

Content Literacy

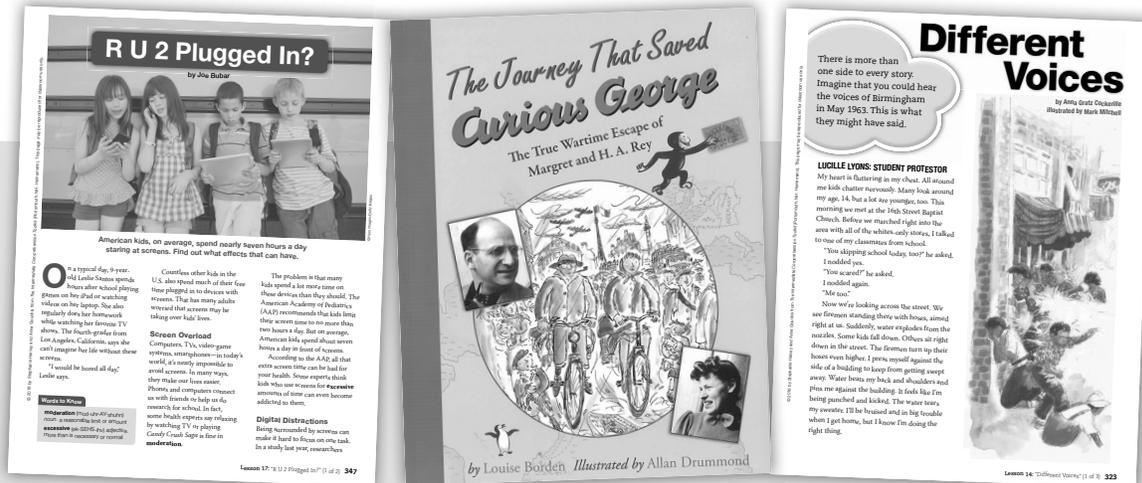
Lessons and Texts for Comprehension Across the Curriculum



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Content Literacy: Lesson Titles and Lesson Texts

LESSON	TEXT	ALTERNATIVE TEXTS
1. Keep the Big Ideas in Mind: Synthesize details to get the big picture	<i>Surprising Sharks</i> by Nicola Davies (Candlewick Press, 2003)	Nonfiction texts that encourage kids to stop, think, and react to information as well as synthesize the details into big ideas should <ul style="list-style-type: none"> • grab kids' interest from the get-go • contain a lot of interesting facts, visuals, and text features that beg them to interact • include details that come together in support of a bigger idea
2. Distinguish Between Complex and Simple Ideas: Think about real-life problems	<i>Surprising Sharks</i> by Nicola Davies (Candlewick Press, 2003)	To help kids distinguish between simple and complex ideas, choose text that has <ul style="list-style-type: none"> • some relatively simple ideas • some bigger, more complex ideas
3. Make Sense of Infographics: Read text closely to get the big idea	"Fin-Win Situation," United Airlines <i>Hemispheres</i> magazine (January 2012)	When first teaching kids to get information from infographics, choose one that <ul style="list-style-type: none"> • focuses on an engaging topic that most kids know a bit about and are interested in: sharks, black holes, endangered species, texting while driving, etc. • has a navigable and appealing design • presents the information clearly
4. Infer from Infographics: View closely to analyze graphics and discern complexity	"Fin-Win Situation," United Airlines <i>Hemispheres</i> magazine (January 2012)	This lesson focuses on the graphic elements in infographics, so look for infographics that <ul style="list-style-type: none"> • convey a lot of information • require close scrutiny to access that information • represent a complex idea or problem
5. Notice Contradictory Information: Research conflicting facts to resolve contradictions	"Fin-Win Situation," United Airlines <i>Hemispheres</i> magazine (January, 2012) <i>Surprising Sharks</i> by Nicola Davies. (Candlewick Press, 2003)	To teach kids how to handle discrepancies, select <ul style="list-style-type: none"> • at least two texts or sources on the same topic • sources that contain conflicting facts about the topic
6. Use Parallel Annotation: Synthesize important information and jot down thinking	"You Can Grow Your Intelligence," Mindset Works, Inc. (2002–2014)	When launching the parallel annotation practice, choose text that <ul style="list-style-type: none"> • is likely to spur a lot of questions, connections, and reactions • has information worth remembering
7. Attend to Signal Words and Phrases: Recognize these cues and understand their purposes	"What's on the Menu? School Lunch Gets a Makeover" by Heather Anderson. (2015)	For a lesson on signal words, choose a text that <ul style="list-style-type: none"> • has an abundance of signal words and signal phrases • uses signal words and phrases in common but varied ways (signaling sequence, emphasis, contrast, transition, etc.)
8. Organize Your Thinking: Analyze information to discern causes and effects	"Tornado!" by David Johnson. (2015) "Tornado Damage—the F-Scale" (www.spc.noaa.gov)	Texts for this lesson—videos, photographs, articles, etc.—should <ul style="list-style-type: none"> • be about a topic that can be explained or understood in terms of cause and effect • clearly depict several cause-and-effect relationships
9. Identify Issues: Synthesize information to explore complex ideas	"The Matchless Girl of Matches" from <i>Real Kids, Real Stories, Real Change</i> by Garth Sundem. (Free Spirit Publishing, 2010)	For this lesson, choose texts that <ul style="list-style-type: none"> • define a clear issue or set of issues • highlight issues that are compelling or of immediate concern to kids • provide enough detail to encourage kids to explore many facets of complex issues

