Reading Standards for Literacy in Science and Technical Subjects 6–12

RST

Grades 6–8 students:	Grades 9–10 students:	Grades 11–12 students:
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of science and technical texts.	1. Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.	1. Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.	2. Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.	2. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.	3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
Craft and Structure		
4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6–8 texts and topics*.	4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 9–10 texts and topics*.	4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 11–12 texts and topics*.
5. Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.	5. Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., *force, friction, reaction force, energy*).	5. Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.	6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.	6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
Integration of Knowledge and Ideas		
7. Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).	7. Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.	7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.	8. Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.	8. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.	9. Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.	9. Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
Range of Reading and Level of Text Complexity		
10. By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.	10. By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.	10. By the end of grade 12, read and comprehend science/technical texts in the grades 11–CCR text complexity band independently and proficiently.

Materials	Text: Animals Clones: Double Trouble Materials: Handout – Animal Clones
Direct Explanation Explain what the strategy is and why and when to use it.	**What:** *"Today we will use the strategy of summarizing while reading the article on cloning called Animal Clones: Double Trouble. When summarizing you determine what the important ideas are in a passage. You then take those big ideas and put them into your own words. You want to keep the summary short, somewhere around 15 to 25 words."* **Why:** ***"****It's important to be able to summarize because it helps you understand and remember the information better."* **When:** ***"****Summarizing can be used with anything you read, anytime you want to answer the question, "What is this mainly about? What information is the most important?"*
Model or Demonstrate Show how to use the strategy.	**How:** *"To summarize while reading, it's good to break the reading into sections, determine the important parts of each section, and then put the ideas together."* ***Model:*** ***Place text on document camera, give students a copy of the text, then show how you might break it up into sections** *"When looking at the passage, I note where the subtitle and paragraph breaks are to determine where I want to divide it into sections. I'm going to break this one after each couple of paragraphs since they are not too long." "Next, I stop after each section and think who/what is this basically about and what is that who or what doing? In my head I might even turn it around and ask what's happening and who or what is it happening to? Or I could ask: • Why is this information important? • If I could only remember a few things from this reading, what would I want to remember so I could explain it to someone else, especially a younger kid? Then I underline or highlight what answers my questions. I need to make sure I underline only the key concept or words. They should be the ones that seem to connect to the interesting details in the passage. Now I'm going to write a few key words out to the side about what I underlined A fancy name for writing out to the side is called annotating. Before I write, I determine how I might condense some of the highlighted information into my own words.* ***Read first section aloud and model think aloud** "*Have you ever had....Already scientists have cloned 11 kinds of animals, including sheep cows, pigs, mice, and horses. What's happening in this section, and whom is it happening to? It says, drink milk, eat meat from cloned animals and clones are genetic copies created in a lab. Those are the main words that seem to connect all the interesting details together.* ***Model continued:*** ***Write condensed words out to the**

	side of the section – *okay to eat cloned food* - read the next section and do the same as before *"We have only read and annotated the first two sections of this article. The goal for today is for you to summarize the whole article by combining all your annotations into a written 15 -25 word - summary. It's important to write a summary because it helps you realize what you have learned from the whole piece of reading. It also helps you retain the information better and is a visual record of your thinking. But before you do let me show you the thinking involved when combining annotations. First I look at my annotated notes - U.S. says okay to eat cloned food. Genetic copies of animals are made in labs, people worried. Then I ask myself what's most important to remember? I might write -U.S. says genetic copies of animals are okay to eat. But people are worried because cloning is not very successful. That is 17 words if you don't count of, to, as, 20 if you do. It's important to put my summary into your own words as this shows how much you really understand."*
Guided Practice Scaffold the use of the strategy.	*"Read the next section silently, then in pairs find the key points and highlight them. Decide together what you will write out to the side. If you finish before I call time you can discuss what you would write in 15 – 25 words using everything we have read and annotated so far."* ***Teacher monitors student work, allows sharing, and gives feedback.**
Apply Use the strategy	***Students will practice independently with the rest of the article. Teacher monitors student work**. **After the summaries are written allow students to share.** *"Now that you are through reading, highlighting and annotating on your own, share with neighbor what you highlighted/annotated. If you want you can add to your key points or delete some after sharing. Then by yourself take all you annotations – think about what is most important to know and write your summary in a sentence or sentences. Remember when you finish you should have no more than 15 – 25 words. You don't have to count the a, the, to, in, etc."*

Animal Clones: Double Trouble?

