.*
- **Before I decided to try each possible solution, I had to think about what would happen as a result of my trying that solution. This is question four on the thinking map. For example, when I considered using sandpaper, I had to think about all the dust that would be flying around and the mess it would make. I had to think about how much sandpaper I would go through as I tried to remove the stain and what the sandpaper would do to the wood. These things that could have happened as a result of my trying this solution are called "consequences." I had to decide whether or not these consequences were good or bad and how important they actually were. Based on that, I thought of a way to change the solution to avoid some of the negative consequences: I needed to make sure I had a face mask to keep from breathing the dust, a painter's cloth to protect the floor, and a large supply of sandpaper so I didn't run out too quickly. For each solution I tried, I needed to think about the consequences before I began. Why do you think it is important to think about the consequences of a solution?** POSSIBLE STUDENT RESPONSES: *You might end up doing something to make the problem worse. You might do something wrong. You need to make sure you have everything you need before you start.*
- **Some of the things I tried helped remove a little of the stain, but the dark color was still there. I was getting frustrated, so I finally considered a very coarse grain sandpaper. Initially, I thought that it might eat away at the wood, but I asked someone at the hardware store and she told me that if the wood was hard wood like oak it probably wouldn't damage the wood and might do a better job than the sandpaper I was using. So I reconsidered and decided to use it. When we decide that a solution won't work before we get enough information about it and try it, what might happen?** POSSIBLE STUDENT RESPONSES: *We may never solve the problem. It may be the solution that works. Guess what? It worked. After all the time, money, chemicals, and headaches, some sandpaper for \$3.79 and a hand sander did the job. Now, a lot of problem solutions are not this simple, but the point is that if I had not kept trying different solutions I would have never solved my problem. Skillful problem solving requires us to brainstorm many possible solutions so that we can keep trying if some of the solutions fail.*

SKILLFUL PROBLEM SOLVING

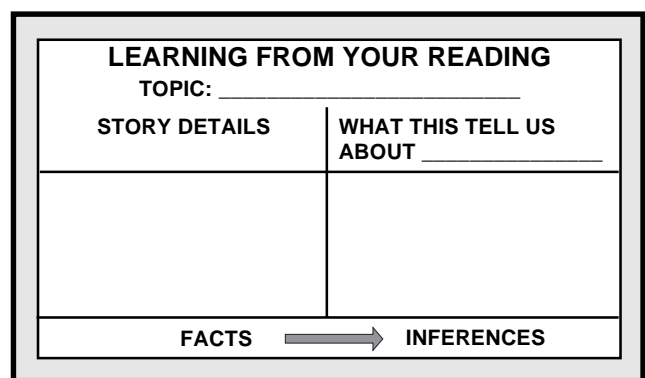
1. Why is there a problem?
2. What is the problem?
3. What are possible solutions to the problem?
4. What would happen if you solved the problem in each of these ways?
5. What is the best solution to the problem?

- **What do you think made me stick with this problem?** POSSIBLE STUDENT RESPONSES: *You really wanted to complete the project. You didn't want to give up after all the work you did. I had put way too much into this job and really did want the sense of accomplishment I would get if I finished. If I didn't know how to carefully think about and solve problems, I may not have been successful. Knowing how to solve problems by looking for solutions and evaluating the consequences of those solutions is a very important kind of thinking. Persistence plays a big part in problem solving, too. By learning how to think through problems skillfully, you know you are doing the best job you can.*
- **We have just started reading *Tucker's Countryside*. When we get to Chapter 8, the main character, Ellen, will be facing a huge problem, much more significant than my getting the stain off my woodwork, but one that you can help her think through using the same basic ideas that are on the thinking map. We will see what it's like to think through challenging problems, problems that would be easy to give up on because we think we can't really solve them. We will also see whether persistence and careful problem solving can make a difference.**

THINKING ACTIVELY

- **Let's summarize what has happened so far in the story of *Tucker's Countryside* by thinking about the two sets of characters who appear in the book up through Chapter 8. Who do we meet as we read this book?** Students usually identify two sets of characters, the animals in the meadow that talk and do things together, and the human beings who live near the meadow, including the children and the adults. If students respond by mentioning specific characters, like Tucker the Mouse or Ellen, ask them questions like "What type of thing is this character?" until they reach the two basic categories, animals and human beings. **Now I'd like you to team up with a partner. I'm going to ask half the teams to work on identifying some facts we learn about the animals in relation to the meadow from the book up to Chapter 8, and the other half of the teams to work on identifying facts about the humans in relation to the meadow that we learn from the book up to the same chapter.** Divide the class into a roughly equal number of teams. **In your own words, I'd like you to do to write down some details from the book that you think are interesting and important involving the animals or the humans and the meadow. After each detail, write the page in which the detail is mentioned. For example, you might write down "The children visit the meadow (p. 37)." We will make two charts—one about the animals, one about the humans, both in relation to the meadow.** Make two

