

# Kidney Health Curriculum



edMe

Submitted to KidneyED Youth Innovation Challenge

edMe Learning's Kidney Health Curriculum

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## Foreword

This collection of curriculum materials connects kidney health to the classroom. Engaging informational and fiction texts bring to life knowledge about anatomy and healthy living. Each reading is paired with literacy-based questions to support students at all levels. Together, texts and questions allow students to explore kidney health while strengthening their literacy skills.

Each text is specifically written so that students can approach it with different backgrounds and reading levels. High school classes could use these readings with students needing more practice and support. Elementary and middle school students can use them to explore texts with on-grade level reading comprehension questions. Each reading is between one and two pages in length, accompanied by standards-aligned questions to gauge comprehension after reading. Question sets are aligned to the key reading comprehension standards that address vocabulary and main idea.

Lesson plans following each text guide instructors on possible classroom uses for these readings. Lesson plans provide related standards, learning objectives, and assessment opportunities. They also detail procedures for the lesson in a guided release of responsibility structure. Lessons begin with active connection to prior knowledge, followed by several steps of group and individual skill practice. They conclude with brief discussions and formative assessments.

A list of suggested accommodations and modifications follows each lesson plan. These supports may help some readers with specific needs. For example, certain accommodations may benefit students who are learning English or students with learning disabilities. Additionally, suggested extensions could help students who need an extra challenge from their work. These adjustments are suggestions that can be used as needed to help your individual students. Each learner may benefit differently.

A detailed answer key and rubric set follow the texts and lessons. These resources allow educators to easily assess student learning. They can also be used by students to self-assess their own work.

## What is a Kidney, Anyway?

A kidney is a part of your body. It is an organ that looks like a big bean. You have two kidneys, and they are in your back, just below your ribs. They are very important, because they help keep your body clean and healthy.

The kidney's main job is to clean your blood. Your blood carries food and oxygen to your body, but it also picks up waste. The kidney takes the waste out of your blood. This helps get rid of things your body does not need.

Kidneys also keep the right amount of water in your body. If you drink too much water, your kidneys help you remove the extra water. If you don't drink enough, your kidneys save water to keep you from getting too thirsty. This balance is very important. It helps your whole body stay healthy!

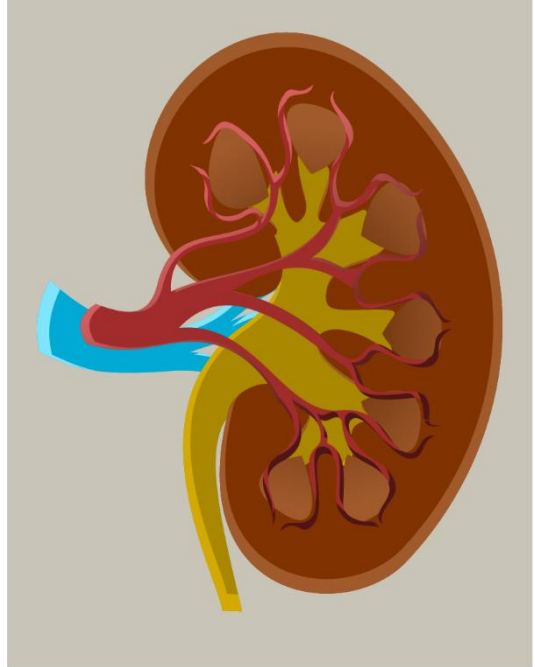
Doctors check on your kidneys. They know the kidneys could be sick when they hear issues about urination (peeing). People can feel uncomfortable talking about urination, but it is key information for doctors. They want to know if it is uncommon or a different color. These are important conversations between doctors and people with kidney issues.

Another thing kidneys do is help your body stay strong. They tell your bones to grow and help make red blood cells. Red blood cells carry oxygen, which gives you energy. Without your kidneys, your body would have a hard time working properly. Your kidneys make sure the rest of your body is strong.

In summary, kidneys are bean-shaped organs that clean your blood, balance water, and keep your body strong. They are like little cleaners and helpers inside you. Taking care of your kidneys helps your body stay healthy!

**1.** What does the phrase "get rid of" mean?

- a. carry something
- b. need something new
- c. get more of something
- d. take away something bad



*Your body has two kidneys. These important organs help keep your blood clean and healthy.*

- 2.** What is the best definition of “balance”?
- |                        |                                    |
|------------------------|------------------------------------|
| a. drinking water      | b. not too much or too little      |
| c. able to walk safely | d. tasks that you still have to do |
- 3.** Which word means the same as “properly”?
- |              |            |
|--------------|------------|
| a. correctly | b. hardly  |
| c. newly     | d. quickly |
- 4.** What does the kidney take out of your blood?
- |          |           |
|----------|-----------|
| a. food  | b. oxygen |
| c. waste | d. water  |
- 5.** What is the main job of a kidney? \_\_\_\_\_
- 6.** What part of your body carries oxygen to give you energy?
- |                    |                      |
|--------------------|----------------------|
| a. bones           | b. kidneys           |
| c. red blood cells | d. white blood cells |
- 7.** The text says, “They tell your bones to grow and help make red blood cells.”  
What does “They” refer to in this sentence?
- |                    |                      |
|--------------------|----------------------|
| a. bones           | b. kidneys           |
| c. red blood cells | d. white blood cells |
- 8.** Which sentence is true about your kidneys?
- You have kidney in your blood.
  - You have two kidneys in your lower back.
  - You have many kidneys in your whole body.
  - You have one kidney in each of the bones in your body.
- 9.** The last paragraph says, “They are like little cleaners and helpers inside you.”  
What does this sentence mean? Explain in complete sentences.

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## Lesson 1: Main Idea & Details

<b>Text:</b> <i>What is a Kidney, Anyway?</i>	
<b>Standards:</b> Main idea and details in nonfiction text (CCSS.RI.1, FL BEST R.2.2, TEKS Strand 2.G, VA SOL.6)	
<b>Objectives:</b> <ul style="list-style-type: none"> <li>Read a nonfiction text about kidney anatomy.</li> <li>Identify main idea of a nonfiction text.</li> <li>Support a nonfiction main idea using key details and text evidence.</li> </ul>	<b>Materials:</b> <p style="text-align: center;">Graphic organizer (below)</p> <p style="text-align: center;">Paper</p>
<b>Assessments of Learning:</b> <ul style="list-style-type: none"> <li>Teachers can informally assess comprehension by monitoring student behavior or asking brief questions about the text.</li> <li>Class discussion responses and graphic organizers provide more informal assessment opportunities.</li> <li>Exit slip can be read or collected as a formative assessment.</li> </ul>	

### Lesson Procedures

Introduction: (5 minutes)	<p><b>Hook:</b> Different tools have different jobs. A pencil’s job is to write on paper. Parts of our body also have jobs. A nose’s job is to smell. Think of another body part’s job (e.g., ear’s job is to hear, elbow’s job is to bend the arm).</p> <p>Allow a partner discussion. Then, introduce the main topic with the whole class: reading about the kidney’s job!</p>
Reading Practice: (20-30 minutes)	<p><b>First Reading:</b> Read the text aloud to the whole class while students follow along.</p> <p><b>Group Discussion:</b> After reading, divide students into small groups (3-5). Groups should answer the question, “What was this text <i>mainly</i> about?” They should be able to explain how they know this answer.</p> <p><b>Class Discussion:</b> Allow each group a chance to share how they answered the discussion question. Clarify that this question asks students to identify the main idea. Ensure all students understand the kidneys are an important part of your body that keeps you healthy.</p>

<p>Supporting Main Idea: (30-40 minutes)</p>	<p><b>Re-Reading:</b> Small groups re-read the text. This time, annotate for main idea and details. Students should circle phrases that state the main idea and underline smaller, supporting details. Before beginning, model an example by circling “keep your body clean and healthy” in the first paragraph and underlining “clean your blood” in the second paragraph.</p> <p><b>Pairs Graphic Organizer:</b> Students can draw a main idea graphic organizer or teachers can print the example on the next page. Using their annotated text as support, students should complete the graphic organizer to show the main idea and key details of the reading.</p> <p><b>Class Discussion Questions:</b></p> <ol style="list-style-type: none"> <li>1. What is the difference between a key supporting detail and a fun fact when thinking about main idea?</li> <li>2. How did re-reading the text a second time help you find the main idea and key details?</li> </ol>
<p>Closing: (5 minutes)</p>	<p><b>Exit Slip/Notebook:</b></p> <ol style="list-style-type: none"> <li>1. Choose one key detail from your graphic organizer. Explain in a sentence how that detail supports the main idea of the text.</li> <li>2. Is every part of a text a key detail? Explain how you know why or why not.</li> </ol>

**Educator Note!**

Some students may feel the need to circle or underline every piece of text on the page, rather than prioritizing those with the most essential meanings.

It may help these students to see a model of underlining brief detail phrases.

**Accommodations & Modifications:**

- Read-aloud support for texts
- Paper copies of text or scratch paper for annotation
- Students complete the graphic organizer collaboratively with a teacher

**Extensions:**

- Complete a main idea/details graphic organizer based on a new text.
- Identify the main ideas of individual paragraphs within the text.
- Find an online article from this year about how kidneys work.

**Main Idea:** *What is the whole text mostly about?*

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Check: Are you sure this is the biggest idea in the reading?

**Detail 1:** *What is one part that supports the main idea?*

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Check: Is this a key detail and not just a small fact?

**Detail 2:** *What is another part that supports the main idea?*

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Check: Is this a key detail and not just a small fact?

**Detail 3:** *What is one last part that supports the main idea?*

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Check: Is this a key detail and not just a small fact?





## Kidneys Can Stop Working

Kidneys can stop working if they get hurt or sick. This is called kidney failure. Sometimes, a disease like diabetes or high blood pressure hurts the kidneys over time. Other times, an injury or infection can damage them quickly.

When kidneys fail, they can't clean the blood. The waste and extra water stay in the body. This makes a person feel tired, sick, and swollen. Our bodies need clean blood to work, so kidney failure is very serious.

Sometimes, kidneys fail because they don't get enough blood. This can happen if someone is very sick or loses a lot of blood. Taking certain medicines for too long can also hurt the kidneys. It is important to be careful with your body and listen to your doctor to protect your kidneys.

If kidneys fail, doctors can help fix them. They can use a machine called a dialysis machine to clean the blood. This machine works like a kidney. Some people may also get a new kidney from a donor. Someone else gives them an extra kidney through surgery. These treatments help people stay alive and feel better.



*A dialysis machine works like a kidney to clean blood.*

In summary, kidneys fail when they get hurt or sick. When they fail, they can't clean any more blood. This makes the rest of the body sick. But, doctors can help fix kidney failure with machines or surgery. Taking care of your health protects your kidneys and keeps them working well.

**1.** What do doctors call the sickness when your kidneys stop working?

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**2.** What is the best definition of "donor"?