LESSON	TEXT	ALTERNATIVE TEXTS
10. Collaborate to Learn: Jigsaw to synthesize and discuss big ideas	"The Power of Speech" from <i>Speak Out</i> (National Geographic <i>Ladders</i> series)	Effective text for this lesson <ul style="list-style-type: none"> • begins with an overview of a specific topic • has at least three following sections (generally headed with subheads) that share specific examples on the topic
11. Explore Concepts in Multiple Media: Synthesize information from video, text, and graphics	"Meltdown: Antarctic ice is melting faster than ever before" by David Johnson (2015)	For this lesson, choose <ul style="list-style-type: none"> • video and text on a shared topic that depict a significant event with clear consequences • media that present interesting, timely information • images that illustrate key concepts and ideas
12. Read Complex Text Closely: Focus on what you know; ask questions to infer and understand	A transcription of the Mayflower Compact	Primary source documents are perfect for this lesson. Choose documents that are <ul style="list-style-type: none"> • extremely important to a topic under study • about big ideas related to that topic • relatively short
13. Immerse Yourself in Sources: Explore images and text to understand historical events	"Why the Children of Birmingham Marched" by Cynthia Levinson. From <i>Kids Fight for Civil Rights</i> (<i>Appleseeds</i> , October 2013)	Look for texts and images that <ul style="list-style-type: none"> • depict actual events • are vivid and compelling • strike a personal chord in the reader
14. Recognize Perspectives: Understand different points of view	"Different Voices" by Anna Gratz Cockerille. From <i>Kids Fight for Civil Rights</i> (<i>Appleseeds</i> , October 2013)	To encourage kids to understand that different people view the same event or phenomenon in different ways, choose <ul style="list-style-type: none"> • multiple accounts of the same event or phenomenon • texts that represent different points of view or perspectives about the same topic
15. Form an Educated Opinion: Discern the difference between an opinion and an informed opinion	"Animals Can!" and "The Navy Marine Mammal Program" from <i>Lend Me a Paw</i> (National Geographic <i>Ladders</i> series)	Choose text that <ul style="list-style-type: none"> • is about a topic that kids are likely to have strong opinions about • has an issue, idea, or problem that has two sides • provides credible evidence for both sides
16. Debate an Issue: Use evidence to support your claim	"The Navy Marine Mammal Program" from <i>Lend Me a Paw</i> (National Geographic <i>Ladders</i> series)	Ideally, texts that support a debate should relate to <ul style="list-style-type: none"> • an issue, idea, or problem that has two definitive sides • credible evidence for both sides • most importantly, an issue most kids care deeply about
17. Examine Evidence: Evaluate the credibility of sources	"R U 2 Plugged In?" <i>Scholastic News</i> (April 28, 2014)	The text for evaluating sources should <ul style="list-style-type: none"> • discuss a specific issue or problem that engages kids • include information based on research or from experts and other credible sources • prompt kids to examine or reexamine an issue
18. Recognize Persuasion: Identify purpose and evaluate evidence	"The Elephant in the Room," a World Wildlife Foundation infographic	For this lesson, choose a text <ul style="list-style-type: none"> • that takes a clear point of view • whose purpose is persuasive
19. Ask Questions to Read Critically: Use the Definition/Consequence/Action question framework	"Where Your Electronics Go to Die," <i>Junior Scholastic</i> (April 2014)	Text for this lesson needs to feature a problem or issue that <ul style="list-style-type: none"> • can be clearly defined • has obvious consequences (usually negative) • is relevant enough that kids might be inspired to take action to solve it
20. Interview an Expert: Question an author	<i>The Journey That Saved Curious George</i> by Louise Borden (HMH Books for Young Readers, 2006)	To launch author interviews, choose a text that is <ul style="list-style-type: none"> • substantive and engaging • by a contemporary author with a website or other available biographical information