"Learning From Your Reading" diagrams on the chalkboard, a flipchart, or a transparency that look like the diagram on the right. Write the topic "The Animals and the Meadow" on one diagram and "The People and the Meadow" on the other. After three or four minutes, ask for volunteers to read one of the details they have written and write five or six of these each on your class charts for the animals and for the humans. POSSIBLE STUDENT RESPONSES: The Children: *Ellen calls the meadow the special place (p. 51). The children go to the meadow every day (p. 52). Ellen says the meadow is magical (p. 52). Ellen acted hurt when Jasper told her the meadow would be built up (p. 52).* The Animals: *Chester was concerned about what would happen to the animals (p. 36). Chester thinks houses should stay in their own place (51). Henry Chipmunk starts to cry when Tucker Mouse says he*



has no plan to save the meadow (p.45). You can add any of the details your classmates brought up to your own chart.

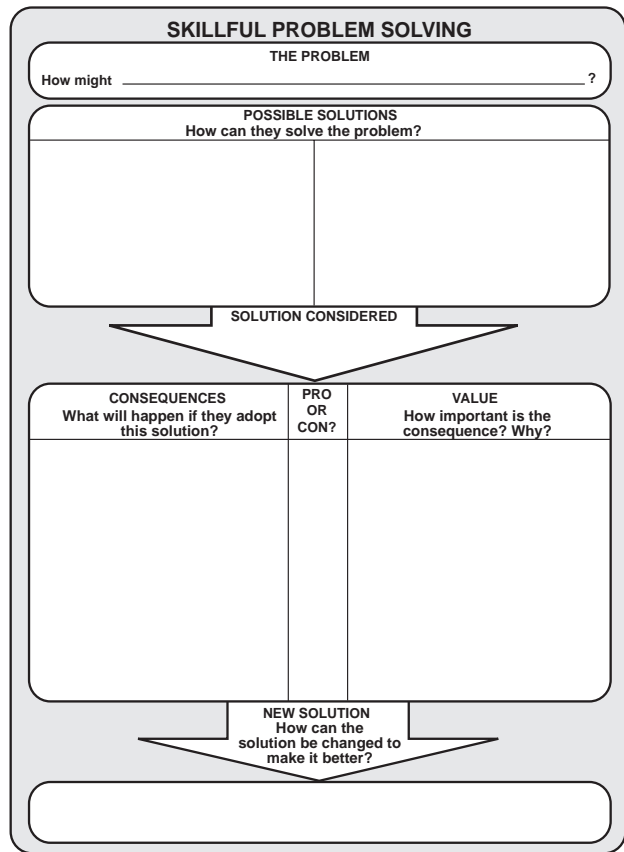
- Usually when an author puts details in a book, he or she wants you to learn something about the characters and the other things he or she writes about. So I'm going to ask you to make another column to the right of your "Details" column and write the question: "What This Tells Us About . ." Refer to your class charts. Half the class should write "The animals' feelings about the meadow" in the blank, and the other half "The children's feelings about the meadow." Then, as you think of the details you have written, try to come up with a statement about what those details show about either the animals' or the humans' feelings about the meadow. For example, you might have had details that make you realize that the animals like the meadow because it provides food for them. Then write that down in this column. After putting this statement on the appropriate chart, give students three or four minutes and ask for responses. Write these on the class chart. POSSIBLE STUDENT RESPONSES: *The Animals: The animals like the meadow because it provides food for them. The animals like the meadow as a home. The animals like to play in the meadow. The animals like to meet other animals in the meadow. The animals like the meadow because it provides a place to sleep. The animals feel safe in the meadow. Chester likes the meadow because it provides a home and food so the animals can survive. Chester doesn't think that the meadow is the right place to build homes for people. Henry Chipmunk doesn't want the meadow to be destroyed and thinks that if Tucker can't save it, it will be lost. The Children: Ellen likes the meadow because they can play there. The children like the meadow because they can be together. Ellen likes the meadow because she enjoy nature. Ellen doesn't like the idea that the meadow will be destroyed and it hurts her to think of it. Ellen sees the meadow as more than just a lot of grass, water, and trees. She sees it as nature at work with plants and animals. When you use details in a book to understand how a character feels, you are making what is called an "inference." To make an inference is to draw a conclusion based on evidence that may not be directly stated in the book. Refer to the word "Facts" followed by an arrow leading to the word "Inference" below the two columns.*
- Now let's think about why Ellen, the main character among the children in the book so far, thinks there is a problem that must be solved, and what it is. What are the first two questions on the thinking map for skillful problem solving? Students usually respond that they need to find out the situation that is causing the problem and state what the problem is. If they have trouble coming up with these questions, refer them to the thinking map for skillful problem solving. What is the situation that creates the problem Ellen faces? Write the word "Situation" on the chalkboard, another piece of chart paper, or on a transparency. Ask for responses from the class and write them under the word "Situation." POSSIBLE STUDENT RESPONSES: *Ellen and the neighborhood children have discovered that the meadow is going to be torn up for apartment buildings to be built. There are machines there already which are going to be used to dig up the meadow and build apartments. There is not much time before they start. What might happen in and around the meadow if it is destroyed? Think about the people and the animals. POSSIBLE STUDENT RESPONSES: The animals won't have a home, shelter, or a place to gather food. The children won't have a place to play and observe nature. When you drew your conclusions about the animals' and the people's feelings about the meadow, you said that they liked the meadow because it provided these things that would be lost if the meadow were destroyed. When you put those two ideas together—the situation and how it conflicts with things that a person likes or wants—then it is easy to see why that person thinks there is a problem that needs to be solved.*
- How would you state the problem that Ellen feels must be solved because of this situation? This is a very important step in skillful problem solving because many times we don't even realize that a problem exists, so we don't do anything to solve it. It may seem easy to decide