- someone who gives a gift
- a doctor who can help kidneys
- a tool that helps doctors clean blood
- something that is used for the first time

3. What does “treatments” mean?
- a. talking to people
  - b. ways to help heal someone\*\*\*
  - c. things that are a good surprise
  - d. sharing or giving something away
4. What kind of machine can help kidney failure? \_\_\_\_\_
5. Which word means the opposite of “damage”?
- a. break
  - b. heal
  - c. open
  - d. start
6. What makes someone feel tired and sick when their kidneys fail?
- a. They lose too much blood.
  - b. The kidneys clean out all of the blood.
  - c. Waste and extra water do not leave their blood.
  - d. Medicines to heal the kidney do not reach the blood.
7. What does “serious” mean in this reading?
- a. could be dangerous
  - b. grows to be large in size
  - c. people can tell jokes about
  - d. makes people feel extra tired
8. Which cause-effect statement is true about kidney failure?
- a. Kidney failure can be a cause of getting an injury.
  - b. Kidney failure can be an effect of the body feeling swollen.
  - c. Kidney failure can be a cause of not getting enough blood.
  - d. Kidney failure can be an effect of taking medication for too long.
9. The third paragraph says, “It is important to be careful with your body to protect your kidneys.”

What does “be careful with your body” mean in this sentence? Explain.

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## Lesson 2: Practice Main Idea & Details

<b>Text:</b> <i>Kidneys Can Stop Working</i>	
<b>Standards:</b> Main idea and details in nonfiction text (CCSS.RI.1, FL BEST R.2.2, TEKS Strand 2.G, VA SOL.6)	
<b>Objectives:</b> <ul style="list-style-type: none"> <li>• Read a nonfiction text about kidney failure.</li> <li>• Identify main idea of a nonfiction text.</li> <li>• Support a nonfiction main idea using key details and text evidence.</li> </ul>	<b>Materials:</b>  <p style="text-align: center;">Paper</p>
<b>Assessments of Learning:</b> <ul style="list-style-type: none"> <li>• Teachers can informally assess student comprehension during group reading and discussion by monitoring student behavior or asking brief questions about the text.</li> <li>• Class discussion responses and graphic organizers provide more informal assessment opportunities.</li> <li>• Exit slip can be read or collected as a formative assessment.</li> </ul>	

### Lesson Procedures

Introduction: (5 minutes)	<p><b>Hook:</b> Sometimes, the things we need can stop working. If we press it really hard, our pencil can break. How can we fix the problem of a broken pencil? Have 2 students share answers (e.g., sharpen it, get a new pencil).</p> <p>Sometimes, things in our body can stop working. Doctors can help fix them. Today, we will read a text about what happens when kidneys stop working.</p>
Reading Practice: (20-30 minutes)	<p><b>Group Reading:</b> Divide students into small groups (3-5 students). Instruct students to read the text together.</p> <p><b>Group Discussion:</b> After reading, small groups should answer the question, "What was this text <i>mainly</i> about?" They should write one complete sentence to answer.</p> <p><b>Class Discussion:</b> Allow each group a chance to share how they answered the discussion question. Create one main idea statement as a class (should be focused on kidney failure).</p>

<p>Supporting Main Idea: (30-40 minutes)</p>	<p><b>Re-Reading:</b> Individual students re-read the text at their own pace. Take notes on details that support the class main idea statement. Students should circle phrases that state the main idea and underline supporting details.</p> <p><b>Graphic Organizer:</b> Students should independently create a main idea graphic organizer based on the text. They should use their annotated text as support. Encourage students to check their outlines after finishing to confirm that they used key details, not small facts.</p> <p><b>Class Discussion Questions:</b></p> <ol style="list-style-type: none"> <li>1. Is it okay if some people chose different key details for their outlines?</li> <li>2. How did underlining the text help you complete your graphic organizer?</li> </ol>
<p>Closing: (5 minutes)</p>	<p><b>Exit Slip/Notebook:</b></p> <ol style="list-style-type: none"> <li>1. How does the title of the text connect to the main idea of the text?</li> <li>2. How could your outline help you remember this text in one or two weeks?</li> </ol>

### **Educator Note!**

Some students may feel the need to circle or underline every piece of text on the page, rather than prioritizing those with the most essential meanings.

It may help these students to see a model of underlining brief detail phrases.

### **Accommodations & Modifications:**

- Read-aloud support for texts
- Pair work instead of independent
- Students complete the graphic organizer collaboratively with a teacher

### **Extensions:**

- Complete a main idea/details graphic organizer based on a new text.
- Identify the main ideas of individual paragraphs within the text.
- Find an online article from this year that includes some of the ideas highlighted by this reading.
- Write a complete paragraph that summarizes the main idea and details from your graphic organizer.

## Keep Your Kidneys Healthy

People take care of their kidneys by listening to their doctors and living a healthy lifestyle. A key part of staying healthy is drinking some water every day. Healthy foods, like fruits and vegetables, are also important. Exercise also ensures your kidneys are strong. All of these strategies help care for your kidneys.



Your kidneys stay healthy when you drink water every day. Water helps your kidneys clean your blood and get rid of waste. When you drink enough water, your kidneys can work well. People should drink mostly water instead of sugary drinks like soda. A doctor or nurse can help you decide how much water is the right amount. Your body needs different amounts of water as you grow.

Eating healthy foods also keeps your kidneys strong. Foods like fruits, vegetables, and whole grains are good for your body. People should avoid too much salty food, like chips, or sugary snacks, like candy. If you aren't sure what foods can help your body, ask a doctor or nurse questions about your diet. Healthy food helps your kidneys and your whole body work better.



Playing and moving your body helps your kidneys too. Exercise like running, jumping, and walking keeps your blood flowing and your body strong. It also helps keep your weight healthy, which is good for your kidneys. Find fun ways to stay active every day!

In summary, drinking water, eating healthy, staying active, and following your doctor's advice keep your kidneys healthy. When you take care of your kidneys, they take care of you by keeping your body clean and strong.

**1.** Which word means the same as "ensures"?

- a. equals
- b. guarantees
- c. needs
- d. tries

**2.** What does "diet" mean?

- a. the foods that you eat
- b. a way that doctors can help you
- c. your kidney's main job in your body
- d. things that are less healthy for your kidneys

**3.** What are **3** types of food that are good for your body?

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**4.** The second sentence says, “A key part of staying healthy is drinking some water every day.” How does this sentence connect to the rest of the text?

- a. It gives examples of the next key details.
- b. It explains the main idea of the whole text.
- c. It describes why readers should care about this text.
- d. It introduces the main idea of the second paragraph.

**5.** What is the purpose of the first sentence?

- a. to introduce the main idea of the whole reading
- b. to convince readers that this reading is important
- c. to share examples of how this text connects to readers
- d. to describe the key details that each paragraph will talk about

**6.** How is the first paragraph similar to the last paragraph?

- a. Both paragraphs are introduction paragraphs for the text.
- b. Both paragraphs give small supporting details for the main idea.
- c. Both paragraphs talk about ideas from the middle three paragraphs.
- d. Both paragraphs mention that fruits and vegetables are important for kidney health.

**7.** Why is water important for your kidneys?

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**8.** What should you do if you don't know which foods can help your body?

- a. look it up online
- b. ask a doctor or nurse
- c. eat the foods that taste best
- d. try different foods to see how you feel

**9.** Which claim states how hard or easy it is for people to improve kidney health?

- a. It is hard to eat foods to promote kidney health.
- b. It is hard to eat the rare foods that keep kidneys healthy.
- c. It is easy to drink water and eat healthier food to keep kidneys healthy.
- d. It is easy to find the medicines people need to get better kidney health.

### Lesson 3: Word Web Notes

<b>Text:</b> <i>Keep Your Kidneys Healthy</i>	
<b>Standards:</b> Main idea and details in nonfiction text (CCSS.RI.1, FL BEST R.2.2, TEKS Strand 2.G, VA SOL.6)	
<b>Objectives:</b> <ul style="list-style-type: none"> <li>• Read a nonfiction text about kidney failure.</li> <li>• Identify main idea of a nonfiction text.</li> <li>• Support a nonfiction main idea using key details and text evidence.</li> </ul>	<b>Materials:</b> <p style="text-align: center;">Paper</p> <p style="text-align: center;">Word Web example</p>
<b>Assessments of Learning:</b> <ul style="list-style-type: none"> <li>• Teachers can informally assess student comprehension during group reading and discussion by monitoring student behavior or asking brief questions about the text.</li> <li>• Class discussion responses and graphic organizers provide more informal assessment opportunities.</li> <li>• Exit slip can be read or collected as a formative assessment.</li> </ul>	

### Lesson Procedures

Introduction: (5 minutes)	<p><b>Hook:</b> We take care of things to make sure they keep working. For example, we put papers in folders or desks so they don't get ripped. What are some other ways we take care of our things at school? (e.g. plug in computers gently, put books on shelves)</p> <p>Allow a partner discussion. Then, explain that we also take care of our bodies so they keep working well. Introduce the text about kidney health.</p>
Reading Practice: (20-30 minutes)	<p><b>Group Reading:</b> Divide students into small groups (3-5 students). Instruct students to read the text together.</p> <p><b>Group Discussion:</b> After reading, small groups should work together to identify the main idea and key details in the text. They should annotate the text by circling phrases about the main idea and underlining details that support the main idea. Encourage students to focus on the most important supporting details, not the smallest facts.</p>

	<p><b>Class Discussion:</b> Work together as a class to write one main idea statement. Then, let each group share one key supporting detail from the text.</p>
<p>Introducing Word Webs: (30-40 minutes)</p>	<p><b>Class Model:</b> Display the Word Web example to the whole class and introduce the graphic organizer. Word webs show how main ideas and supporting details connect in a text. When you make a word web, the main idea goes in the middle. Then, the big supporting ideas connect to the main idea. Smaller details connect to each supporting idea. Model writing the main idea statement in the middle.</p> <p><b>Group Practice:</b> Small groups use their annotated text to create a word web about the reading. They could create a word web on blank paper, or teachers could print a blank word web template.</p> <p><b>Class Discussion Questions:</b></p> <ol style="list-style-type: none"> <li>1. What is the difference between a big supporting idea and a smaller detail?</li> <li>2. Why is it important to think about how ideas in a text connect to each other?</li> </ol>
<p>Closing: (5 minutes)</p>	<p><b>Exit Slip/Notebook:</b></p> <ol style="list-style-type: none"> <li>1. How does the first paragraph of the text connect to your word web?</li> <li>2. How is a word web similar to and different from an outline?</li> </ol>

**Educator Note!**

Some students may struggle to identify big supporting ideas compared to smaller details. These students may benefit from using a traditional outline to support their word web.