Ask Questions to Read Critically



text matters

Text for this lesson needs to feature a problem or issue that

- can be clearly defined (It is helpful if the problem appears in the title, so the reader can read with that question in mind.)
- has obvious consequences (usually negative)
- is relevant enough that kids might be inspired to take action to solve it

Articles on problems like climate change, child labor, endangered species, and bullying, for example, are the types of issues that lend themselves to this lesson. Once the problem has been defined, which generally occurs in the text quite early on, the reader can focus on the consequence question and read with that in mind. Finally, if they get hooked on the issue, they may want to address the action question and think about what they can do.

resources | materials

Lesson Text

"Where Your Electronics Go to Die," *Junior Scholastic* (April 2014) [See the back of this book or the downloadable resources.]

Classroom Supplies

- Thinksheet with sections labeled *Definition Question*, *Consequence Question*, and *Action Question* and two columns labeled *Notes* and *Thinking* [See the back of this book or the downloadable resources.]
- Document camera or other means of projecting the Thinksheet
- Tablet or other device for online research (*optional*)

Student Supplies

- A copy of "Where Your Electronics Go to Die"
- A copy of the *Definition/Consequence/Action* Thinksheet
- Pencil or pen

Use the Definition/Consequence/Action question framework

why | what

Teachers frequently ask how we get kids to go deeper, to read beyond the surface level of the text. One of the most helpful frameworks for deeper reading in the content areas is the *Definition, Consequence, and Action* line of questioning (Harvey and Daniels 2015). This takes reading with a question in mind to a deeper level. (See *Infer & Visualize* Lesson 14.)

When kids are reading nonfiction, particularly in science and social studies, we can scaffold their critical reading by teaching them the *Definition/Consequence/Action Question* framework. First, we ask readers to ask a definition question, such as *What is happening? What is this?*, which is generally answered explicitly in the text relatively early on. Once they have answered the definition question, we ask them to address a consequence question: *Why does it matter? So what?* The answer often needs to be inferred. Finally, once they have addressed the consequence question, they may care enough to act and think about an action question, such as *What can we do? How can we help?* In conventional schooling, kids may only be required to answer the definition question. The consequence question leads readers to deepen thinking. Ultimately, the action question nudges them to go beyond the text, do some research, and act if they are so inclined.

Related Lessons: If students have worked through *Infer & Visualize* Lesson 14, they are well prepared to tackle asking questions to read critically.

how | gradual release of responsibility

Connect / Engage

- Get kids thinking about the issue in the text.

Model

- Preview the lesson.
- Introduce the Thinksheet and the definition and consequence questions.
- Read aloud the beginning of the article and model note taking.

Guide

- Read on and discuss answers to the consequence question.

Collaborate / Practice Independently

- Confer with kids as they finish reading.

Share the Learning

- Create a web chart of kids' ideas for taking action.

goals | assessment

We want students to:

- define an issue or problem by asking the definition question.
- follow up the definition question with the consequence question—why does it matter.
- think through and determine ways to take action to correct the problem.

Ask Questions to Read Critically

Use the Definition/Consequence/Action question framework

Use this Lesson Frame with any issue-based text or situation to help students define a problem, determine its impact, and think about taking action.

Teaching Moves

Get kids thinking about the issue in the text.

Teaching Language

Connect / Engage

- I'm wondering about the issue in this text.
- What do you think? Turn and talk about that.

Preview the lesson.

Model

- We're going to look into this issue today.
- We'll read the article and take notes in a two-column format. Remember that information from the text goes in the left-hand *Notes* column, while any of our own thinking goes in the right *Thinking* column. In addition to taking notes about the article, we'll use the new *Definition/Consequence/Action* question framework to help us think about this issue.
- The top of this form says *Definition Question*. The definition question tells us what is going on or what the issue is. I'm going to turn the issue into a question and write a definition question. To understand what's going on, I need to find the answer to that question, so I'll read with that question in mind. The definition question is usually answered in the text; we'll see.
- Now I'm going to think about another type of question, called the consequence question. Turn to each other and talk. What is a consequence? A consequence is something that happens as a result of an action. The consequence question has to do with why it matters when something happens.
- I'm going to jot down some important information in the left-hand *Notes* column and then add my thinking and/or a question in the right-hand *Thinking* column.
- As I read on, it says . . . Aha! I think I get it now. I can answer the definition question. I'll put *A* for *answer* next to the spot where I answered the definition question. You go ahead and do that too if you like.