what the problem is, but sometimes many smaller problems are there, too, and it gets pretty confusing. For example, in *Tucker's Countryside*, Ellen may decide that the problem is how to provide the children with a place to play. How many of you think this statement really captures the real problem? Most students will see that this statement doesn't tell the whole problem. Let's brainstorm some possible problem statements based on the needs we have written down. Each problem statement should start with the phrase, "What might they do ...". Write the word "Problems" after the word "Situation" and ask students to return to their teams and write down two problems that they think the situation creates, given the facts and what they have inferred that the animals and people are interested in with regard to the meadow. POSSIBLE STUDENT RESPONSES: *What might they do to stop the tractors and other machines? What might they do to keep the meadow from being destroyed? What might they do to save the animals' home? What might they do to stop the men from tearing up the meadow?* Write down problem statements on the board or chart paper so they can be reviewed. Which of these problem statements represents the big problem that Ellen tries to solve starting in Chapter 8 in the book? Students usually identify the main problem that Ellen faces in Chapter 8 as *What might they do to keep the meadow from being destroyed?* Underline this problem statement on the list. I'm going to summarize all of this by saying that Ellen tries to solve the problem of how to save the meadow because she is interested in it as a natural playground for herself and the kids and because she stands up for the interests of the animals who use it as a habitat. Is that a fair statement? Students usually agree with this based on what they have done so far in this lesson.

- You have gone through the first two steps in the problem-solving process. We determined that there is a problem for the children and for the animals, why there is a problem, and exactly what that problem is for Ellen, who is the character who tries to solve it. The next step in careful problem solving is one that we sometimes skip over. Careful problem solving requires that you brainstorm all possible solutions. Many times, we just pick the first solution that we think about. I'll bet some of you are thinking, "Many times, the first solution I try does work." But, how do you know it is the best solution? What might you be missing if you don't think about all the possible solutions? *A solution that is better, one that works better.*
- Keeping this in mind, let's brainstorm possible solutions to the problem in the meadow as if we were Ellen. Even if you think an idea probably won't work, write it down. Now isn't the time for judging the ideas. What can Ellen do to stop the meadow from being destroyed? I'm going to give you about three minutes to think of as many possible solutions to the meadow problem as you can working again with your partner. Have students record their responses in a learning log or writing journal. Give students time to brainstorm in their teams before sharing with the whole group. This will allow everyone to think and participate.
- What are some possible solutions to our problem of how to save the meadow? Display a large copy of the graphic organizer for skillful problem solving on the board, chart paper, or a transparency (see sample on next page). Ask for only one possible solution from any given team so you can get as many as you can from the class. As student responses are given, record them in the Possible Solutions box on the graphic organizer. POSSIBLE STUDENT RESPONSES: *Ask your parents to help. Ask your neighbors to have a meeting with the mayor or construction company. Go to the mayor or the construction company and explain your concerns—make sure they understand everything that will happen if the meadow is destroyed. Sit in the middle of the meadow and refuse to move for the digging machines. Do something to the machines so they won't work. Form a chain of people in front of the machines. Try to get on radio or TV so that you can ask anyone interested to help. Knock on doors and tell everyone about what will happen if the meadow is destroyed. Put signs up all around town and get people to come down to the meadow to protest.* Tell students that they can add any of these to their own lists if they would like to. **You have quite a list developing here. This**

is very good thinking. Ellen has a lot of possible solutions to choose from. Notice how many of them bring in other people to help. We might find a few solutions that can be combined when we start to look at the consequences.