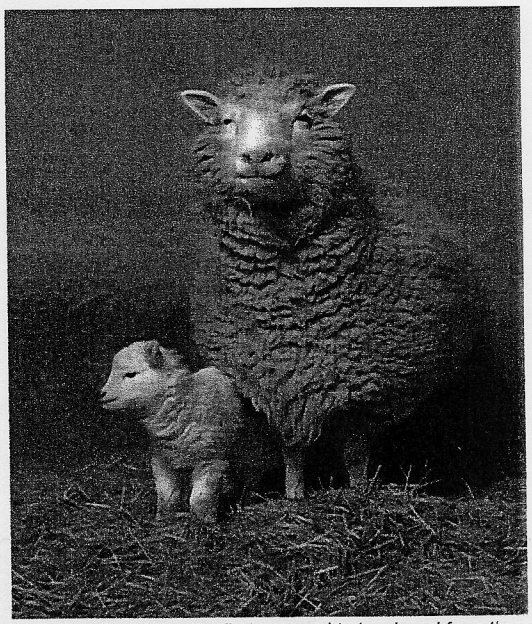
Emily Sohn

Jan. 28, 2004

Have you ever had a hamburger so good you wished you could eat the same thing all over again?

With the way that cloning research is going, you might someday get your wish. The United States government recently decided that it's safe to drink milk and eat meat that comes from cloned animals. The decision has inflamed arguments about human health, animal rights, and the difference between right and wrong.

Clones, like identical twins, are exact genetic copies of each other. The difference is that twins turn up without scientists' being involved and are born at the same time. Clones are created in the lab and can be born years apart. Already, scientists have cloned 11 kinds of animals, including sheep, cows, pigs, mice, and horses.



Dolly the sheep was the first mammal to be cloned from the DNA of an adult. Here she is with her first-born lamb, Bonnie.
Roslin Institute, Edinburgh

As researchers continue to refine their techniques and clone even more animals, some people are worried. So far, cloned animals haven't fared well, critics say. Few cloning attempts are successful. The animals that do survive tend to die young.

Cloning raises a variety of issues. Is it a good idea to let people clone a favorite pet? What if cloning could revive the dinosaurs? What would happen if scientists ever figure out how to clone people?

Still, research continues. Scientists who study cloning envision a limitless supply of disease-resistant livestock, record-setting racehorses, and animals of species that would otherwise have gone extinct. The research is also helping scientists learn more about the basics of development.

How cloning works

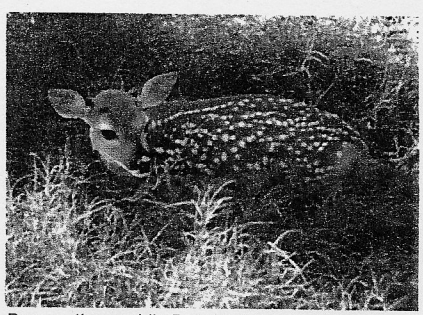
To understand how cloning works, it helps to know how animals normally reproduce. All animals, including people, have a set of structures in each cell called chromosomes. Chromosomes contain genes. Genes are made of molecules known as DNA. DNA holds all the information necessary to keep cells and the body working.

Humans have 23 pairs of chromosomes. Cows have 30 pairs. Other types of animals may have different numbers of pairs.

When two animals mate, each offspring gets one set of chromosomes from its mother and one from its father. The particular combination of genes that you happen to get determines a lot of things about you, such as the color of your eyes, whether you're allergic to pollen, and whether you're a boy or a girl.

Parents have no control over which genes they give to their kids. That's why brothers and sisters can be so different from one another, even if they have the same mom and dad. Only identical twins are born with exactly the same combination of genes.

The goal of cloning is to take control of the reproductive process. "You are taking out all the randomness," says reproductive physiologist Mark Westhusin, "by selecting a specific combination of genes to get what you want."



Dewey, the world's first deer clone, was born May 23, 2003.
Courtesy of the College of Veterinary Medicine, Texas A&M University.

That's appealing to people who breed horses, dogs, or other animals for competition. It would be nice to preserve the combination of genes that make a horse fast, for instance, or a dog's coat especially curly. It might also be possible to use cloning to save endangered animals if there are too few of them to reproduce well on their own.

Farmers also have an interest in cloning. The average milk cow produces 17,000 pounds of milk a year, says Westhusin, who works at Texas A&M University in College Station. Every once in a while, a cow is born that can naturally produce 45,000 pounds of milk a year or more. If scientists could clone those exceptional cows, fewer cows would be needed to make milk.