**Accommodations & Modifications:**

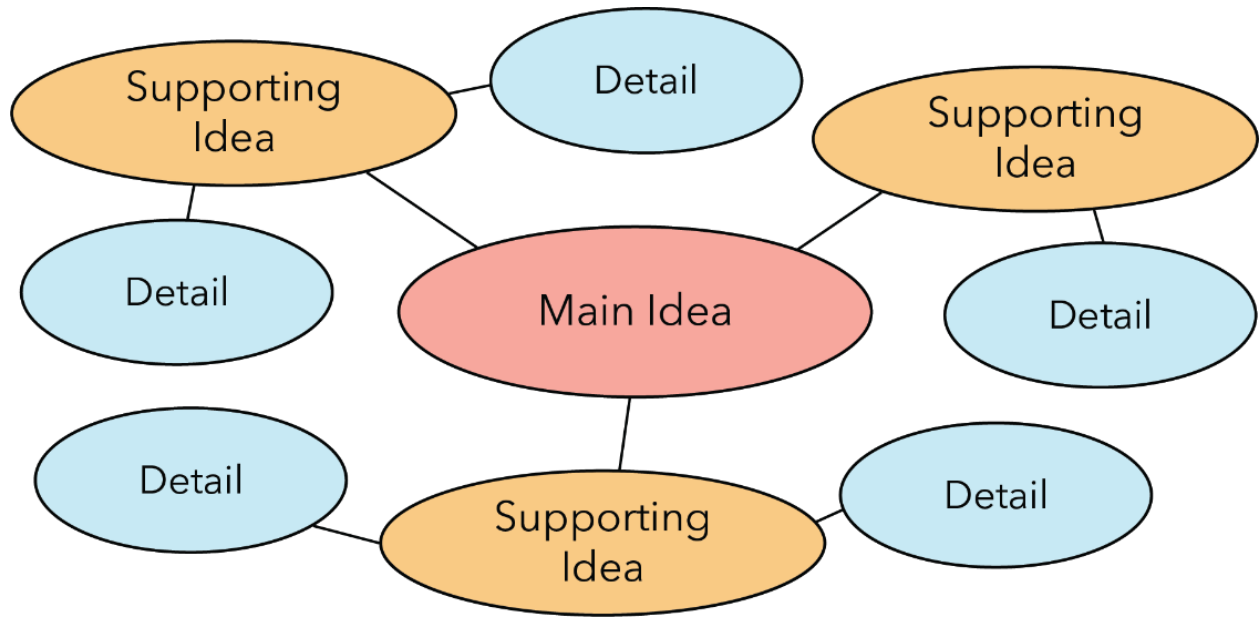
- Read-aloud support during group work
- Students complete the graphic organizer collaboratively with a teacher

**Extensions:**

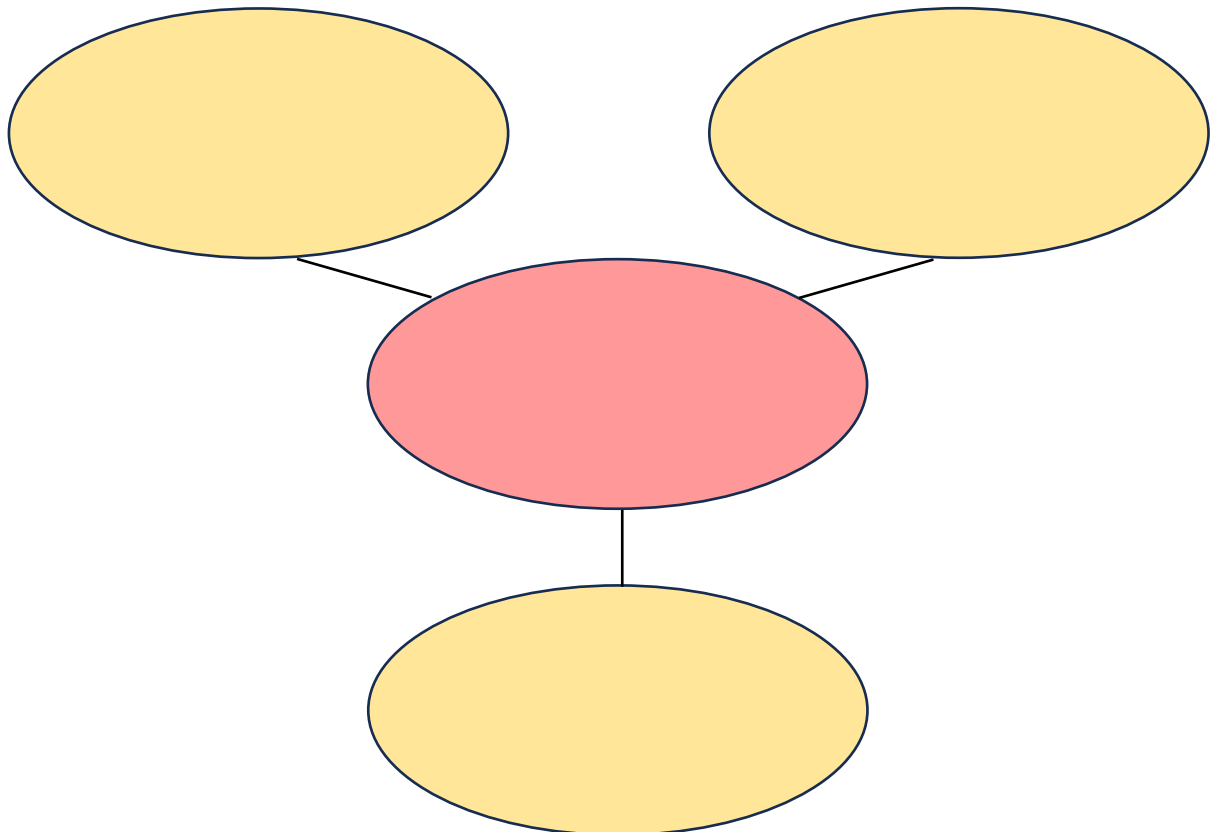
- Make a poster about kidney health based on your word web.
- Find an online article from this year about keeping your kidneys healthy.
- Give a 3-minutes presentation about kidney health to another class.



**Word Web Example**



**Blank Word Web**



## Diabetes Can Cause Kidney Problems

Diabetes is a type of illness. Diabetes happens when your body has trouble using sugar for energy. Your body uses a chemical called insulin to help sugar from food get into your cells. If your body doesn't make enough insulin or does not use it well, sugar stays in your blood instead of helping your body. This is called diabetes.

Diabetes can be caused by different things. It could happen if someone eats too much sugary food and doesn't exercise enough. Sometimes, it runs in families, meaning you can get it because your parents or grandparents pass it through their genes. This illness mostly happens as people get older but many students have diabetes, too.

Diabetes can hurt your kidneys, eyes, and nerves. It can make your kidneys work too hard to clean extra sugar in the blood. Over time, this can make the kidneys stop working. It can also hurt your eyes by damaging tiny blood vessels, which can make it hard to see. Diabetes can hurt your nerves by damaging these tiny wires that carry messages in your body. This can cause pain, tingling, or numbness, especially in your hands and feet.



*Special tools like this glucose monitor can help people with diabetes check their blood sugar.*

There are ways to improve diabetes. People who have diabetes get help from their doctors so they can keep living healthy lives. They monitor their blood sugar levels. Eating healthy meals and exercising can help your body manage diabetes. Medicines and insulin treatments can also help.

In summary, diabetes happens when your body has trouble using insulin. It affects the sugar in your blood. Kidney failure is one effect of diabetes. Other parts of your body can also be affected by diabetes. Keeping blood sugar at a safe level helps prevent diabetes and keep your body healthy.

1. Which word means the same as "monitor"?

- a. create
- b. fix
- c. stop
- d. watch

2. Which phrase means the same as “type of”?
- a. an example of
  - b. the only example of
  - c. creating text slowly
  - d. creating text quickly
3. What does “insulin” do?
- a. Insulin keeps sugar in your blood.
  - b. Insulin gets sugar into your body’s cells.
  - c. Insulin passes genes to people in future generations.
  - d. Insulin is a disease that can be passed from grandparents to parents.
4. What does the phrase “runs in families” mean?
- a. Some families will always get kidney failure.
  - b. One person can give diabetes to anyone close to them.
  - c. People pass genes to their family members for different things.
  - d. Families who exercise together have healthy and strong bodies.
5. Diabetes can hurt your kidneys. What are **2** other body parts it can hurt?

\_\_\_\_\_ and \_\_\_\_\_

6. What is the purpose of the first paragraph?
- a. to explain what diabetes is
  - b. to give examples of kidney problems
  - c. to describe the main idea of the whole text
  - d. to persuade readers to take good care of their kidneys
7. What is the purpose of the picture and caption?
- a. to explain how science connects to health
  - b. to show the right number for healthy diabetes levels
  - c. to make the text more interesting to people who don’t have diabetes
  - d. to give an example of how people stay healthy when they have diabetes
8. Select **four** ways people can improve their kidney health.
- |  |   |
|--|---|
| <input type="checkbox"/> exercising                | <input type="checkbox"/> reading                    |
| <input type="checkbox"/> getting help from doctors | <input type="checkbox"/> getting help from teachers |
| <input type="checkbox"/> eating foods with sugar   | <input type="checkbox"/> eating healthy meals       |
| <input type="checkbox"/> watching blood water      | <input type="checkbox"/> watching blood sugar       |

## Lesson 4: Cause and Effect

<b>Text:</b> <i>Diabetes Can Cause Kidney Problems</i>	
<b>Standards:</b> Cause and effect in nonfiction text (CCSS.RI.1, FL BEST R.2.1, TEKS Strand 4.D, VA SOL.6)	
<b>Objectives:</b> <ul style="list-style-type: none"> <li>• Read a nonfiction text about diabetes.</li> <li>• Identify cause-effect relationships in nonfiction.</li> <li>• Synthesize connections between details in a text.</li> </ul>	<b>Materials:</b> <p style="text-align: center;">Paper</p> <p style="text-align: center;">Graphic organizer</p>
<b>Assessments of Learning:</b> <ul style="list-style-type: none"> <li>• Teachers can informally assess student comprehension during group reading and discussion by monitoring student behavior or asking brief questions about the text.</li> <li>• Class discussion responses and graphic organizers provide more informal assessment opportunities.</li> <li>• Exit slip can be read or collected as a formative assessment.</li> </ul>	

### Lesson Procedures

Introduction: (5 minutes)	<p><b>Hook:</b> Some things happen because of other things. For example, we may feel thirsty because we don't drink enough water. We may break a pencil because we push it too hard. What are some other things that happen because of something else? (e.g. we have energy because we eat, we feel happy because we win a game)</p> <p>Allow a partner discussion. Then, explain that these are examples of causes and effects. An effect is something that happens because of a cause. Causes and effects happen in our body. Introduce the text.</p>
Reading Practice: (20-30 minutes)	<p><b>Class Reading:</b> Teacher should read the text while students follow along. Encourage them to take notes while they read to underline key words and details.</p> <p><b>Class Discussion:</b> After reading, work together as a class to identify causes and effects in the text. First, circle effects by asking "What is something that can happen?" Then, underline causes by asking "Why can the effect happen?"</p>

	<p>Model by showing that diabetes is an effect (something that can happen), and eating too much sugar is a cause (a reason diabetes can happen). Note that one effect could have more than one cause.</p>
<p>Introducing Timelines: (30-40 minutes)</p>	<p><b>Class Model:</b> Display the cause-effect timeline from the next page and introduce the graphic organizer. Timelines can show how causes connect to effects. The first cause happens at the top. It makes something else happen, then more things happen. Arrows connect the cause to effects.</p> <p>We can say that eating too much sugary food is one cause of diabetes, so that goes at the top. Then, getting diabetes is the next effect.</p> <p><b>Group Practice:</b> Small groups use their annotated text to fill in the next three effects in the timeline. Responses may vary, but they should be supported by the text.</p> <p><b>Class Discussion Questions:</b></p> <ol style="list-style-type: none"> <li>1. Why is it important to think about how causes and effects connect to each other?</li> </ol>
<p>Closing: (5 minutes)</p>	<p><b>Exit Slip/Notebook:</b></p> <ol style="list-style-type: none"> <li>1. How is eating too much sugary food connected to having kidney problems?</li> <li>2. Why is it important for doctors to think about causes and effects?</li> </ol>

**Educator Note!**

Some students may need extra support identifying causes and effects. Teachers can help students find effects in the text, then ask students to place them in order in the timeline to show the connections.