- **What’s the next question to ask in order to figure out which solution will best solve the problem?** Students usually respond by saying that they have to think about what would happen if each solution were chosen. If they don’t come up with this response, refer them to the thinking map. **This is question number four on the thinking map, and you can see that it has a few parts. Let’s take one solution from our list and figure out what will happen if it is chosen. We can start with this one: Ellen can sit in the middle of the meadow and refuse to move for the digging machines. Write this solution in the arrow on the middle of graphic organizer. What are the things that would happen if Ellen and her friends did this? Work with your partner and write as many consequences in your learning log as you can think of.**



After two or three minutes, ask for reports from the teams, once again soliciting only one per team. POSSIBLE STUDENT RESPONSES: *They could get into trouble. Workers could work around them. They might stop the work for a little bit. They could get hurt. They might stop the whole project.* Record student responses under “Consequences” on the class graphic organizer. **Now we need to decide whether these consequences are positive or negative. If they count for the solution, we will write “pro”; if they count against the solution, we will write “con.” Is getting into trouble a pro or a con? A con. What if the men just worked around them? Is that a reason to choose this solution or a reason not to choose it—is it a pro or a con?** POSSIBLE STUDENT RESPONSES: *It is a con because they want to stop them from wrecking any part of the meadow.* Go through the next two consequences and decide whether they count for or against the solution. Record “pro” or “con” on the graphic organizer.

- **Three of the consequences of this first solution count against it. That may seem like enough to decide that this solution won’t work. But, we need to think about the importance of each consequence before we make that decision. Sometimes a few negative consequences can be outweighed by one really important positive consequence. It just depends on the problem situation. So, how important is the consequence that Ellen and her friends might get into trouble?** ANSWERS VARY. Some students may think it is very important, especially if she gets in trouble with the police. Other students will see that if it helps her save the meadow, then being in trouble is worth it and doesn’t matter to her. **Ellen probably wouldn’t care too much about getting into trouble if it meant she could save the meadow. This consequence is not very important to her. How important is it that the workers could still work and dig around them?** POSSIBLE STUDENT RESPONSES: *Very important because she doesn’t want any of the meadow to be destroyed. It is also very dangerous and not a place for her to be sitting if they do this. The third consequence is that Ellen might stop the digging for awhile. Talk to the people at your table*

about this. How important is this consequence? POSSIBLE STUDENT RESPONSES: *It is not very important because as soon as she moves or is moved by someone, work will start again. She needs to find a way to stop them for good.* Careful questioning will help students see that Ellen wouldn't be helping the situation by doing this. She should be figuring out other ways to get people to help her. **How about the last consequence? Is it important that Ellen could get hurt?** *This is very important.*

- Sometimes it is possible to change a solution to make it better. If you can find a way to get rid of the cons for a solution, then you should make the change. I'm going to circle the consequences we thought were very important. Can you think of any way that Ellen and her friends can improve this solution and eliminate the dangers?** POSSIBLE STUDENT RESPONSES: *Instead of sitting in the meadow herself, maybe she could put something else in the meadow to get in the way of the bulldozers. The builders would still be stalled, but she wouldn't be in danger of getting hurt by the bulldozers. Ellen might still get into trouble for doing this, but we decided that getting into trouble isn't very important to her compared to saving the meadow. This improved solution goes at the very bottom of the graphic organizer.* Record the revised solution in the bottom box on the graphic organizer.
- Thinking about only one solution may mean we end up missing a better one. We need to think about the consequences of another solution from our list. This time I'm going to ask you to do this in your teams based on how we did this solution in class. Each team should pick a solution they would like to look at to try to figure out whether it is better or worse than the one we have just considered. If you and your partner want to work separately, that's OK as well. I'm going to give each student a blank graphic organizer for skillful problem solving to use in this activity. This time I want you to think about the possible consequences on your own and write them down on your graphic organizer, determine whether they are pros or cons, and rank their importance. Record all of your ideas, even if the consequence is that nothing will happen differently. That is an important thing to consider when trying to solve a problem. Finally, try to make your solution better by doing things that will eliminate the cons.** Give students 3 to 5 minutes for this activity. If students have questions, redirect their attention to the thinking map before telling them what to do. When the activity is completed, ask students to report which possible solutions they thought were better than trying to stop the machines in the meadow and which were worse, and to explain why. Write these on the chalkboard in rank order as students report. (Another way to compare the solutions is to put all the graphic organizers side by side on the board. Students can sit on the floor in front of them so they are able to see all the organizers and look for similarities, differences and patterns. Decide as a class which solution or solutions they think would be the best for Ellen.) When the solutions are compared and ranked, identify for students that the situation described in the book is one in which there is a *conflict of interest* between the community members, represented by Ellen, and the people who will benefit from changing the meadow into an apartment complex. Help students identify these competing interests. Then discuss with students how the problem-solutions they have considered, and that Ellen tries, fall into two categories: (1) taking action to support their interests, and (2) going to someone else (i.e., the mayor) who can hear both sides of the conflict and make a decision or come up with a compromise. Discuss with students which approach they think is best, and why, when there is a conflict of interest.
- Now let's look for ways to combine these solutions to get one that's even better than those you ranked the best.** Brainstorm ways of doing this with the class, making suggestions yourself as well, and record the results. POSSIBLE STUDENT RESPONSES: *The kids could go to the mayor themselves, but it would be better to get their parents and neighbors to help. The mayor or construction*