Cloning could save farmers money in other ways, too. Livestock are particularly vulnerable to certain diseases, including one

called brucellosis. Some animals, though, have genes that make them naturally resistant to brucellosis. Cloning those animals could produce a whole herd of disease-free animals, saving farmers millions of dollars in lost meat.

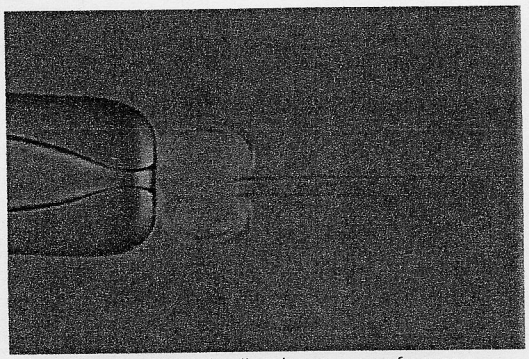
With an endless supply of healthy, fast-growing animals, we might worry less about getting sick ourselves. Farmers wouldn't have to pump their animals full of antibiotics, which get into our meat and, some people think, make us unable to respond to those antibiotics when we become ill. Perhaps we could also protect ourselves against diseases that jump from animals to people, such as mad cow disease.

Kinks in the process

First, though, there are plenty of kinks still to be worked out. Cloning is a delicate procedure, and lots can go wrong along the way. "It's really quite remarkable that it works at all," Westhusin says. "There are lots of ways we know it doesn't work. The more difficult question is to figure out how sometimes it does."

Westhusin is one of many researchers working hard to answer that question. His experiments focus mostly on goats, sheep, cattle, and some exotic animals, such as white-tailed deer and bighorn sheep.

To clone an animal, such as a cow, he starts by removing the chromosomes from a regular cow's egg. He replaces them with chromosomes taken from a skin cell belonging to another adult cow.



Cloning involves removing the chromosomes from an animal's egg cell and replacing them with chromosomes taken from a cell belonging to a different adult animal.
Roslin Institute, Edinburgh

Ordinarily, half the chromosomes in an egg would have come from the mother and half from the father. The resulting combination of genes would be entirely up to chance. With cloning, all of the chromosomes come from just one animal, so there's no chance involved. An animal and its clone have exactly the same genes.

When the egg starts dividing into an embryo, Westhusin puts it into a surrogate mother cow. The mother doesn't have to be the same cow that provided the skin cell. It just provides the womb for the clone to develop. If everything works just right, a calf is born, looking and acting just like a normal calf.

More often than not, however, things don't work out quite right. It may take 100 tries to get one embryo to develop inside the mother, Westhusin says.

Dying young

Even if they make it to birth, cloned animals often seem doomed from the start. For reasons scientists don't yet understand, cloned baby animals often resemble animals born prematurely. Their lungs aren't fully developed, or their hearts don't work quite right, or their livers are full of fat, among other problems. As they age, some clones grow hugely overweight and bloated.

Many cloned animals die at an earlier age than normal. Dolly the sheep, the first cloned mammal, died after only 6 years from a lung disease rare for sheep of her age. Most sheep live twice that long.

These three mules are genetically identical. University of Idaho scientists used genetic material from the same male mule to create three embryos. They implanted the embryos into surrogate mother mules 1 month apart, so one was born last May, another was born last June, and the third one was born last July.
J. Miller

The problem, Westhusin thinks, is in the genes. Even though a skin cell has the same chromosomes as every other cell in the body, certain genes get turned on or off when a cell becomes specialized during development. That's what makes a brain cell different from a bone cell different from a skin cell. Scientists haven't yet figured out how to completely reprogram an adult cell's genes to recreate an entire animal.

Yesterday, they were acting like skin cells," Westhusin says. "Today, you're asking them to activate all their genes and start life all over again. You're asking them to turn genes on that normally wouldn't be turned on."

There's a lot to be learned from these complications. "Studying what goes wrong," Westhusin says, "can give us clues and keys to what happens in nature. It's a model of development that shows how genes are reprogrammed."

Such complications also suggest why it might not be a good idea to clone a beloved pet. Even if a clone is nearly genetically identical to the original, it will still grow up with its own personality and behavior. Because of differences in diet before birth and as it grows up, it could end up a different size and have a different pattern of coat color. There's really no way to get a favorite pet back through cloning.

Clone chops

Even though cloning technology is far from perfect, milk and meat from cloned animals should be safe, Westhusin says. And the U.S. government agrees.