**Accommodations & Modifications:**

- Read-aloud support during group work
- Students complete the graphic organizer collaboratively with a teacher

**Extensions:**

- Find an online article from this year about managing diabetes.
- Complete a cause-effect timeline about good activities that support kidney health.

Cause:

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First Effect:

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Second Effect:

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Third Effect:

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Last Effect:

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## High Blood Pressure Can Cause Problems

Blood moves through every part of your body. It carries important things throughout your body, like oxygen and nutrients. Your heart beats to move blood around your body. Problems with your blood can cause problems in other parts of your body. High blood pressure is one problem that can be harmful.

Your blood moves through tiny tubes called blood vessels. High blood pressure happens when your blood pushes too hard on the walls of your blood vessels. Your heart pumps blood through blood vessels called veins and arteries. If your arteries get too tight or your heart has to work too hard, the pressure goes up. This can hurt your heart and other parts of your body.



*Doctors can use easy tests to check your blood pressure.*

High blood pressure can hurt your kidneys. One day of high blood pressure won't hurt you. But, it can have serious consequences over time. If you have high blood pressure for a long time, the blood vessels around your kidneys may get weak or damaged. This makes it difficult for your kidneys to filter blood and keep it clean. It can also lead to more high blood pressure in the future.

Doctors can help lower blood pressure if it is too high. Some medicines help your heart and blood vessels, so the pressure is lower. Doctors can also teach people about lifestyle changes that help lower blood pressure. Eating healthy foods and exercising can help keep your heart strong. Lowering your stress can also help improve your blood pressure.

In conclusion, high blood pressure happens when your blood pushes too hard in your arteries. This can cause problems for your heart and kidneys. Eating healthy, staying active, and listening to doctors can help lower blood pressure to keep your body safe and strong.

**1.** What does "harmful" mean?

- a. bad for you
- b. hard to fix
- c. good for you
- d. hard to understand

- 2.** What is the best definition of “lifestyle changes”?
- changes inside your body
  - strategies for changing blood pressure
  - things people change about their everyday behaviors
  - people who are good at being both doctors and teachers
- 3.** What are **2** important things blood carries in your body?

- 4.** Match the correct definition to each vocabulary word.

A. tiny tubes that carry your blood	blood pressure _____
B. organs that help clean your blood	blood vessels _____
C. how hard your blood pushes when it moves	kidneys _____

- 5.** Does one day of high blood pressure damage your kidneys?
- Yes, any high blood pressure can damage your kidneys.
  - Yes, any changes to blood pressure can damage your kidneys.
  - No, high blood pressure only damages your heart, not your kidneys.
  - No, high blood pressure only damages your kidneys over a long period of time.\*\*\*
- 6.** Which cause-and-effect statement is true?
- Kidneys filtering blood well is an effect of blood being cleaned.
  - Blood vessels getting weak is a cause of more high blood pressure.
  - Eating healthy and exercising are effects of lowering blood pressure.
  - Lower blood pressure is a cause of the heart working too hard to move blood.
- 7.** What are **3** ways that people can lower their blood pressure?
- |  |   |
|--|---|
| <input type="checkbox"/> eating new foods          | <input type="checkbox"/> exercising           |
| <input type="checkbox"/> lowering stress           | <input type="checkbox"/> raising stress       |
| <input type="checkbox"/> practicing blood pressure | <input type="checkbox"/> practicing breathing |
| <input type="checkbox"/> taking medicines          | <input type="checkbox"/> avoiding medicines   |



## Lesson 5: Practice Cause and Effect

<b>Text:</b> <i>High Blood Pressure Can Cause Problems</i>	
<b>Standards:</b> Cause and effect in nonfiction text (CCSS.RI.1, FL BEST R.2.1, TEKS Strand 4.D, VA SOL.6)	
<b>Objectives:</b>	<b>Materials:</b>
<ul style="list-style-type: none"> <li>• Read a nonfiction text about high blood pressure.</li> <li>• Identify cause-effect relationships in nonfiction.</li> <li>• Synthesize connections between details in a text.</li> </ul>	<p style="text-align: center;">Paper</p> <p style="text-align: center;">Graphic organizer</p>
<b>Assessments of Learning:</b>	
<ul style="list-style-type: none"> <li>• Teachers can informally assess student comprehension during group reading and discussion by monitoring student behavior or asking brief questions about the text.</li> <li>• Class discussion responses and graphic organizers provide more informal assessment opportunities.</li> <li>• Exit slip can be read or collected as a formative assessment.</li> </ul>	

### Lesson Procedures

Introduction: (5 minutes)	<p><b>Hook:</b> You know effects are things that happen because of causes. Some causes take a long time to make effects happen. For example, watering a tree may take a long time to make the tree grow big. What are some other causes and effects that take a long time? (e.g. practicing fractions takes a long time to be great at fraction math)</p> <p>Allow a partner discussion. Then, explain that some causes and effects in our body take a long time. Introduce the text.</p>
Reading Practice: (20-30 minutes)	<p><b>Group Reading:</b> Divide students into groups of 2-5. Have each group work together to read the text.</p> <p><b>Group Discussion:</b> After reading, groups work together to identify causes and effects in the text. First, circle effects that happen. Then, underline the cause of each effect. Draw an arrow to connect each cause and effect in the text.</p> <p><b>Class Discussion:</b> Have each group share one cause and effect they found in the text. They should explain how the cause is connected to the effect they chose.</p>

<p>Visualizing Cause and Effect: (30-40 minutes)</p>	<p><b>Class Model:</b> Display and introduce the cause-effect graphic organizer on the next page. Arrows connect each cause to one effect.</p> <p>We can say that arteries getting too tight is one cause of high blood pressure. So, “tighter arteries” is the first cause. Then, “high blood pressure” is the connected effect.</p> <p><b>Group Practice:</b> Small groups use their annotated text to fill in the next four causes and effects in the graphic organizer. Responses may vary, but they should be supported by the text.</p> <p><b>Class Discussion Questions:</b></p> <ol style="list-style-type: none"> <li>1. Why is it important to learn about long-term causes and effects in our body?</li> </ol>
<p>Closing: (5 minutes)</p>	<p><b>Exit Slip/Notebook:</b></p> <ol style="list-style-type: none"> <li>1. How are the two models of cause and effect similar and different?</li> <li>2. What are some causes that have good effects on your kidney health?</li> </ol>

**Educator Note!**

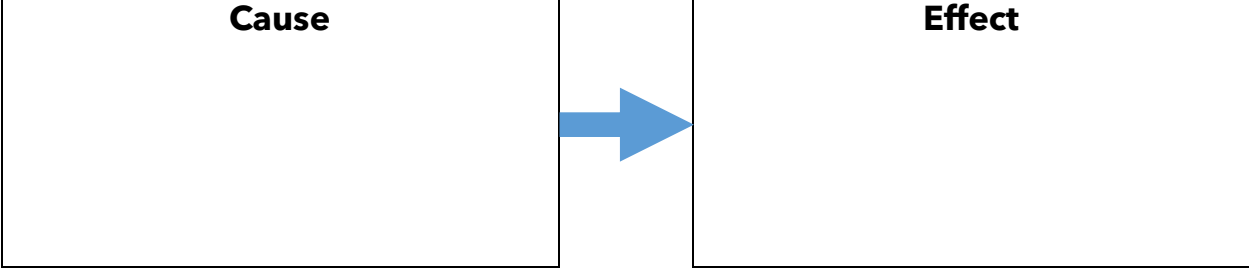
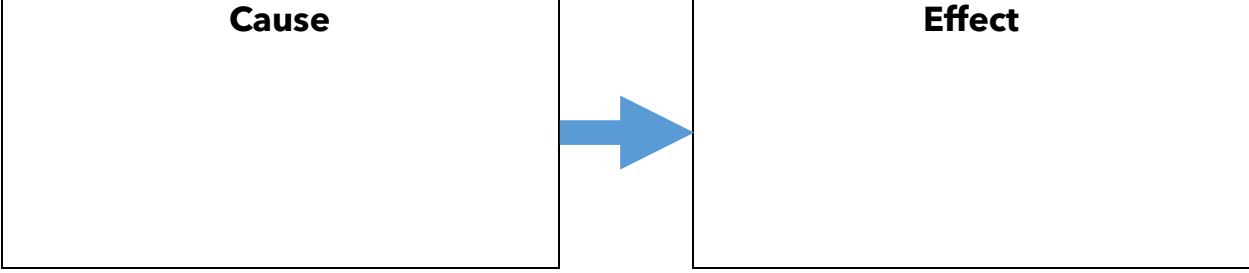
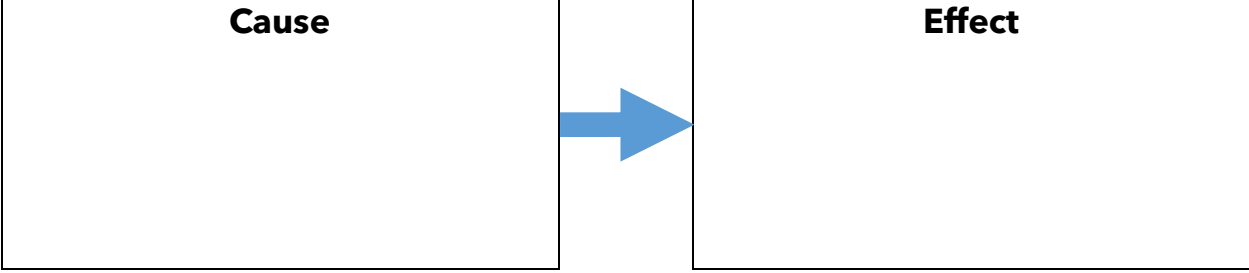
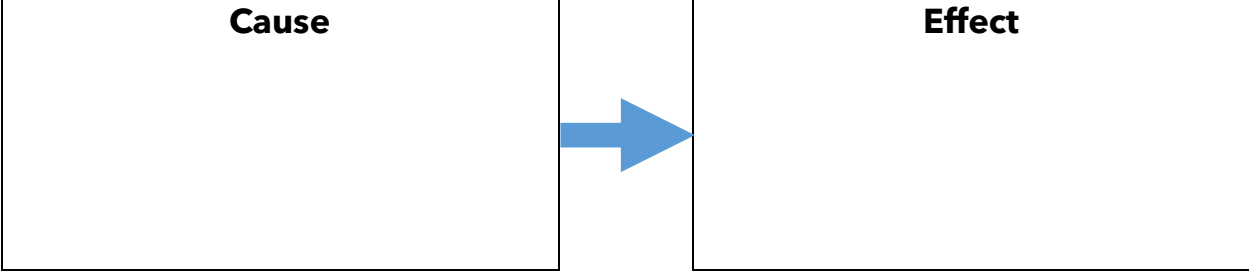
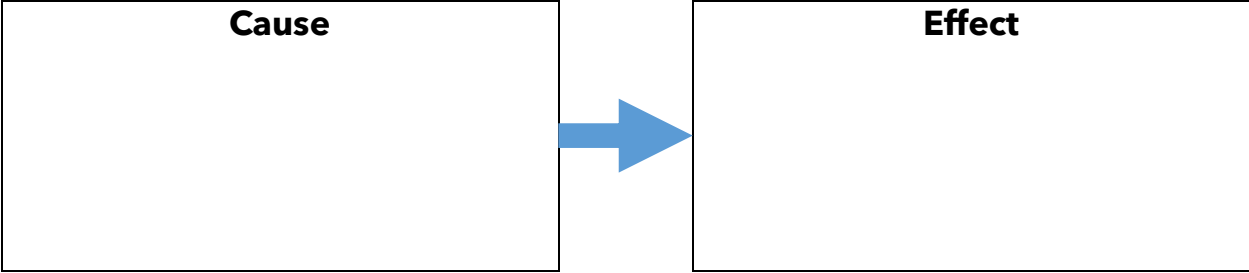
Some groups may need extra support identifying causes and effects in the text. Teachers can assist this process by asking students, “What is something that can happen?” and “Why could that effect happen?”