company might listen to adults. Instead of damaging the bulldozers, which is vandalism, maybe they could fill the inside with something like balloons or boxes. Every time the workers tried to work they would have to take the time to clean out the cabs of the bulldozers. Continue reading *Tucker's Country-side* to find out what solution(s) Ellen and her friends decide to try. Talk about how she did with her problem solving efforts. Discuss what students can learn from Ellen's persistence and dedication to something she felt strongly about.

THINKING ABOUT THINKING

- **Why is it important to think of many solutions before trying them or ruling them out? What could happen if you choose the first solution without thinking about the others?** POSSIBLE STUDENT RESPONSES: *You may think an idea wouldn't work when it really would. You could use part of an idea instead of the whole thing. If you used the first idea, you wouldn't ever know if one of the others was better.*
- **How is this problem-solving strategy different from the way you have handled other problems in the past? Are there things you already do well? What steps do you need to work on?** POSSIBLE STUDENT RESPONSES: *We need to understand the steps to problem solving. We need to think about what happens when we choose a solution. We need to think of more possible solutions before trying to solve the problem.*
- **What questions did we ask once we determined that there was a problem situation?** POSSIBLE STUDENT RESPONSES: *What are possible solutions to the problem? What are the consequences of each solution? How important are the consequences?*
- **Next time you have a problem to solve, what questions will you ask that can guide you to solve this problem skillfully? Write these in your learning log.** Answers vary, but many students stick with the original thinking map.
- **When can you see yourself using this problem-solving strategy?** POSSIBLE STUDENT RESPONSES: *Problems that are important to solve right, problems involving lots of people, problems with important consequences.*

APPLYING THINKING

Immediate Transfer

- **In the book *Farewell to Shady Glade* by Bill Peet, the animals can feel the ground shaking and hear the big earth-movers rolling in. What is the problem they are facing? Brainstorm possible solutions to this problem, determine the consequences of these solutions, and find out the importance of the consequences. What solutions would be best for the animals to choose, based on the careful problem solving that you did?**
- **In the book *Uncle Jed's Barbershop*, Uncle Jed spends all the money he has saved to open his barbershop when his niece becomes ill. Will he ever be able to have his own shop like he has been dreaming of? What are some possible solutions to his problem? Find out the consequences of these solutions and the importance of the consequences. What do you think would be best for Uncle Jed to do?**
- **Imagine that every day at recess, someone in your class gets into a fight or an argument. Each day, more and more people seem to be involved, and students are being unkind to one another. Your teacher has noticed this and has called a class meeting. What is the problem? Use**

the problem-solving strategy with your classmates to work through this problem and choose the solution that will be best for your class.

- **How did the Native Americans, particularly the Wampanoag tribe in the East, handle the intrusion of the English in the early 1600s? What problems developed among the two groups, and what kind of problem-solving methods did they use? Investigate the many solutions that both groups tried when there was conflict. Did they evaluate the consequences of these solutions in order to find out which were the best?**

Reinforcement Later

- **What examples of skillful problem solving can you find in science? What do doctors do when they try out a new treatment with a patient? How do researchers find out whether or not a new medicine will work? What role do the consequences of options play in developing new cures and getting things to work in a way that will help many people?**
- **Get involved in a community or school problem-solving effort. You can make a difference if you gather support and use careful problem solving. Some problems to consider are people leaving pets in cars in hot weather, pets left outside all the time and neglected, parking and safety problems outside your school, trampled garden areas, misuse of playground equipment, etc.**
- **One of the hardest kinds of problems to solve can be problems with friends. If there is a certain person, a friend or not, that you have trouble getting along with, this is a problem. Think about why you have this problem and brainstorm all the ways you can think of that might help to solve it.**

WRITING EXTENSION

Have students write a persuasive letter to the construction company or the mayor and town council of Hedleyville from *Tucker's Countryside*, providing them with reasons why they should not destroy the meadow. After researching this information, students can provide support for the reasons with factual information about how the plants and animals in a habitat depend on each other and how the habitat helps the surrounding neighborhood. (See Appendix for template on persuasive writing)

Ask students to write a persuasive letter to Ellen recommending the solution you think she should choose. Use the graphic organizer as a prewrite organizer. The template for persuasive writing about how to solve a problem will help you plan and write the letter. (See Appendix.)

After learning about the importance of natural habitats and their connection with the rest of the environment, have students create informational brochures or posters that can be put up around school, around town, or distributed at certain events. The more people know, the more change will take place.