Introduce the Thinksheet and the definition and consequence questions.

Read aloud the beginning of the article aloud and model note taking.

Teaching Language

Teaching Moves

Guide

- Now that we've answered the definition question, we can focus on the consequence question. *Why does it matter if . . .? What are the consequences if . . .?*
- Just answering the definition question is not enough. Addressing the consequence question lets us get a deeper, more complete understanding of the problem. We may need to infer the answer.

Read on and discuss answers to the consequence question.

Collaborate / Practice Independently

- Now it's your turn. Go ahead and read the rest of the article with a partner.
- If you look at the bottom of the form, you'll see a place for the action question. If we care enough about a problem or an issue and the consequences of that issue, we may want to do something to change the situation or to help out in some way. You might write the question, *How can I help?* in the Action Question space and perhaps jot down some of the ways on the back of your paper.

Confer with kids as they finish reading.

Share the Learning

- OK, let's come back together and address the action question. Anybody want to help to try and solve this problem? Who's got some suggestions about how we could help?
- Let's co-construct a web with ideas for how we could make a difference by addressing this problem.

Create a web chart of kids' ideas for taking action.

reflect | assess

Did your students:

- define an issue or problem by asking the definition question?
- follow up the definition question with the consequence question—why does it matter?
- think through and determine ways to take action to correct the problem?

19 in action



Lesson Text

“Where Your Electronics Go to Die” is a perfect fit for this lesson because we can immediately turn that title into the definition question, What happens to your used electronics? That question is answered within a few paragraphs of the beginning of the article, which then takes us to the deeper question, Why does it matter where a bunch of old electronic devices go? Kids learn a lot about the problem here and the consequences of the original question. Most want to take some action after learning about this problem.

“Where Do Your Electronics Go to Die?” from *Junior Scholastic*, April 14, 2014. Copyright © 2014 by Scholastic Inc. Used by permission of Scholastic Inc.

Teaching Moves

Get kids thinking about the issue in the text.

Teaching Language

Connect / Engage

Look around the room. How many different types of electronic devices do you see in here? Turn and talk about what you see. *[Kids mention desktop computer, laptops, projection screens, tablets, a cell phone.]* So many different types of electronics, and that’s just here in this room! Think about all of the electronics people might have in their homes or at their work: TVs, cell phones, DVD players, etc. See those two old desktop computers in the back of the room? The principal just mentioned that they’ll be replacing those with two new updated computers soon. I’m wondering: Where do all of these old electronic devices go when they break or get old? What do you think? Turn and talk about that. *[Kids turn and talk and then share out a few ideas. Most have not thought much about this.]*

Preview the lesson.

Model

We’re going to look into this issue today. We have this article titled “Where Your Electronics Go to Die.” I think we may learn some surprising information when we read it. And we may even want to do something about this issue after reading about it. You never know.

We’ll read the article and take notes in a two-column format. Remember that information from the text goes in the left-hand *Notes* column; any of our own thinking goes in the right-hand *Thinking* column. If we run out of room, we’ll write our notes on Post-its and stick them on the left or right. In addition to taking notes

on the article, we'll use the new *Definition/Consequence/Action* question framework to help us think about this issue. I'm going to explain and then model it for you.

[I read aloud the title.] When we're reading about an issue like this, we usually read because we're interested and curious. This title made me wonder what happens to all of the electronics out there once they break or are used up. I hadn't thought about that much. Technology changes so fast that people always seem to want the newest phone or the newest TV. Have you noticed that? *[Kids nod.]*

[I project the Definition/Consequence/Action Thinksheet.] The top of this form says *Definition Question*. The definition question tells us what is going on or what the issue is. Luckily, our title told us right away what the issue is. I'm going to turn the issue into a question and write a definition question: *What happens to our used electronics?* You can jot that down on your Thinksheet where it says *Definition Question*. To understand what's going on, I need to find the answer to that question, so I'll read with that question in mind. Once I get it answered, I'm going to think about another type of question, called the consequence question. Turn to each other and talk. What is a consequence? *[Kids turn and talk.]*

Gilbert: *A consequence is what happens to you when you do something bad.*

Ashley: *Or good!*

Exactly. A consequence is something that happens as a result of an action. The consequence question has to do with why it matters when something happens. I'll show you as I read and annotate this article.

[I read aloud the first paragraph.] Whoa! 150 million cell phones get thrown out each year! I'm going to jot down *150 million cell phones thrown away each year* in the left *Notes* column and then add my thinking and a question on the right. Shocking! Where in the world do they end up? *[I model annotation on the projected form.]* I'll read on. *[I begin the second paragraph.]* Hmm, those old phones go to China, India, and Ghana where they become e-waste. I'll write that in my *Notes* column. *[I do.]* I'm thinking those countries have many poor people in them. What is e-waste, I wonder? I'll jot down these thoughts and questions in the *Thinking* column.