**Accommodations & Modifications:**

- Read-aloud support during group work
- List of effects in the text that students only find causes for
- Students complete the graphic organizer collaboratively with a teacher

**Extensions:**

- Find an online article from this year about causes and effects of high blood pressure.
- Complete a cause-effect list about good activities that support lower blood pressure and improved kidney health.
- Make a poster display showing causes of high blood pressure and causes of healthy blood pressure.



## How Nurses Diagnose Kidney Failure

To diagnose kidney failure, first look for symptoms. Common symptoms include swelling in the legs, feet, or face, tiredness, and trouble urinating. Some people might also feel confused or have nausea. If nausea is an issue, keep the patient by a bathroom so vomit can be disposed of quickly. These symptoms show that the kidneys may not be working well.

When seeing a patient, check their medical history. While you read their chart, ask about illnesses like diabetes or high blood pressure. These can hurt the kidneys over time.) Also, ask about any medicines the patient takes because some drugs can damage the kidneys. Seeing a person's past medical needs can help understand what might be happening now.



*Scientists help doctors do tests that check for kidney failure.*

There are three tests that check kidney function. A blood test measures creatinine levels, which rise when kidneys are not working. Creatinine is a chemical sign that the kidneys are failing. Another test, called a GFR (glomerular filtration rate), shows how well the kidneys filter waste. A urine test checks for protein or blood, which are signs of kidney damage.

You can also check for physical changes. Swelling, high blood pressure, and changes in weight can point to kidney failure. If you are still in doubt, collaborate with other medical experts. More tests, like an ultrasound, may be needed to look at the kidneys directly.

In summary, nurses diagnose kidney failure by looking for symptoms, reviewing medical history, and performing tests. You can check for changes in the body and use test results to find out how well the kidneys work. Quick diagnosis helps patients get the care they need. Keep an eye out for kidney failure!

1. What does "patient" mean in this text?
  - a. taking your time and not rushing
  - b. someone who is seeing a doctor
  - c. a sign that kidneys are not working anymore
  - d. a possible problem with someone's health or body

2. Who is referred to by "you" in the phrase "you read their chart"?
  - a. nurse
  - b. patient
  - c. reader
  - d. writer
  
3. What is the best definition of "collaborate"?
  - a. put things together
  - b. read more information about
  - c. work together with other people
  - d. teams that always accomplish their goals
  
4. Why is the phrase "like an ultrasound" in commas?
  - a. It gives an example of a test.
  - b. It explains what an ultrasound is.
  - c. It is not an important part of the sentence.
  - d. It introduces a new main idea to the paragraph.
  
5. Which quote is the best context clue to understand the word "nausea"?
  - a. "swelling in the legs, feet, or face, tiredness, and trouble urinating"
  - b. "people might also feel confused"
  - c. "so vomit can be disposed of quickly"
  - d. "the kidneys may not be working well"

6. Write 1, 2, 3, or 4 to sequence the steps to diagnose kidney failure.

Do a blood test, GFR, or urine test.	Read about past medical needs.	Check with other doctors or nurses.	Look for signs like swelling and tiredness.

7. Write a sentence to describe what it means for a kidney to fail.

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## Lesson 6: Vocabulary Word Wall

<b>Text:</b> <i>How Nurses Diagnose Kidney Failure</i>	
<b>Standards:</b> Vocabulary in nonfiction text (CCSS.RI.4, FL BEST V.1.3, TEKS Strand 1.B, VA SOL.4)	
<b>Objectives:</b> <ul style="list-style-type: none"> <li>• Read a nonfiction text about kidney failure diagnosis.</li> <li>• Identify key vocabulary words when reading.</li> <li>• Collaboratively create a word wall to reinforce vocabulary comprehension and retention.</li> </ul>	<b>Materials</b> Index cards <i>or</i> sticky notes  Paper
<b>Assessments of Learning:</b> <ul style="list-style-type: none"> <li>• Monitoring student behavior or asking brief questions during group work provides informal assessment throughout the lesson.</li> <li>• Students can self-check vocabulary understanding with a dictionary.</li> <li>• Student sentences and exit slips are possible formative assessments.</li> </ul>	

### Lesson Procedures

Introduction: (5 minutes)	<p><b>Hook:</b> Lots of careers have vocabulary that is used specifically in that job. Cooks may talk about “ingredients,” farmers may talk about “livestock,” and doctors may talk about “medicine.” What are three job-related words you have heard teachers use? (e.g., lesson, plan, assessment).</p> <p>Allow a partner discussion. Then, introduce the main topic of the text with the whole class.</p>
Reading Practice: (30-40 minutes)	<p><b>Group Reading:</b> Divide students into small groups (3-5 students). Groups read the text together.</p> <p><b>Vocabulary Hunt:</b> As students read, they should underline or highlight words that are new to them. They should also underline or highlight words that are important to understanding the main ideas in the text. Some words are already underlined.</p> <p><b>Notebook Dictionary:</b> Students write the new words and their definitions in their notebook. Give students the opportunity to infer their own definitions from the text first. Then, ensure they research the correct definitions before</p>

	finishing their notes. These notes can support word-meaning retention.
Vocabulary Meaning Making: (30-40 minutes)	<p><b>Sharing:</b> Each group chooses 2-4 words they identified. Groups take turns to explain the words and their meanings to the class.</p> <p><b>Word Wall Creation:</b> Students from the group write each of their shared vocabulary words on a sticky note or index card, along with a brief definition. After sharing, place the cards on the designated word wall area.</p> <p><b>Class Discussion Questions:</b></p> <ol style="list-style-type: none"> <li>1. What do these words emphasize about health diagnosis? (e.g., technology, details are important, some jobs have their own vocabulary)</li> <li>2. What was one strategy that helped you understand these words when reading? (e.g., looking at the rest of the sentence, understanding parts of the word)</li> </ol> <p><b>Pairs/Small Group Activity:</b></p> <ol style="list-style-type: none"> <li>1. Use 5 words from other groups' readings in sentences. Use the definitions from the word wall.</li> </ol>
Closing: (5 minutes)	<p><b>Exit Slip/Notebook:</b></p> <ol style="list-style-type: none"> <li>1. Choose one word from the Word Wall that is important for diagnosing kidney failure, and use it in your own sentence.</li> </ol>

### **Educator Note!**

Students may struggle to infer vocabulary definitions on their own. To support them, teachers can lead a class discussion of context clues to infer definitions as a group after the Vocabulary Hunt.

### **Accommodations & Modifications:**

- Read-aloud support for texts
- Teacher-provided pictures to align with each Word Wall definition

### **Extensions:**

- Research kidney failure treatments, then add new terms to the Word Wall.
- Write a fiction story that uses 5 terms from the Word Wall.
- Write new definitions for Word Wall terms that a younger student could learn from.

## **Kidneys Work with Other Organs**

Kidneys are important organs in your body. They do the essential job of cleaning your blood. The kidneys also work with other organs in your body. They work with your heart, lungs, and liver to help you stay strong and healthy.

Your kidneys need your heart. The heart is a very strong muscle that pushes and pulls blood throughout your whole body. It squeezes and expands very quickly, over and over. These squeezes and expansions cause your heartbeat! The heart moves blood around your body and into your kidneys. All the blood in your body is filtered many times a day by the kidneys! They would not be able to clean any blood if the heart did not beat.

Lungs and kidneys work together, too. Your lungs are the organs that help you breathe. When you breathe in, your lungs expand to pull in air. They push air back out when you exhale. Your lungs make sure you have enough oxygen. It takes a lot of oxygen for your body to work well. And, your kidneys use lots of that oxygen. They use about 25% of the oxygen your lungs absorb!

Your kidneys and liver work closely together. They both keep your body clean and healthy. These organs are near each other inside your body. The liver sits on top of the kidneys. Your liver helps filter things out of your body when you eat food. It sends some waste into your blood. Then, your kidneys filter it out of your blood. These two organs do similar jobs to move waste out of your body.

In summary, your kidney is an important organ that works together with other organs. Together, they help keep your body strong and healthy. Your kidneys need to work well with your heart, lungs, and liver to keep you healthy.

### **Discussion Questions:**

- a. Why do the kidneys need the heart?
- b. What is another organ kidneys work with? How do they work together?
- c. Are the kidneys important compared to these other organs?

Summarize this reading in one sentence:

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## The Small Parts of Your Kidney that Make a Big Impact

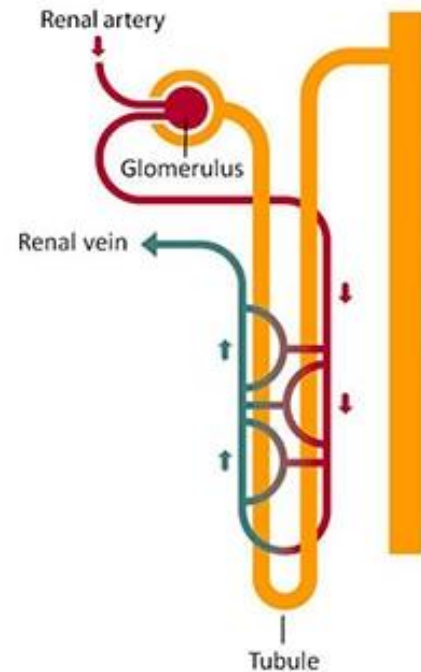
Your kidneys keep you healthy by filtering waste from your blood. They make sure you have enough water in your body. But, how does a kidney actually work?