CONTENT EXTENSION

The real-life problem of habitat destruction can be found in every town, in every region, and in all parts of the world. Investigate the area you live in. What is the major habitat type, or what was it before everything was built up on it and around it? What can students do to help educate others about this problem? Engage students in a habitat study, with focus questions to guide them, and determine the common features that all types of habitats share. Look for the ways that parts of a habitat interact with each other and their surrounding environment to create a balance. What happens when we disturb this balance in one way or another?

THINKING SKILL EXTENSION

Teach students how to develop generalizations about habitats (systems) that can be supported by examples from what they read and learn as they study habitats. Jean Craighead-George has a series of books called *One Day in the . . .* (Woods, Alpine Tundra, Desert, Tropical Rain Forest, Prairie, etc.) Each book tells the story of a child trying to find a particular species of plant or animal in the habitat, while describing in detail the intricacies and interdependent relationships that are found within each. Students can learn to develop generalizations about ecosystems based on what they read, or can search for an adequate sample to support a generalization you provide them with.

Habitats are a type of ecosystem. All systems share the concept of interdependence, which is the driving force of the parts-whole relationships strategy. Students can learn about the different parts of a habitat by first looking at what would happen to the habitat if each one of these parts were missing. Use the thinking map questions and graphic organizer for parts-whole relationships to teach students this thinking strategy in relationship to habitats. Another way to develop the parts-whole relationship of interdependence is to start by learning the individual function of each of the parts, like plants, animals, soil, water, sun, etc. Then use those functions to determine how the whole habitat would be affected if one part was missing. When there is a problem in the balance of a habitat, students can determine why it is happening and which part is not functioning as it should be.

SUGGESTED SPECIAL NEEDS MODIFICATIONS

Frontload: For some students, engaging in a thinking strategy takes more time and teacher guidance through skillful questioning and modelling. The teacher's think aloud can serve as a model of such sequenced thinking. In this case the teacher might model thinking aloud about possibilities: "*How might I solve this problem?*" "*Let me see. How many possible ways can I think of,*" etc., and / or about consequences: "*What if I did _____? What might happen?*" Questioning should be scaffolded in such a way as to direct students to such "what if" thinking.

Some students may need preliminary practice with generating many possibilities without having to think about whether or not they will work. If students can learn to suspend judgment until after they have investigated consequences of the solutions, they will be better able to solve problems. Therefore using multiple opportunities prior to the infusion lesson to guide students in generating solutions without judging would be beneficial. Students could brainstorm suggestions to improve the playground so everyone can play, ways a story character or historical figure could solve a problem or complete a task; or they could generate all the ways to use a geometric figure for some constructive or aesthetic purpose. Be explicit that the rules are to generate ideas without comment.

In addition, use the language of thinking to label student contributions: "*That's an example of flexible thinking,*" "*That's some original thinking,*" "*You are suspending your judgment about whether that idea will work.*"

Clarify: If the readability of the text is beyond some students, they may need to obtain the content through another medium (e.g., audiotape, read-aloud) or follow the same procedure in a like-ability group using a text at their reading level.

Diversify: Problem solving can be a complicated thinking strategy if it is introduced to students all at one time. One way to combat this is to break up the strategy, introducing a few steps at a time. Small groups completing one particular step or analyzing one possible solution may also offer the needed degree of support for some students.

Teacher guidance through the use of paraphrasing students' comments may help some students formulate precise problem statements and questions.

For some students, writing assignments connected with the graphic organizer can be modified in two ways: 1) Allow students additional time to complete the regular assignment or 2) reduce the length of the assignment.

Expand the Possibilities: Assessments of written responses may be based upon the student's thinking first, and expressive skills secondly. Oral responses may also reveal thinking beyond the student's ability to express him- or herself in writing.

ASSESSING STUDENT THINKING ABOUT PROBLEM SOLVING

When looking for evidence of student application of the thinking involved in careful problem solving, watch to make sure that students are able to identify problem situations and define the problem correctly. The success of the whole process depends on these first two steps. Give them opportunities to practice brainstorming solution ideas, and check for acceptance of all ideas. Finally, ask students to evaluate the consequences of a few of the solutions by using the graphic organizer for problem solving. Make sure they are able to figure out the importance of consequences, which can be the critical step in choosing the best solution.