"There's no reason to believe, based on how clones are produced, that there are any food safety issues involved," Westhusin says. Cloned food products might appear on supermarket shelves in the near future.

Still, the thought of eating cloned creatures just doesn't sit right with some people. In a recent article in the *Washington Post* newspaper, science reporter Rick Weiss wrote about the old saying, "You are what you eat," and what that might mean for someone eating "clone chops."

"The whole prospect left me inexplicably disgusted," Weiss wrote. Though he admitted his reaction might be partly emotional, he didn't like the idea of a world where identical animals are produced like food pellets in a factory. "Is my dream of Compassionate Cold Cuts a rational one?" he asked.

That may be a question you'll have to answer for yourself some day not too long from now.

Trainer's Copy
possible annotations

Animal Clones: Double Trouble?

Emily Sohn

US says okay to eat cloned food

Jan. 28, 2004

Have you ever had a hamburger so good you wished you could eat the same thing all over again?

With the way that cloning research is going, you might someday get your wish. The United States government recently decided that it's safe to drink milk and eat meat that comes from cloned animals. The decision has inflamed arguments about human health, animal rights, and the difference between right and wrong.

Clones, like identical twins, are exact genetic copies of each other. The difference is that twins turn up without scientists' being involved and are born at the same time. Clones are created in the lab and can be born years apart. Already, scientists have cloned 11 kinds of animals, including sheep, cows, pigs, mice, and horses.

genetic copies from lab

Dolly the sheep was the first mammal to be cloned from the DNA of an adult. Here she is with her first-born lamb, Bonnie.
Roslin Institute, Edinburgh

not always success

As researchers continue to refine their techniques and clone even more animals, some people are worried. So far, cloned animals haven't fared well, critics say. Few cloning attempts are successful. The animals that do survive tend to die young.

Cloning raises a variety of issues. Is it a good idea to let people clone a favorite pet? What if cloning could revive the dinosaurs?

make super animals & lean more

What would happen if scientists ever figure out how to clone people?

Still, research continues. Scientists who study cloning envision a limitless supply of disease-resistant livestock, record-setting racehorses, and animals of species that would otherwise have gone extinct. The research is also helping scientists learn more about the basics of development.

How cloning works

take control

To understand how cloning works, it helps to know how animals normally reproduce. All animals, including people, have a set of structures in each cell called chromosomes. Chromosomes contain genes. Genes are made of molecules known as DNA. DNA holds all the information necessary to keep cells and the body working.

pick what genes you want to get what you want

Humans have 23 pairs of chromosomes. Cows have 30 pairs. Other types of animals may have different numbers of pairs.

When two animals mate, each offspring gets one set of chromosomes from its mother and one from its father. The particular combination of genes that you happen to get determines a lot of things about you, such as the color of your eyes, whether you're allergic to pollen, and whether you're a boy or a girl.

Parents have no control over which genes they give to their kids. That's why brothers and sisters can be so different from one another, even if they have the same mom and dad. Only identical twins are born with exactly the same combination of genes.

The goal of cloning is to take control of the reproductive process. "You are taking out all the randomness," says reproductive physiologist Mark Westhusin, "by selecting a specific combination of genes to get what you want."

Dewey, the world's first deer clone, was born May 23, 2003.
Courtesy of the College of Veterinary Medicine, Texas A&M University.

Could save endangered animals make more money keep us and animals healthier

That's appealing to people who breed horses, dogs, or other animals for competition. It would be nice to preserve the combination of genes that make a horse fast, for instance, or a dog's coat especially curly. It might also be possible to use cloning to save endangered animals if there are too few of them to reproduce well on their own.

Farmers also have an interest in cloning. The average milk cow produces 17,000 pounds of milk a year, says Westhusin, who works at Texas A&M University in College Station. Every once in a while, a cow is born that can naturally produce 45,000 pounds of milk a year or more. If scientists could clone those exceptional cows, fewer cows would be needed to make milk.

Cloning could save farmers money in other ways, too. Livestock are particularly vulnerable to certain diseases, including one

Animal Clones - continued

called brucellosis. Some animals, though, have genes that make them naturally resistant to brucellosis. Cloning those animals could produce a whole herd of disease-free animals, saving farmers millions of dollars in lost meat.