You have millions of blood filters called nephrons. Each nephron has a filter that removes things from your blood. The filter is called the glomerulus. Each one connects to a tubule that returns some of the filtered liquid to your blood.

The glomerulus is designed to filter waste and other things in your blood. Some of the things it filters out are needed. The tubule returns these things back to the blood. The waste is sent to your bladder for removal.

The filter has many tiny blood vessels. They have thin walls, so things pass through easily. Waste, water, and smaller molecules all pass through. Everything that is filtered out goes into the tubule.

The tubule is next to another blood vessel. It passes the water back into the blood as well as some of the nutrients that were removed by the filtering process in the glomerulus. The waste and extra fluid are sent to the bladder.



*This diagram of a nephron is from NIH NIKKD's "Your Kidneys & How They Work."*

### Discussion Questions:

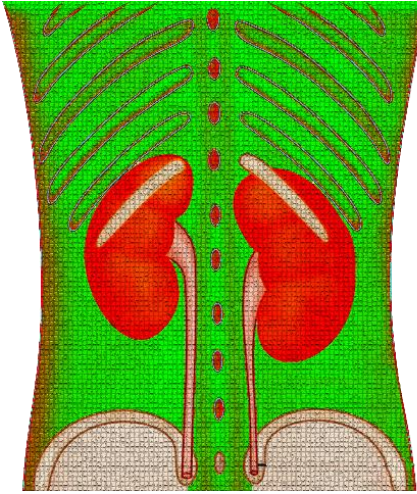
- What are the key parts of the nephron?
- What are the two parts of the nephron and how do they work together?
- How is waste removed in this process?

Summarize this reading in one sentence:

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## Chemicals that Work in Your Kidneys



The kidneys are filters that work on chemicals. Some chemicals tell our kidneys what to do. Other chemicals are affected by the kidneys.

Some chemicals are filtered out in the kidneys. Water is removed from the kidneys. So are other chemicals, like salts, ions, and amino acids. Your kidneys also filter glucose, a type of sugar. Some of these things are filtered out and removed to the bladder. Some of them also go back into the bloodstream. Your kidneys regulate the amount of water and other chemicals in your blood.

Your body also creates Antidiuretic Hormone (abbreviated ADH). ADH regulates the amount of water sent to the bladder and the amount of water returned to the bloodstream. It works in the tubules of the kidneys. ADH encourages the tubules to control how much water is saved and how much is sent away as waste. ADH changes the tubules so they are able to pass more or less water back into the blood.



Chemicals like ADH tell the kidney what to do. Then, the kidney acts on chemicals, like salts, ions, and sugars, to regulate how much stays in our blood.

### Discussion Questions:

- What does it mean that your kidneys regulate the amount of chemicals?
- What is the purpose of ADH?
- What is glucose?
- How is glucose related to your kidneys?

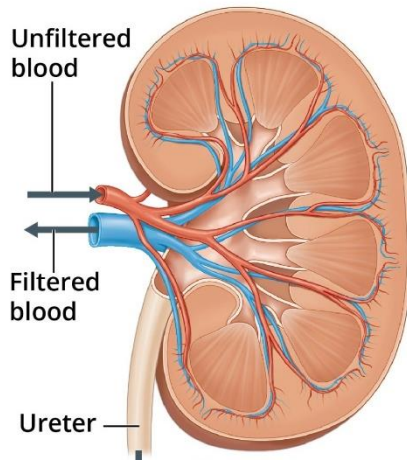
Summarize this reading in one sentence:

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## The Path Through the Kidneys

Blood flows into your kidneys in the renal artery. (The word renal means related to the kidney. For example, a renal care facility means a facility that helps people care for their kidneys.) The renal artery is large. It branches into many, many smaller blood vessels. These vessels eventually reach the nephrons, which contain the filters that make the kidneys work.



*This diagram of a kidney is from NIH NIKKD, "Your Kidneys & How They Work."*

Your blood flows into the kidneys many times each day. This makes sure your blood has the right amount of water, sugar, acids, and nutrients. You have two kidneys to handle this important work and they filter a total of 150 quarts of blood in one day.

After the blood passes through the nephrons for filtering, it heads back to the bloodstream. The tiny branches of blood vessels combine and get larger. Eventually, there is just one blood vessel called the renal vein. It carries the filtered blood back to your bloodstream.

The waste, water and other things filtered by the kidneys are passed through the ureter to your bladder. The ureter is a tube like your arteries and veins but it carries liquid to your bladder.

### Discussion Questions:

- Where does the flow of blood start? Where does it end?
- How would you describe how the blood passes into the filters and back into the bloodstream?
- Where does the waste flow out of the kidney?

Summarize this reading in one sentence:

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## Lesson 7: Summarize Key Points (use research articles?)

<p><b>Text:</b> <i>Kidneys Work with Other Organs, The Small Parts of Your Kidney..., Chemicals that Work in Your Kidneys, and The Path Through Your Kidneys</i></p> <p>These texts are modified from the OpenStax AP Biology Science textbook available at <a href="http://openstax.org">openstax.org</a> and NIH NIDDK's "Your Kidneys &amp; How They Work."</p>	
<p><b>Standards:</b> Main idea and details in nonfiction text (CCSS.RI.1, FL BEST R.3.2, TEKS Strand 2.G, VA SOL.6)</p>	
<p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• Read and explore a nonfiction text related to organ functions.</li> <li>• Summarize the key points of a nonfiction text.</li> </ul>	<p><b>Materials:</b></p> <p style="text-align: center;">Paper</p>
<p><b>Assessments of Learning:</b></p> <ul style="list-style-type: none"> <li>• Monitoring student behavior or asking brief questions during group work provides informal assessment throughout the lesson.</li> <li>• Class discussion responses and summary sentences provide more informal assessment opportunities.</li> <li>• Summaries and exit slips can be used as a formative assessment.</li> </ul>	

### Lesson Procedures

<p>Introduction: (5 minutes)</p>	<p><b>Hook:</b> Different people do different jobs. They may work with people who have other jobs, but everyone does a special task. What are some special tasks that someone would do in a certain job? (e.g., teachers plan lessons, cooks make food, cleaners take out trash).</p> <p>Allow a partner discussion. Then, introduce the main topic with the whole class: organs have jobs, too!</p>
<p>Reading Practice: (20-25 minutes)</p>	<p><b>Group Reading:</b> Divide students into small groups. Give each group a different text to read together. They may annotate while reading to underline important details.</p> <p><b>Group Discussion:</b> After reading, groups discuss the text using the provided questions for comprehension. They should work together until each member can verbalize the reading's basic ideas.</p> <p>Discussion questions for each text are on the next page.</p>

*Kidneys Work with Other Organs* discussion questions:

- a. Why does the kidney need the heart? *(heart pushes blood into the kidney)*
- b. What is another organ that the kidney works with? How do they work together? *(lungs gathers oxygen the kidneys need, liver helps filter things out of blood)*
- c. Is the kidney important compared to these other organs? *(yes, all these organs are needed)*

*The Small Parts of...* discussion questions:

- a. What are the key parts of the Nephron? *(glomerulus and tubule; blood, artery, veins are also acceptable answers)*
- b. What are the two parts of the Nephron and how do they work together? *(the glomerulus filters things from the blood and into the tubule)*
- c. How is waste removed in this process? *(The filter in the glomerulus removes chemicals using thin-walled blood vessels. The tubule gathers the waste, water and chemicals and some of it is absorbed back into the blood while the rest goes to the bladder.)*

*Chemicals That Work in Your Kidneys* discussion questions:

- a. What does it mean that your kidneys regulate the amount of chemicals? *(they control the amount of chemicals and keep them at the right levels)*
- b. What is the purpose of ADH? *(control the amount of water filtered out by kidneys)*
- c. What is glucose? *(sugar)*
- d. How is glucose related to your kidney? *(kidneys filter chemicals like glucose)*

*The Path through the Kidneys* discussion questions:

- a. Where does the flow of blood start? Where does it end? *(starts at the renal artery and ends at the renal vein)*
- b. How would you describe how the blood passes into the filters and back into the bloodstream? *(it flows into the kidney, into smaller and smaller blood vessels then into the nephrons, then filtered blood flows into larger and larger blood vessels and back to the bloodstream)*
- c. Where does the waste flow out of the kidney? *(ureter)*

<p>Summary Practice (5-15 minutes)</p>	<p><b>One-Sentence Summary:</b> Students should write a summary of their reading using one sentence. This sentence will stem from their discussion of the text in their previous group activity. Good sentences prioritize the most essential parts of the reading.</p>
<p>Sharing and Revising: (15-20 minutes)</p>	<p><b>Switch Groups:</b> Students will participate in a “jigsaw” switch to form new groups. Each new group should have members who did not work together previously. Each student in the new group will read their one-sentence summary to the other new group members. They should not add more explanation to the sentence they wrote.</p> <p><b>Revise Summary:</b> As each summary is read, students can ask each other clarifying questions about what they read (e.g., “Did the reading talk about why that’s important?”). Students will work together to revise their one-sentence summaries for clarification. They should also make sure their summaries include only key points, not unrelated details or “fun facts.”</p> <p><b>Class Discussion Questions:</b></p> <ol style="list-style-type: none"> <li>1. What was the hardest part about writing only one sentence for your summaries?</li> <li>2. When you heard other people’s summaries, what things helped you understand their reading?</li> </ol>
<p>Closing: (5 minutes)</p>	<p><b>Exit Slip:</b></p> <ol style="list-style-type: none"> <li>1. How can a short summary help someone focus on the most important parts of a reading?</li> <li>2. Is every part of a kidney important? Why or why not?</li> </ol>

### Educator Note!

It may be helpful to assign numbers to groups or have a pre-assigned second group structure so that students do not get confused when switching.

#### Accommodations & Modifications:

- Entire groups present their sentence summary to the class rather than students individually switching to form new groups.

#### Extensions:

- Write the shortest possible summary of your text with all key details.
- Research “jobs” of your lungs, heart, or brain, then summarize that text.

## The Story: A Visit to the Clinic



**Nurse:** Good morning, Mr. Turner. What brings you in today?

**Mr. Turner:** Good morning. I've been feeling really tired lately, and my feet are so swollen I can barely get my shoes on.

**Nurse:** I see. Swelling can be a sign of a few things. Have you noticed anything else?

**Mr. Turner:** Well, I feel nauseous sometimes. I thought it was just stress, but now I think it means something more. I also use the bathroom less often than I did.

**Nurse:** Let's start by going over your medical history. Do you have any health conditions like diabetes or high blood pressure?

**Mr. Turner:** Yes, I've had diabetes for about ten years. I didn't take it too seriously at first, and honestly, I still struggle to control my sugar levels.