When I look at the picture on page 7, I think I can figure out what e-waste is. It's all the broken-up stuff that used to be electronics. I'll jot that down. I am wondering why workers even want this stuff. *[I read aloud the rest of the second paragraph.]* As I read on, it says that people burn the e-waste down into metals that they can sell to make enough money to feed their families. Aha! I think I get it now. I can answer the definition question: *What happens to our used electronics?* They go to other countries where they are broken down or burned to get the metals that are left over, so workers can sell the metal to provide for their families. I'll write *A* for *answer* next to the spot where I answered the definition question. You go ahead and do that too if you like. Turn and talk about what you are thinking about this issue so far. *[Kids turn and talk.]*

Introduce the Thinksheet and the definition and consequence questions.

Read aloud the beginning of the article aloud and model note taking.

Name: <u>SAT</u>	
Definition Question: <u>What happens to our used electronics?</u>	
Consequence Question: <u>Why does it matter what happens to these used electronics?</u>	
Notes	Thinking
<ul style="list-style-type: none"> • 150 Million cell phones are thrown away each yr. • They go to countries like China India and Ghana. • They become e-waste → • They go to other countries where they are destroyed for the metal. (A) 	<ul style="list-style-type: none"> • Yikes! Shocking! Where do they go? • What is e-waste? (maybe all the broken up electronics)
Action Question: <u>What can we do about this?</u>	

Read on and discuss answers to the consequence question.

Guide

Now that we've answered the definition question, we can focus on the consequence question: *Why does it matter what happens to these used electronics?* Jot down the consequence question in the blank. I'm going to read the last two paragraphs in this section. [I read from In India to the ground, water, or air.] Jot down important information in the Notes column and your thinking in the Thinking column. [I give kids a few minutes to take notes.]

Now turn and talk about the consequence question: *Why does it matter what happens to these used electronics?* Think about what we read. Share some thoughts you wrote down. What are some consequences that happen when we export this e-waste to other countries? [Kids turn and talk.]

Mason: E-waste is dangerous to people's health.

Jacquin: Women and children are hurt the most.

Sophia: *It can be bad for the environment.*

Good thinking, all of you. There are some very serious consequences that can occur from exporting this e-waste to other countries. This is why we have to ask the consequence question. Just answering the definition question is not enough. Addressing the consequence question lets us get a deeper, more complete understanding of the problem.

Collaborate / Practice Independently

Now it's your turn. Go ahead and read the rest of the article with a partner. Start at the section heading, "What Can We Do?" If you look at the bottom of the form, you'll see a place for the action question. If we care enough about a problem or an issue, we may want to do something to change the situation or to help out in some way. This section may give you some ideas. You might write the question, *How can I help?* in the *Action Question* space and perhaps jot down some of the ways on the back of your paper.

Go ahead and read to learn more. Continue to fill in your *Notes* and *Thinking* columns, and keep in mind some of the suggestions for taking action. By the time you finish reading, you may want to take action. *[Kids read the remainder of the article, working with a partner, in a small group, or independently, while I move about the room and confer with some.]*

What are you thinking, Savannah?

Savannah: *I read something that really makes me mad.*

What's that?

Savannah: *Look. Here it says that the United States is the only industrialized country that hasn't signed a treaty that agrees to quit shipping e-waste out of the country to other places. One hundred and eighty countries signed it, but not the United States.*

Interesting. What does that make you think about?

Savannah: *It angers me. It even says that the reason they won't sign is because it is cheaper for the U.S. to ship e-waste overseas than to recycle it in their own country. It's irresponsible!*

Good thinking. So maybe you should be thinking about the action question. Caring about an issue and even getting angry about it often leads people to take action. What could you do about this?

Savannah: *I could write a letter to someone, the governor or somebody.*

Confer with kids as they finish reading.

I think that's a good idea. When we share, we can find out if someone else is interested in taking action by writing a letter about this. Then you all could start by doing some research to find out who would be the best person or group to write to about this problem.