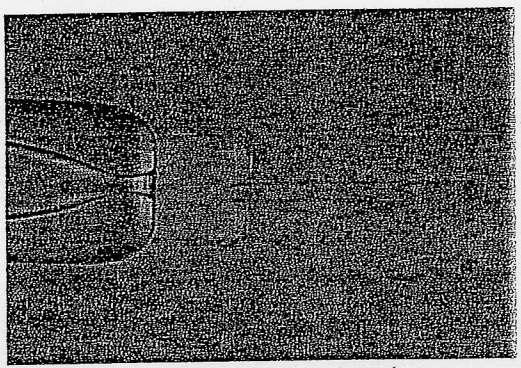
With an endless supply of healthy, fast-growing animals, we might worry less about getting sick ourselves. Farmers wouldn't have to pump their animals full of antibiotics, which get into our meat and, some people think, make us unable to respond to those antibiotics when we become ill. Perhaps we could also protect ourselves against diseases that jump from animals to people, such as mad cow disease.

Kinks in the process

First, though, there are plenty of kinks still to be worked out. Cloning is a delicate procedure, and lots can go wrong along the way. "It's really quite remarkable that it works at all," Westhusin says. "There are lots of ways we know it doesn't work. The more difficult question is to figure out how sometimes it does."

Westhusin is one of many researchers working hard to answer that question. His experiments focus mostly on goats, sheep, cattle, and some exotic animals, such as white-tailed deer and bighorn sheep.

To clone an animal, such as a cow, he starts by removing the chromosomes from a regular cow's egg. He replaces them with chromosomes taken from a skin cell belonging to another adult cow.



Cloning involves removing the chromosomes from an animal's egg cell and replacing them with chromosomes taken from a cell belonging to a different adult animal.
Roslin Institute, Edinburgh

Ordinarily, half the chromosomes in an egg would have come from the mother and half from the father. The resulting combination of genes would be entirely up to chance. With cloning, all of the chromosomes come from just one animal, so there's no chance involved. An animal and its clone have exactly the same genes.

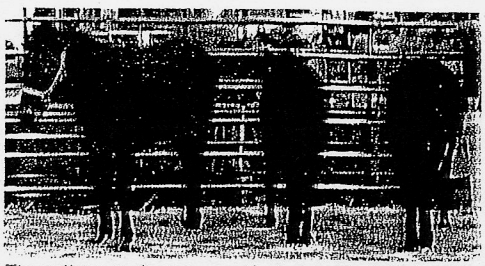
When the egg starts dividing into an embryo, Westhusin puts it into a surrogate mother cow. The mother doesn't have to be the same cow that provided the skin cell. It just provides the womb for the clone to develop. If everything works just right, a calf is born, looking and acting just like a normal calf.

More often than not, however, things don't work out quite right. It may take 100 tries to get one embryo to develop inside the mother, Westhusin says.

Dying young

Even if they make it to birth, cloned animals often seem doomed from the start. For reasons scientists don't yet understand, cloned baby animals often resemble animals born prematurely. Their lungs aren't fully developed, or their hearts don't work quite right, or their livers are full of fat, among other problems. As they age, some clones grow hugely overweight and bloated.

Many cloned animals die at an earlier age than normal. Dolly the sheep, the first cloned mammal, died after only 6 years from a lung disease rare for sheep of her age. Most sheep live twice that long.



These three mules are genetically identical. University of Idaho scientists used genetic material from the same male mule to create three embryos. They implanted the embryos into surrogate mother mules 1 month apart, so one was born last May, another was born last June, and the third one was born last July.
J. Miller

The problem, Westhusin thinks, is in the genes. Even though a skin cell has the same chromosomes as every other cell in the body, certain genes get turned on or off when a cell becomes specialized during development. That's what makes a brain cell different from a bone cell different from a skin cell. Scientists haven't yet figured out how to completely reprogram an adult cell's genes to recreate an entire animal.

Yesterday, they were acting like skin cells," Westhusin says. "Today, you're asking them to activate all their genes and start life all over again. You're asking them to turn genes on that normally wouldn't be turned on."

There's a lot to be learned from these complications. "Studying what goes wrong," Westhusin says, "can give us clues and keys to what happens in nature. It's a model of development that shows how genes are reprogrammed."

Such complications also suggest why it might not be a good idea to clone a beloved pet. Even if a clone is nearly genetically identical to the original, it will still grow up with its own personality and behavior. Because of differences in diet before birth and as it grows up, it could end up a different size and have a different pattern of coat color. There's really no way to get a favorite pet back through cloning.

Clone chops

Even though cloning technology is far from perfect, milk and meat from cloned animals should be safe, Westhusin says. And the U.S. government agrees.