**Nurse:** Diabetes can put a strain on your kidneys. Have you been eating a lot of sugary or salty foods recently?

**Mr. Turner:** I've always had a sweet tooth. When I was a kid, I ate candy every day, and even now, I have dessert almost every night. I know it's not great for me, but I didn't think it could do this.

**Nurse:** Eating a lot of sugar over time can contribute to diabetes and kidney problems. When did the swelling and tiredness start?

**Mr. Turner:** A few weeks ago. At first, I thought it was just from standing too much, but now it's not going away.

**Nurse:** Swelling and less urination can mean your kidneys aren't working well. I'd like to do some tests to check how your kidneys are functioning.

**Mr. Turner:** Okay. Is it serious?

**Nurse:** We'll know more after the tests. I'm going to draw some blood to measure your creatinine level, which tells us how well your kidneys are filtering waste.

*[Time passes, then the nurse returns with the test results.]*

**Nurse:** Mr. Turner, your creatinine level is quite high. This means your kidneys are not filtering waste as they should. Combined with your symptoms, it looks like your kidneys are not working properly.

**Mr. Turner:** Does this mean I have kidney troubles?

**Nurse:** Yes, it seems like your kidneys are failing. The diabetes and high sugar intake over time likely contributed to this. We'll need to refer you to a specialist to discuss treatment options, like medication, dialysis, or other care to manage this.

**Mr. Turner:** I see. I wish I'd been more careful earlier, but I'm ready to do whatever it takes now.

**Nurse:** That's a good step, Mr. Turner. We'll work together to help you feel better and take care of your kidneys as best as we can.

1. What does "sweet tooth" mean?
  - a. allergies to candy
  - b. type of diabetes
  - c. likes to eat sugary food
  - d. problems with teeth
2. What does "contributed" mean?
  - a. helped cause
  - b. gave money
  - c. asked a question
  - d. solved a problem
3. What does "conditions" mean in this reading?
  - a. how bad something looks
  - b. the only reason to do a task
  - c. a sickness or medical problem
  - d. things that make something easier to do
4. Which quote is the best context clue to understand the word "swollen"?
  - a. "I've been feeling really tired lately"
  - b. "I can barely get my shoes on"
  - c. "Swelling can be a sign of a few things"
  - d. "I feel nauseous sometimes"
5. The bottom of the first page says, "*Time passes, then the nurse returns with the test results.*" What is the purpose of this line?
  - a. to describe what will happen in the rest of the story
  - b. to show that the characters will keep talking after a break
  - c. to tell readers that they should stop reading at this part in the story
  - d. to explain why the characters will solve the problem in the story soon



## The Story: A Candy Problem

**Nurse:** Hi there, Emma. I'm Nurse Lisa. What brings you to the clinic today?

**Emma:** Hi. My stomach hurts a lot, and I feel like I might throw up.

**Nurse:** I'm sorry you're feeling that way. When did it start?

**Emma:** This morning. It got worse after lunch.

**Nurse:** Hmm. Did you eat anything unusual or a lot of something yesterday?

**Emma:** Well... I had a lot of candy yesterday. It was my friend's birthday, and we had a big bag of chocolates and gummy bears.

**Nurse:** That's helpful to know. Sometimes eating too much candy can upset your stomach. I just want to ask a few more questions to be sure. Do you have any swelling in your feet, legs, or face?

**Emma:** No, I don't think so.

**Nurse:** Have you been going to the bathroom normally?

**Emma:** Yeah, everything seems the same.

**Nurse:** Good. Do you have diabetes or any other health problems?

**Emma:** No, my mom says I'm healthy.

**Nurse:** That's great to hear. I'm going to check a few things to make sure your kidneys are okay since eating a lot of sugar every day can sometimes lead to problems. I'll take a little blood to check your creatinine level. It's a quick test, and I'll explain the results when I'm back.

*[Time passes, then the nurse returns with the results.]*

**Nurse:** Good news, Emma! Your creatinine level is completely normal. Your kidneys are working just fine. It seems like your stomach ache is just from eating too much candy in one day.



**Emma:** Oh, phew! So it's not serious?

**Nurse:** No, it's not serious, but it's a good reminder to eat candy in moderation. Too much can upset your stomach and isn't great for your health. Try to enjoy sweets in smaller amounts next time, okay?

**Emma:** Okay, I'll be more careful. Thank you, Nurse Lisa.

**Nurse:** You're welcome, Emma. Drink some water and eat something healthy today, and you should feel better soon!

1. Which word means the opposite of "unusual"?
  - a. easy
  - b. hard
  - c. normal
  - d. special
2. What does "upset" mean in this text?
  - a. make someone feel angry
  - b. make something feel sick or hurt
  - c. make someone confused or unsure
  - d. make something different than it was before
3. Why does Emma say "Oh, phew!"?
  - a. She is relieved.
  - b. She is confused.
  - c. She is feeling sick.
  - d. She is making a joke.
4. What problem made Emma want to see the nurse?
  - a. Emma's stomach was hurting.
  - b. Emma had been diagnosed with kidney failure.
  - c. Emma was worried about how much candy she ate.
  - d. Emma's mother told her that she needed to visit the clinic.
5. What does the phrase "in moderation" mean?
  - a. for good reasons
  - b. in a safe place
  - c. until it causes problems
  - d. not too much at one time
6. Put the events from this story in the correct order by writing 1, 2, 3, and 4.

Nurse Lisa did a test on Emma's blood.	Emma ate too much candy.	Emma felt like she might throw up.	Nurse Lisa told Emma that her kidneys are fine.

## Lesson 8: Comparing Passages

<b>Text:</b> <i>A Visit to the Clinic</i> and <i>A Candy Problem</i>	
<b>Standards:</b> Comparing nonfiction texts (CCSS.RI.9, FL BEST R.3.3, TEKS Strand 2.E, VA SOL.6)	
<b>Objectives:</b> <ul style="list-style-type: none"> <li>• Read two fiction texts about kidney-related medical visits.</li> <li>• Compare and contrast details in two texts using a Venn diagram.</li> </ul>	<b>Materials:</b> <p style="text-align: center;">Venn Diagram (example below)  Paper</p>
<b>Assessments of Learning:</b> <ul style="list-style-type: none"> <li>• Monitoring student behavior or asking brief questions during group work provides informal assessment throughout the lesson.</li> <li>• Class discussion and question sets are more informal assessments.</li> <li>• Student can self-check comprehension of question sets.</li> <li>• Exit slips can be read or collected as a formative assessment.</li> </ul>	

### Lesson Procedures

Introduction: (5 minutes)	<p><b>Hook:</b> Two people can feel the same way for different reasons. One person can feel happy because they won a game, another person can feel happy because they hugged a friend. What are other times two people can feel the same way for different reasons?</p> <p>Allow a partner discussion. Then, introduce the two texts with the whole class.</p>
Reading Practice: (15-20 minutes)	<p><b>Group Reading:</b> Divide students into groups of 4, with two pairs in each group. One pair will read <i>A Visit to the Clinic</i>, and the other pair will read <i>A Candy Problem</i> together.</p> <p><b>Pair Discussion:</b> When each pair has finished reading, partners discuss their text. They should help answer any questions they have about the text. They should also identify the main idea and key details in their story.</p> <p><b>Group Sharing:</b> Both pairs in a group will share what their story was about. They can use the main idea and key details as support for their sharing.</p>

Text Comparison: (30-40 minutes)	<p><b>Class Model:</b> Teacher introduces the graphic organizer Venn diagram to the whole class. Explain that the overlapping ovals show two topics. The left side is one topic, the right side is the other topic. The area in the middle is what both topics share.</p> <p><b>Comparing Texts:</b> Students in groups can draw a Venn diagram, or teachers can print the example below. Using their annotated text as support, students should complete the diagram to show similarities and differences of the two texts they read.</p> <p><b>Class Venn Diagram:</b> Groups will each add one detail to a class Venn diagram of the readings until complete.</p> <p><b>Class Discussion Questions:</b></p> <ol style="list-style-type: none"> <li>1. Why do you think the texts have these similarities?</li> <li>2. What new ideas did you realize while working on your Venn diagrams?</li> </ol>
Closing: (5 minutes)	<p><b>Exit Slip/Notebook:</b></p> <ol style="list-style-type: none"> <li>1. Explain how a Venn diagram helps you understand multiple texts.</li> <li>2. Why was it important for the nurse to ask questions and do tests before diagnosing a problem?</li> </ol>

### **Educator Note!**

If students have never used a Venn diagram before, it could be helpful to show them an example before they begin the Comparing Texts activity.

#### **Accommodations & Modifications:**

- Read-aloud support for texts
- Paper copies of text or scratch paper for annotations
- Students work with a teacher to complete the Venn diagram

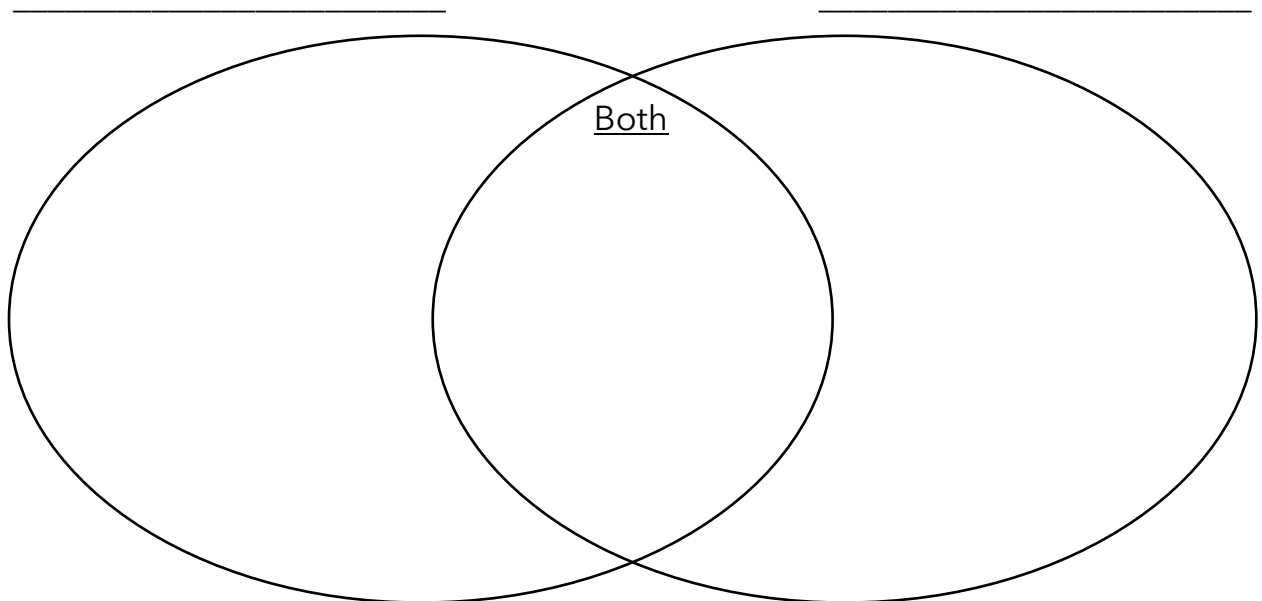
#### **Extensions:**

- Compare both readings to the nonfiction text *How Nurses Diagnose Kidney Failure*.
- Write another script about Mr. Turner returning to the doctor when he gets treatment. Do more reading or research as needed.