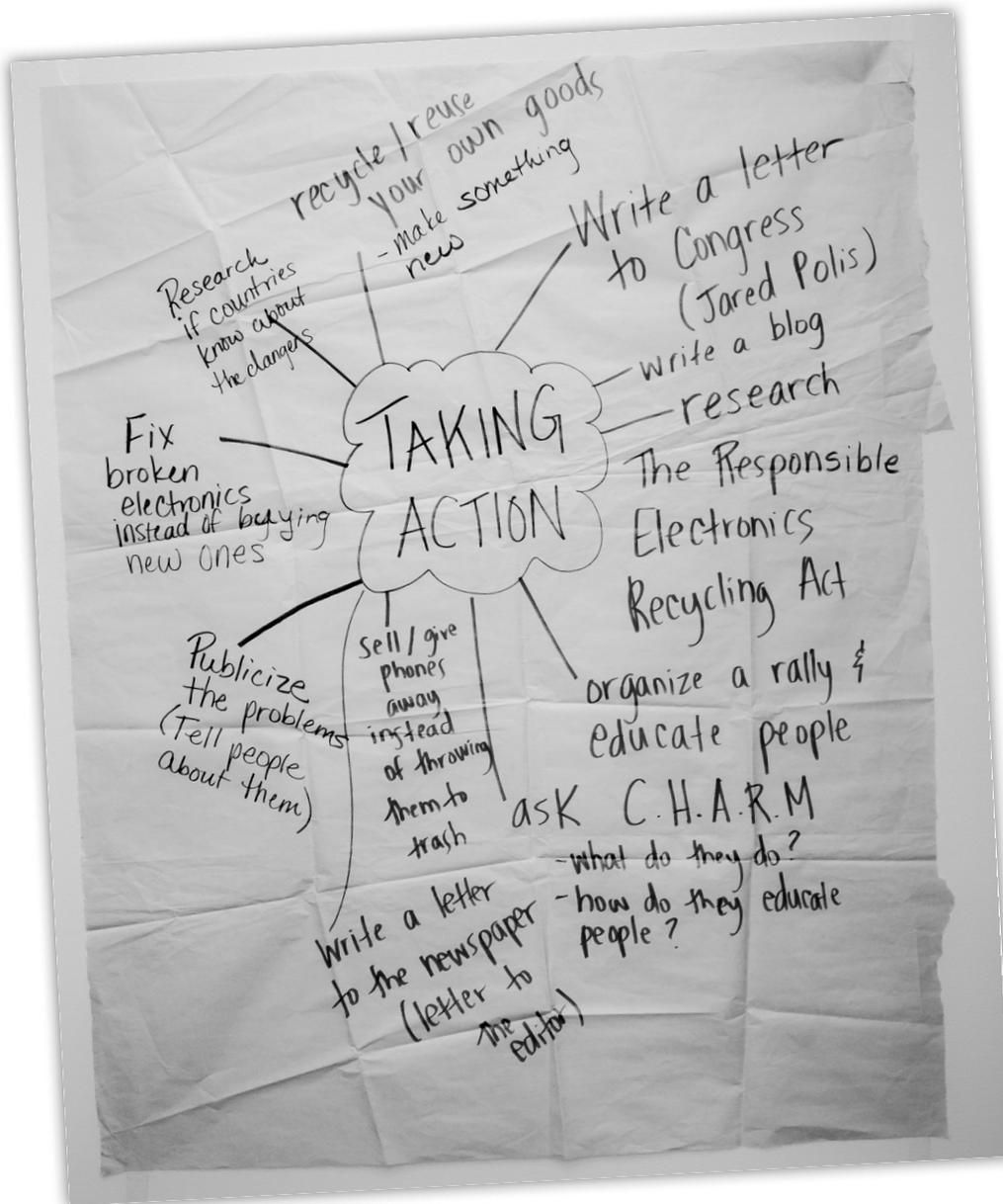
Share the Learning

Create a web chart of kids' ideas for taking action.

OK, let's come back together and address the action question. Anybody want to help to try and solve this problem? *[Quite a few kids nod.]* Who's got some suggestions about how we could help? There were several in the text, and you may have your own ideas. Let's co-construct a web with ideas for how we could

make a difference by addressing this problem. Savannah, I know you had an idea. *[Savannah enlists several other kids to help her find out whom to write to. Kids share a range of possibilities, and I list them on a web.]*

How many of you were surprised by this problem? *[Most raise their hands.]* How many of you think your family knows about this problem? *[Most shake their heads no.]* Well, one thing you can do right away is educate your family about this issue when you get home tonight. One way to take action is by informing people and making them aware of a problem they might not have known about before. That's a great way to begin to help out, along with the many other ways you came up with. Good job!



Follow-Up

- Co-construct an Anchor Chart that shares some different types of generic questions for each category. Here are several. Together come up with more for each category.

Definition/Consequence/Action Questions

Definition Question

What is the problem?

What's the issue?

What is happening?

What is it?

What is going on?

Consequence Question

What are the consequences?