Sample Student Responses • Tucker’s Countryside

LEARNING FROM YOUR READING

TOPIC: *The Children and the Meadow.*

STORY DETAILS

WHAT THIS TELLS US ABOUT *How the Children Feel about the Meadow.*

1. *Ellen calls the meadow the special place. (p. 51)*
2. *The children go to the meadow every day. (p. 52)*
3. *Ellen says the meadow is magical. (p. 52)*
4. *Ellen acted hurt when Jasper told her the meadow would be built up. (p. 52)*

1. *Ellen thinks of the meadow as a special place where the children can go.*
2. *The children like to spend time together at the meadow and play there.*
3. *Ellen sees the meadow as more than just a lot of grass, water, and trees. She sees it as nature at work with plants and animals.*
4. *Ellen doesn't like the idea that the meadow will be destroyed, and it hurts her to think about the loss.*

FACTS



INFERENCES

Sample Student Responses • Tucker’s Countryside

LEARNING FROM YOUR READING

TOPIC: *The Animals and the Meadow.*

STORY DETAILS	WHAT THIS TELLS US ABOUT <i>How the Animals Feel about the Meadow.</i>
<ol style="list-style-type: none"> 1. <i>Chester was concerned about what would happen to the animals. (p. 36)</i> 2. <i>Chester thinks houses should stay in their own place. (p. 51)</i> 3. <i>Henry Chipmunk starts to cry when Tucker Mouse says he has no plan to save the meadow. (p. 45)</i> 	<ol style="list-style-type: none"> 1. <i>Chester likes the meadow because it provides a home and food so the animals can survive.</i> 2. <i>Chester doesn't think that the meadow is the right place to build homes for people.</i> 3. <i>Henry Chipmunk doesn't want the meadow to be destroyed and thinks that if Tucker can't save it, it will be lost.</i>

FACTS



INFERENCES

Sample Student Responses • Tucker’s Countryside

SKILLFUL PROBLEM SOLVING

THE PROBLEM

How might you keep the meadow from being destroyed ?

POSSIBLE SOLUTIONS

How can they solve the problem?

- | | |
|--|---|
| <ul style="list-style-type: none"> • Ask your parents to help. • Ask your neighbors to have a meeting with the mayor or construction company. • Go to the mayor or the construction company and explain your concerns—make sure they understand everything that will happen if the meadow is destroyed. • Sit in the meadow and refuse to move for the digging machines. | <ul style="list-style-type: none"> • Do something to the machines so they won’t work. • Form a chain of people in front of the machines. • Try to get on the radio or TV so that you can ask anyone interested to help. • Knock on doors and tell everyone about what will happen if the meadow is destroyed. • Put signs up all around town and get people to come down to the meadow to protest. |
|--|---|

SOLUTION CONSIDERED

Sit in the meadow and refuse to move for the digging machines.

CONSEQUENCES What will happen if they adopt this solution?	PRO OR CON?	VALUE How important is the consequence? Why?
You could get into trouble.	Con	Not Very Important: Doesn't matter as long as you save the meadow.
Workers could work around you.	Con	Very Important: You don't want any of the meadow to be destroyed. It would also be very dangerous.
You might stop the workers for a little bit.	Pro	Not Very Important: As soon as they are moved out of the way, work will start again.
You could get hurt.	Con	Very Important: You could get hurt, and that is not worth the risk.
You might stop the whole project.	Pro	Very Important: This will save the meadow!

NEW SOLUTION
How can the solution be changed to make it better?

Instead of sitting in the meadow yourself, maybe you could put something else in the meadow to get in the way of the bulldozers. The builders would still be stalled, but you wouldn't be in danger of getting hurt by the bulldozers.

Sample Student Responses • Tucker’s Countryside

SKILLFUL PROBLEM SOLVING

THE PROBLEM

How might *they keep the meadow from being destroyed* _____ ?

POSSIBLE SOLUTIONS

How can they solve the problem?

- | | |
|---|--|
| <ul style="list-style-type: none"> • Ask their parents to help. • Ask their neighbors to have a meeting with the mayor or construction company. • Go to the mayor or the construction company and explain their concerns—make sure they understand everything that will happen if the meadow is destroyed. • Sit in the meadow and refuse to move for the digging machines. | <ul style="list-style-type: none"> • Do something to the machines so they won't work. • Form a chain of people in front of the machines. • Try to get on the radio or TV so that they can ask anyone interested to help. • Knock on doors and tell everyone about what will happen if the meadow is destroyed. • Put signs up all around town and get people to come down to the meadow to protest. |
|---|--|

SOLUTION CONSIDERED

Go to the mayor or town council and explain their concerns.

CONSEQUENCES What will happen if they adopt this solution?	PRO OR CON?	VALUE How important is the consequence? Why?
<i>They could get into trouble.</i>	<i>Con</i>	<i>Not very important: Doesn't matter as long as they save the meadow.</i>
<i>The mayor might not listen at all.</i>	<i>Con</i>	<i>Very important: This would mean they need another solution. They should still give it a try—he could reconsider.</i>
<i>The mayor and/or the workers might change their minds.</i>	<i>Pro</i>	<i>Very important: This will save the meadow!</i>
<i>Listening and then thinking about the project will postpone the building.</i>	<i>Pro</i>	<i>Important: At least the meadow is saved for a little while longer.</i>
<i>They could listen, but then explain that they can't stop the building.</i>	<i>Con</i>	<i>Very important: They will still need to find another solution or the meadow will be destroyed.</i>

NEW SOLUTION

How can the solution be changed to make it better?