**Notes on A Visit to the Clinic**

**Notes on A Candy Problem**

**Compare and Contrast the two stories:**



## Living with Kidney Disease

Maria lives with chronic kidney disease. She had high blood pressure for many years after her grandson was born. She didn't feel very sick, but she was tired and sometimes didn't want to eat any of her favorite food anymore. She thought her high blood pressure may be causing other problems.

Then, she went to her doctor for a normal checkup. Her doctor did some blood tests and found out that Maria's kidneys were working too hard. They were damaged. She would need to take extra care of her kidneys for the rest of her life. So, Maria was diagnosed with chronic kidney disease.

This text is a page from Maria's diary.

*Today was a great day! When I woke up, there weren't any clouds in the sky. I took my blood pressure medicine when I ate a tasty breakfast. I cooked some eggs and toast, since Dr. Kelly said they were good for me. I drank my water in the pretty cup that Leo gave me for my birthday. It says, "World's Best Grandma"!*



*After breakfast, I decided to invite Leo over for the afternoon. He didn't have school, so I thought we could spend some time together. I made sure there were a few healthy snacks at home in case we got hungry. I bought some fresh fruit at the store yesterday, too.*

*Dr. Kelly said I should get plenty of fresh air and exercise, so Leo and I went for a walk. We got to enjoy the warm summer weather. We even saw some butterflies in the backyard!*

*I'm so glad Dr. Kelly is helping me care for my kidneys. I remember last year before we found my chronic kidney disease, I was so tired. I think I would have been too tired to play with Leo. I remember how valuable my health is every time I get to have a good day like today. I hope Leo grows up healthy, too!*

1. What does "valuable" mean in this text?

- costs a lot of money
- very important to you
- can be hard to take care of
- changes over time to get worse

- 2.** Which word means the opposite of “plenty”?
- a. few
  - b. first
  - c. fresh
  - d. fun
- 3.** Who is Leo?
- a. Maria’s doctor
  - b. Maria’s neighbor
  - c. Maria’s son
  - d. Maria’s grandson
- 4.** What is a context clue from the story that helped you answer question #3?
- 

- 5.** Why does the text mention high blood pressure?
- a. High blood pressure can cause kidney disease.
  - b. Maria learned she does not really have chronic kidney disease.
  - c. Maria’s doctor found that her kidneys were hurting her high blood pressure.
  - d. Everyone who has chronic kidney disease will always also have high blood pressure.
- 6.** What is one effect that chronic kidney disease caused for Maria?
- a. She was very tired.
  - b. She had high blood pressure.
  - c. She did not eat food that were healthy.
  - d. She could spend more time with her family.
- 7.** Maria drinks water to care for her kidneys. What are **2** other ways she in the diary that she cares for her kidney health? Explain.
- 

- 8.** How did Maria find out that she had chronic kidney disease?
- a. She felt sick.
  - b. She looked for it at a checkup.
  - c. Her doctor did some blood tests.
  - d. Her doctor tested her blood pressure.

## Lesson 9 & 10: Making Connections

<b>Text:</b> <i>Living with Kidney Disease</i>	
<b>Standards:</b> Comparing nonfiction texts (CCSS.W.3, FL BEST C.1.2, TEKS Strand 3.B, VA SOL.7)	
<b>Objectives:</b>	<b>Materials:</b>
<ul style="list-style-type: none"> <li>• Read a nonfiction text about chronic kidney disease.</li> <li>• Connect a text to personal life experiences.</li> <li>• Use outlining to plan a written work.</li> <li>• Write to communicate ideas in a narrative form.</li> </ul>	Sample outline (below)  Paper
<b>Assessments of Learning:</b>	
<ul style="list-style-type: none"> <li>• Monitoring student behavior or asking brief questions during group work provides informal assessment throughout the lesson.</li> <li>• Student can self-check comprehension of question sets.</li> <li>• Question sets, outline, and draft can be used as a formative assessment.</li> <li>• Edited written work can be collected as a formal assessment.</li> </ul>	

### Lesson Procedures

Introduction: (5 minutes)	<p><b>Hook:</b> Everyone has different experiences. But, we are also similar to each other. I am a teacher and you are students, but we both do hard work at school. What is one way you are similar to and different from someone here?</p> <p>Allow a partner discussion. Then, introduce the main text with the whole class.</p>
Reading Practice: (35-40 minutes)	<p><b>Group Reading:</b> Students read the text together in groups of 2-5. While reading, students should add key details to a bullet-point list of notes about the text. They could use a strategy like outlining or word webs if preferred.</p> <p><b>Comprehension Practice:</b> After reading, students work together in groups to answer the question set for their text. They should discuss any questions or conflicting answer choices that arise.</p> <p><b>Class Discussion:</b> Entire class participates in a teacher-led discussion answering, "What are some key things about Maria's life?" Students can discuss any components of their reading as support for their answers.</p>



<p>Personal Connections: (35-45 minutes)</p>	<p><b>Brainstorm Connections:</b> Students think about the text they read and brainstorm connections to their personal life. They should follow the guiding question, “How is Maria’s life similar to your life?” Students may share ideas with a partner, but they should come up with independent ideas.</p> <p><b>Outline Writing:</b> Brainstormed ideas move into an outline format. They are preparing to write a complete response to the initial question.</p> <p><b>Drafting:</b> Students write a rough draft of their response. It does not need to be perfect!</p> <p><b>Class Discussion Questions:</b></p> <ol style="list-style-type: none"> <li>1. How did the text help you brainstorm?</li> <li>2. What parts of your outline helped you start writing?</li> </ol>
<p>Writing Process: (40-45 minutes)</p>	<p><b>Prompt:</b> How is Maria’s life similar to your life?</p> <p><b>Partner Revisions:</b> Partners read their drafts aloud to each other. Then, they give suggestions for improvement and assist with mechanics (e.g. spelling, punctuation).</p> <p><b>Editing:</b> Students independently edit their writing based on peer feedback.</p> <p><b>Class Discussion Questions:</b></p> <ol style="list-style-type: none"> <li>1. What was the most helpful part of reading your draft with a partner?</li> <li>2. How do you hope you get to use these traits in your real life?</li> </ol>

### Educator Note!

Some students may need extra scaffolding to write a successful outline. The example below can be printed for these students or used as a model.

#### Accommodations & Modifications:

- Read-aloud support for texts
- Allow students to dictate ideas when outlining

#### Extensions:

- Write a new fictional diary entry based on Maria’s story.

## How is Maria's life similar to your life?

Outline before you write! Use these guides to help organize your thoughts.

**1)** Explain what you learned from the text you read.

- The text I read was about:

➤ \_\_\_\_\_

- Give a specific detail you want to focus on:

➤ \_\_\_\_\_

**2)** Connect what you learned to your future life.

- My life is like Maria's life because:

➤ \_\_\_\_\_

- Explain why this part of your life is similar:

➤ \_\_\_\_\_

➤ \_\_\_\_\_

**3)** Summarize your main idea.

- I learned about:

➤ \_\_\_\_\_

- This is like my life because:

➤ \_\_\_\_\_

- This connects to me because:

➤ \_\_\_\_\_

### **Educator Note!**

Students may need explicit guidelines for peer review, such as a writing checklist or a list of sentence stems to assist discussion.

Examples below can be printed for each student or copied as a model.

### **Writing Checklist:**

- Sentences start with a capital letter.
- Sentences end with a period, question mark, or exclamation point.
- Sentences have a subject and a verb.
- Words are spelled correctly.
- Main idea is clear.
- Details explain the main idea.
- Handwriting is neat.

### **Peer Review Questions & Sentence Stems:**

- What is this word?
- What is your main idea?
- Can you explain what you mean with this sentence?
- Do you think this sentence would make sense in the next paragraph?
- I think \_\_\_\_\_ is a great way to say this idea!
- I think \_\_\_\_\_ may need some more details.
- It looks like \_\_\_\_\_ in the writing checklist is missing here.

## **Answer Key**

### What is a Kidney, Anyway?

1. D
2. B
3. A
4. C
5. cleaning blood
6. C
7. B
8. B
9. Kidneys clean your blood and help you stay healthy.

### Kidneys Can Stop Working

1. kidney failure
2. A
3. B
4. dialysis
5. B
6. C
7. A
8. D
9. You should take care of your body by doing things to stay healthy.

### Keep Your Kidneys Healthy

1. B
2. A
3. fruits, vegetables, whole grains
4. D
5. A
6. C
7. Water helps kidneys clean blood.
8. B
9. C

### Diabetes Can Cause Kidney Problems

1. D
2. A
3. B
4. C
5. eyes, nerves
6. A
7. D
8. exercising, getting help from doctors, eating healthy meals, watching blood sugar

### High Blood Pressure Can Cause Kidney Problems

1. A
2. C
3. oxygen, nutrients
4. C, A, B
5. D
6. B
7. exercising, lowering stress, taking medicines

### How Nurses Diagnose Kidney Failure

1. B
2. A
3. C
4. A
5. C
6. 3, 2, 4, 1
7. Explanations should note that kidney failure is when the kidneys are hurt or stop working well, and it can impact many other parts of your body.

### The Story: A Visit to the Clinic

1. C
2. A
3. C
4. B
5. B

### The Story: A Candy Problem

1. C
2. B
3. A
4. A
5. D
6. 3, 1, 2, 4

### Living with Kidney Disease

1. B
2. A
3. D
4. "after her grandson was born" or "World's Best Grandma!"
5. A
6. A
7. eating healthy, exercising\*\*\*
8. C

## Paragraph Writing Rubric

### Topic sentence introduces big ideas

The <u>topic sentence</u> is unclear or too short to capture the topic.	The <u>topic sentence</u> is vague or shows partial understanding of the topic.	The <u>topic sentence</u> is well structured and shows complete understanding of the topic.
<b>1</b>	<b>2</b>	<b>3</b>

### Supporting details are provided

Includes <u>0-1</u> factual details.	Only <u>2</u> details are provided, or some facts are correct and some are incorrect.	More than <u>2</u> details are provided, and no incorrect facts are introduced.
<b>1</b>	<b>2</b>	<b>3</b>

### Conclusion sentence pulls together big ideas

The <u>conclusion sentence</u> is unclear or too short to capture the topic.	The <u>conclusion sentence</u> is vague or shows partial understanding of the topic.	The <u>conclusion sentence</u> is well structured and shows complete understanding of the topic.
<b>1</b>	<b>2</b>	<b>3</b>

### Grammar

Grammar inhibits a reader from understanding.	Grammar detracts from the reader's understanding.	There are three or fewer minor grammatical mistakes.
<b>1</b>	<b>2</b>	<b>3</b>

### Overall

Structure and grammar are unclear and inaccurate.	Some features are unclear or show partial understanding.	Structure and content are clear, complete, and accurate.
<b>1</b>	<b>2</b>	<b>3</b>

Notes: \_\_\_\_\_

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