What effects does it have?

Why does it matter?

What difference does it make?

Why should I care?

Action Question

What are some ways to solve the problem?

What needs to happen to solve the problem?

What can I do to help?

How can I get involved?

What can I do about it?

TIP: An alternative approach to this lesson might be to provide students with a Definition/Consequence/Action Anchor Chart for reference at the beginning of the lesson instead of co-constructing the chart at the end. In this case, supply one or two of the prompts for each question on the Thinksheet itself to scaffold kids' thinking. See the back of this book or the downloadable resources for a copy of this chart.

- Teach the language of social action. Teach what advocacy and advocate mean (See Content Literacy Lesson 18) and explain that there are different ways to advocate for a cause. Share these ideas as ways to advocate:
 - Awareness—educate others so they can learn
 - Activism—do something specific to advocate for a cause
 - Aid—contribute your own resources for a cause

19 reflect | assess

goals | assessment

Did your students:

- define an issue or problem by asking the definition question?
- follow up the definition question with the consequence question—why does it matter?
- think through and determine ways to take action to correct the problem?

reflect | assess

When reviewing the Thinksheets for this lesson, I look for evidence that

- kids asked and understood the definition question and found out what was happening.
- kids asked the consequence question of why it matters once they answered the definition question.
- kids thought about how they could take action, make a difference, and perhaps help.

adapt | differentiate

This lesson was done with sixth grade, but we introduce this line of questioning framework starting in third grade. We would scaffold throughout the entire process with third graders, guiding them as they work in pairs to discuss a complex issue in an article or video that answers the definition question and then explore why it matters. With third graders, much of the information gathering to answer the consequence question would occur through listening, viewing, discussing, and annotating. The good news is that third graders are at an age when taking action about an injustice or righting a wrong really fires them up. So we would read more and investigate the issue further and then think about things we might be able to do to take action that could make a difference.

Additionally, the sixth graders co-constructed the *Taking Action* web as a whole class so that kids would hear others' suggestions and see the wide range of possibilities to take action and make a difference when it comes to e-waste.

1

Name: Beck

Definition Question: What happens to your used electronics?

Consequence Question: Why dose it matter

Notes	Thinking
<ul style="list-style-type: none"> • Over 150 million phones are thrown out every year. • All of those phones end up in countries like China, India and Ghana. • kids burn gadgets to get gold, silver and copper for a few dollars. • boys smash batteries for a toxic metal called Cadmium that cover their hands and feet. • Women bend over lead to cook circuit boards for it gold and silver. • many of the toxins in cell phones seep into the ground, water and air. • The toxins can cause irreversibel damage to the nervous system 	<ul style="list-style-type: none"> • Where do the phones go after we throw them out? A: The eastern parts of Asia • What is e-waste? • Why dose it end up all the way over in Asia? • Why is there Gold and Silver in phones? • Why would people risk their lives for some money? • Why do people in other countries do our work? • I think that we send all this e-waste to other countries to keep ours clean. • dose Obama know about what is happening? • Why is there so many toxins in cell phones? • Pretty selfish of US. We are letting the countries pollute with our e-waste.

Action Question: What can we do to help

We could donate our phones to charities.

Beck's
 Thinksheet
 continues on
 the next page.

1 Beck's Thinksheet shows a deep grasp of an understanding of the issue as well as a beginning understanding of the *Definition/Consequence/Action* framework for questioning. He puts only factual information from the article in the *Notes* column and a great deal of thinking, including questions, inferences, and reactions, in the *Thinking* column. He has some thoughts about why all this matters, which addresses the consequence question, and he has an idea about how we might take some action.

1

Name: Beck

Definition Question: What happens to your used electronics?
 Consequence Question: Why dose it matter

Notes	Thinking
-------	----------

Beck's
 Thinksheet
 page 2.

• There are several things governments can do to make sure e-waste is recycled safely.

• In japan, electronic compines are required to recycel used phones.

• About 180 countries and the E.U. have ratified the treaty that makes it illegal to ship e-waste. the u.s. has not done this yet.

• What can the government do to stop people from shipping e-waste to other countries?

• Why havent we ratified the treaty?

Action Question: what can we do?