The kids could go to the mayor themselves, but it would be better to get their parents and neighbors to help. The mayor or construction company might listen to adults.

Sample Student Persuasive Writing • Tucker's Countryside

Dear B.I.G. Construction,

We, the children of Hedleyville, would like you to consider our request and not destroy the meadow habitat in order to build houses. We think that once we explain to you just how a habitat works, you will have enough information and will decide not to destroy the animals' homes. One reason the habitat is important is that the animals cannot just go anywhere to live. The meadow is connected to other lands around it, and there are other places that are better for building.

The first reason we don't want you to dig up the meadow is that the animals living there cannot take off and live anywhere. They have adapted to their habitat in the meadow and can find all of their basic needs. The meadow has the food they need to live and the shelter they need for protection. If you cut down the grasses and dig everything up, the animals would probably starve to death or get killed because they don't have shelter.

Another reason why the meadow in Hedleyville is important is that it is connected to the land around it. If it is gone, the rainwater won't have any place to drain and there may be lots of floods. Then the people who live in the apartments you build and the houses around them will not be very happy with you. Other animals come to the meadow for their food since they are part of the food chain. They would starve too if the meadow is destroyed. The meadow does not just sit there by itself—it is connected to many other things.

Finally, we have found many other places to suggest that are better for building. There are old buildings that no one uses that would be perfect places. You could tear them down and put up new houses and apartments in their place. There is also land not being used that people will sell to you. Then it will be yours and you can build anything. Both of these options would let you build what you want and still keep the animals and their habitat safe. We think this is an excellent idea!

In conclusion, we want you to think about the reasons we gave you. If you destroy the meadow, the animals won't have anywhere to live and will probably not survive. You also need to think about everything around the meadow and the other places where you might build the apartments. Please consider our request. Thank you!

The Children of Hedleyville

Sample Student Persuasive Writing # 2 • Tucker's Countryside

Dear Ellen,

We know there is a problem in the meadow near your house and we have been thinking about ways to solve the problem too. If the builders start working on the apartments, then the meadow will have to be destroyed. We would like to suggest one of the solutions we have thought about. If you get people from your neighborhood to help out, they can go to the mayor or the town council and explain what will happen if the meadow is destroyed. There is a good chance that they will listen to the adults and think about what you are saying.

There are some important positive consequences that could happen if you get people to go to the mayor. First of all, if grown-ups from the neighborhood go with you, the mayor can't say you are just a kid who don't know what you are talking about. He will have to listen. When he listens to the grown-ups he may change his mind about building apartments in the meadow and this is exactly what you want. Finally, if you explain how important the meadow is to the neighborhood, the mayor might need to think about it more and have some people find out if what you're saying is true. This is important because it will give you more time to get more people to help.

There are a few negative consequences to this solution too. One possible con is that the mayor could say he can't do anything to stop the building. It is also possible that you and the other children might be in trouble for getting in the way. We think that with the parents and other adults fighting to save the meadow with you, that isn't very likely to happen.

Once again, we feel that your best solution is to gather up as many people as you can and go to the mayor or town council meeting and explain why destroying the meadow is bad for the neighborhood. Even though it might be too late to stop the building plans, there still is a chance that the plans can be changed if you do this. The positive consequences are more likely than the negative consequences. Please consider our recommendation and go to the mayor with your information about the meadow. It is the best chance that you have to save it.

Sincerely,

Joshua Jones

SKILLFUL PROBLEM SOLVING

- 1. Why is there a problem?**
- 2. What is the problem?**
- 3. What are possible solutions to the problem?**
- 4. What would happen if you solved the problem in each of these ways?**
- 5. What is the best solution to the problem?**

SKILLFUL PROBLEM SOLVING

THE PROBLEM

How might _____ ?


POSSIBLE SOLUTIONS How can I solve the problem?

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SOLUTION CONSIDERED

CRITERIA	CONSEQUENCES	PRO OR CON?	VALUE

NEW SOLUTION How can the solution be changed to make it better?

LEARNING FROM YOUR READING	
TOPIC: _____	
STORY DETAILS	WHAT THIS TELLS US ABOUT _____ _____
FACTS	 INFERENCES

SKILLFUL PROBLEM SOLVING

THE PROBLEM

How might _____ ?

POSSIBLE SOLUTIONS

How can they solve the problem?

SOLUTION CONSIDERED

CONSEQUENCES
What will happen if they adopt this solution?

PRO OR CON?

VALUE
How important is the consequence? Why?

NEW SOLUTION
How can the solution be changed to make it better?