"There's no reason to believe, based on how clones are produced, that there are any food safety issues involved," Westhusin says. Cloned food products might appear on supermarket shelves in the near future.

Still, the thought of eating cloned creatures just doesn't sit right with some people. In a recent article in the *Washington Post* newspaper, science reporter Rick Weiss wrote about the old saying, "You are what you eat," and what that might mean for someone eating "clone chops."

"The whole prospect left me inexplicably disgusted," Weiss wrote. Though he admitted his reaction might be partly emotional, he didn't like the idea of a world where identical animals are produced like food pellets in a factory. "Is my dream of Compassionate Cold Cuts a rational one?" he asked.

That may be a question you'll have to answer for yourself some day not too long from now.

Guidelines for Summarization Activity

-While Reading:

- Stop after each section
- Highlight what you think is key to understanding the text
- Write a few words out to the side of the most important information concerning topic

-After Reading:

- Share with neighbor – what you highlighted/annotated
- Add to your key points or delete some after discussion
- Write a summary in 15 – 25 words

GIST

Model the Strategy:

- Ask students to read a short selected text passage.
- Model the GIST strategy using the first sentence of a paragraph from the selected passage. Summarize the sentence for students in 15 words or less. (Model the process of selecting, deleting, condensing by combining or substituting…)
- Now show the second sentence of the same paragraph and summarize both sentences in 15 words or less.
- Continue this procedure, one sentence at a time, until you have summarized the entire paragraph in 15 words or less.
- Repeat this procedure with other paragraphs until students understand the basic process.

Guided Practice:

Students may work with partners or in small groups as they practice the strategy.

- Show students the first sentence of a selected paragraph, and ask them to retell it in 15 words or less. Write their summary on the chalkboard or overhead as they dictate and edit it as a group. (Remember to use short, simple text passages for modeling and initial practice.)
- Now show the second sentence of the paragraph. Erase their first summary statement and ask students to summarize both sentences in 15 words or less.
- Continue this procedure, one sentence at a time, until the group has summarized the entire paragraph in 15 words or less.
- Repeat this procedure, sentence-by-sentence, with other paragraphs until students become adept.
- Once students understand the sentence-by-sentence procedure, have them practice summarizing entire paragraphs in 15 words or less.

Remember that this process, though basic, is NOT simple. As with other reading processes, students need to be shown how to summarize and need continual, long-term practice in order to effectively add summarizing to their repertoire of reading strategies.

Independent Practice:

Students should continue to practice the GIST strategy (over time) with increasingly complex materials until they are adept at using the strategy independently.

GIST

Read the first sentence and summarize contents in fifteen words or less.

Read second sentence and summarize first *two* sentences in fifteen words or less.

Continue until paragraph is read and then summarize the entire paragraph in fifteen words or less.

Paragraph Summary

Springdale Content Framework:

- **Set objective clearly -2-3minutes**
- **Hook –interesting video, article, question, anticipation guide, picture – 5min.**
- **Mini-lecture (Content based) 8 – 10 min.**
- **Focused Reading Assignment (short & teacher points out where to focus and where they might have trouble reading- students are told what to look for and purpose for reading) – 10 - 12 min.**
- **Writing Task assigned – teacher models, shows examples – 5 min.**
- **Students work on assignment – 10 min.**
- **Wrap-up – 3 min.**

Thinking involved in designing a lesson: (always vary hooks, types of writing tasks, and reading assignments)

- **Determine key (absolutes) concepts must learn**
- **Determine how to make objective clear**
- **Find hook to solidify, stimulate learning of objective**
- **Determine what has to be read to solidify learning**
- **Determine what might give students trouble while reading**
- **Determine what students must pay attention to while reading**
- **Determine writing task to solidify learning**
- **Determine skills needed/examples to use/or how much modeling for creating student capacity for completing writing task**
- **Determine how class time will be segmented**
- **Double check to make sure variety throughout class period**

Materials	Text:
Direct Explanation Explain what the strategy is and why and when to use it.	What: Today we will practice Why: This help us be better readers by understanding the text better?
Model or Demonstrate Show how to use the strategy.	How: Use explicit language to explain your thinking as you apply the strategy. Embedded in text. Model recording thinking in writing, One or two quick examples.
Guided Practice Scaffold the use of the strategy.	In pairs practice highlight key points – write notes out to the side, then write summary of 15-25 words Teacher gives feedback to pairs
Apply Use the strategy	Practice highlight key point- write notes out to the side, write summary of 15-25 words – independently If time permits teacher gives feedback