2

Name: <u>Javier</u>	
Definition Question: <u>What happens to your used electronics?</u>	
Consequence Question: <u>Why does it matter?</u>	
<p style="text-align: center;">Notes</p> <p>150 million cell phones thrown away.</p> <p>They go to countries like China India and Ghana they smash computer batteries</p> <p>I learned they burn phones? exposed to the products are dangerous we are selfish, lead, cadmium and mercury are all toxic</p> <p>the us is not doing a good job like japan or uk</p> <p>all tel your parents</p>	<p style="text-align: center;">Thinking</p> <p>I wonder why they send it to other countries?</p> <p>I think the phones have a lot of petrol</p> <p>I think it is dangerous</p> <p>I think we should call president obama</p>
Action Question: <u>What can we do to help?</u>	

2 Javier has some great thinking on his Thinksheet. He answered the definition question in the *Notes* column and did some good thinking, including asking a thoughtful question in the *Thinking* column. I would confer with him about some comments on the *Notes* side, where he added his thinking rather than merely sticking to the text. He mentioned that we are selfish, which is a great insight, but it belongs on the *Thinking* side, and he also suggested that we all tell our parents, another great suggestion but in the wrong column. This is a common misunderstanding when we introduce the Thinksheet, so we are always on the lookout for this.

WHERE YOUR ELECTRONICS GO TO DIE



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by Layla Acaroglu

Old electronics often become toxic trash around the world. What can you do to make sure your gadgets are recycled safely?

Americans replace their cell phones, on average, every 22 months, junking about 150 million of them every year. Ever wonder what happens to all those old phones?

Many of them end up in countries like China, India, and Ghana, where they're piled up into mountains of electronic waste (e-waste). Workers—many of them kids—then burn the gadgets so they can extract metals, including copper, gold, and silver. They sell the metals to recycling merchants for only a few dollars. That may not sound like a lot of money to Americans, but it can be enough to help their families survive.

In India, young boys smash computer batteries with mallets to recover cadmium, a toxic metal that covers their hands and feet as they work. Women bend over vats of hot, poisonous lead, “cooking” circuit boards so they can remove slivers of gold.

Other people inhale the smoke from burned cell phones as they separate different kinds of plastics.

Exposure to these and other substances can cause serious health problems, especially to children and pregnant women. The World Health Organization says that even a low level of exposure to lead, cadmium, or mercury—all of which are found in cell phones—can cause irreversible damage to the nervous system. The chemicals in e-waste can also damage the environment when they seep into the ground, water, or air.

What Can We Do?

There are several things that manufacturers, governments, and consumers can do to make sure that e-waste is recycled safely.

Some countries put the burden of safe product disposal on manufacturers.

The **European Union** (E.U.) requires electronics companies to accept—for free—any of their used products brought in by customers for recycling. In Japan, electronics manufacturers are required to establish their own recycling facilities or hire companies to recycle a range of products, from computers and cell phones to TVs and air conditioners.

About 180 countries and the E.U. have ratified the Basel Convention, an international treaty that makes it illegal to export toxic e-waste. The U.S. is the only **industrialized nation** that hasn't ratified the treaty.

Words to Know

European Union (*n*): an economic and political partnership of 28 European nations

industrialized nation (*n*): a country that has a highly developed economy and advanced technologies

Opponents of the treaty say that it's cheaper for U.S. companies to ship e-waste overseas than to safely recycle it at home.

The Responsible Electronics Recycling Act, which was re-introduced in Congress last summer, would make it illegal to export toxic waste to developing countries that have limited or no safeguards. It would also require safer waste management in the U.S. The bill was first introduced in 2011, and it continues to be debated in Congress.

Finally, consumers can recycle the electronics they no longer use. They can find certified recycling services through e-Stewards, a Washington nonprofit organization that runs

certification programs for e-waste recyclers. Many charities accept old cell phones to donate to people who can't afford new ones.

Another option is to hold on to gadgets longer and repair—rather than replace—broken or outdated ones. In 2012, Americans generated more than 9 million tons of e-waste—more than any other country. That's up from about 2 million tons in 2009.

“E-waste is the fastest-growing waste stream in the United States,” says Gene Green, a U.S. Representative from Texas. It “can pose serious environmental and health problems here and around the world when not handled properly.”

COUNTRIES THAT RECEIVE THE MOST E-WASTE*

CHINA

INDIA

PAKISTAN

NIGERIA

GHANA

MALAYSIA

VIETNAM

INDONESIA

THAILAND

KENYA

*Most e-waste is illegally shipped to other countries, so specific data aren't available.

Definition/Consequence/Action

Definition Question:

Consequence Question:

Notes	Thinking

Action Question:

Definition/Consequence/Action Questions	
Definition Question	What is the problem? What's the issue? What is happening? What is it? What is going on?
Consequence Question	What are the consequences? What effects does it have? Why does it matter? What difference does it make? Why should I care?
Action Question	What are some ways to solve the problem? What needs to happen to solve the problem? What can I do to help? How can I get involved? What can I do about it?