

UNIT B: LESSON 3

LEARNING TARGETS

INSTRUCTIONS FOR TEACHERS:

- Refer students to the standards and objectives.
- Review the standards and objectives with students one at a time.
- At the end of the lesson, ask students what they did in class to meet the standards.

INSTRUCTIONS FOR STUDENTS:

Listen as your teacher reviews the standards and objectives. Your teacher will call on an individual or pair to explain what they mean.

Learning Target:

I can **analyze** how a major section of “Water Is Life” **contributes** to the **development** of ideas.

Learning Target:

I can **analyze** the basic **structure** of a **complex** sentence.

analyze – study something and explain it
contribute – add
development – growth; when something becomes more complete
structure – the way parts of something are joined together
complex – something that has many different parts

ACQUIRING AND USING VOCABULARY

INSTRUCTIONS FOR TEACHERS:

- Review student instructions.
- Familiarize students with their glossary. It is located in Appendix A (Glossary; labeled “Appendix: Glossary” in the student version). Tell students to use the glossary throughout the lesson.

INSTRUCTIONS FOR STUDENTS:

Use your glossary for the rest of the lesson to find meanings for words you don't know. Words that are **bolded** in the text and word banks can be found in the glossary. The glossary is located in the Appendix at the end of the lesson.

THINKING LOG

INSTRUCTIONS FOR TEACHERS:

- Read the guiding question and text aloud to students, modeling appropriate pace and intonation.
- During the read-aloud, define words and phrases in context that students are unlikely to know, drawing definitions from the glossary when you can. Translations, examples, gestures, and visuals also help.
- Ask students to read the text on their own and work with a partner to answer supplementary questions.
- Ask students to use their glossary to help them with word meanings.
- Call on pairs to answer the supplementary questions.
- Discuss the guiding question(s) as a group and then have students write the answer in their student chart.

INSTRUCTIONS FOR STUDENTS:

Your teacher will ask you a guiding question that you will think about as your teacher reads the text aloud to you. As your teacher reads the text aloud, listen and follow along in your text. After the text has been read aloud, work with a partner to reread the text and answer the supplementary questions. Use your glossary to help you. Your teacher will review the answers with the class. You will then discuss the guiding question(s) with your teacher and the class. Finally, you will complete a written response to the guiding question(s).

GUIDING QUESTION: *How and why does Barbara Kingsolver describe places on Earth that have too little water for humans to live without struggling?*

Water is Life

By Barbara Kingsolver

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A world away from my damp hollow, the Bajo Piura Valley is a great bowl of the driest **Holocene** sands I've ever gotten in my shoes. Stretching from coastal, northwestern Peru into southern Ecuador, the 14,000-square-mile Piura Desert is home to many **endemic** forms of thorny life.

Profiles of this eco-**region** describe it as dry to drier, and Bajo Piura on its southern edge is what anyone would call driest. Between January and March it might get close to an inch of rain, depending on the whims of **El Niño**, my driver explained as we bumped over the dry bed of the Rio Piura, "but in some years, nothing at all." For hours we passed through white-crueted fields ruined by years of irrigation and then into eye-burning valleys beyond the **limits** of endurance for anything but sparse

stands of the deep-rooted *Prosopis pallida*, arguably nature's most arid-**adapted** tree. And **remarkably**, some scattered families of *Homo sapiens*.

WORD BANK:

Ecuador
humans

nothing at all
Peru

Piura Desert
rain

SUPPLEMENTARY QUESTIONS:

1. *Where is Barbara Kingsolver as she begins this narrative?*

Barbara is in the Piura Desert. This desert stretches from northwestern Peru into southern Ecuador.

2. *The Piura Desert is extremely dry. How do we know this?*

We know the Piura Desert is extremely dry because it only receives an inch of rain or nothing at all each year.

3. *Remarkably (surprisingly), Homo sapien families live in the Piura Desert. What are Homo sapiens?*

Homo sapiens are humans, like you and me.

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They are **economic** refugees, looking for land that costs nothing. In Bajo Piura they find it, although living there has other costs, and fragile drylands pay their own price too, as people **exacerbate desertification** by cutting anything living for firewood. What brought me there, as a journalist, was an **innovative reforestation project**. Peruvian conservationists, partnered with the NGO Heifer International, were guiding the population into herding goats, which eat the protein-rich pods of the native mesquite and **disperse** its seeds over the desert. In the shade of a stick shelter, a young mother set her dented pot on a dung-fed fire and showed how she curdles goat's milk into white cheese. But milking goats is hard to work into her schedule when she, and every other woman she knows, must walk about eight hours a day to **collect** water.

WORD BANK:

disperse

innovative

plants

trees

economic refugees

journalist

reforestation

firewood

land

tree

SUPPLEMENTARY QUESTIONS:

4. *Who are the Homo sapien families that live in the Piura Desert?*

They are economic refugees (extremely poor people). They look for land that doesn't cost anything.

5. How do these families contribute to desertification (land becoming desert)?

The families cut any living plants for firewood.

6. Why is Barbara in the Piura Desert?

Barbara is there as a journalist (writer). She is learning about an innovative (new and creative) reforestation project that will bring trees back to the region.

7. Families in the area raise goats. Why are goats good for reforestation?

Goats are good for reforestation because they disperse (scatter) seeds from the mesquite tree over the desert.

8. How far must a woman living in the Piura Desert walk each day to collect water?

A woman must walk about eight hours each day to collect water.

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Their husbands were digging a **well** nearby. They worked with hand trowels, a plywood form for lining the shaft with concrete, inch by inch, and a sturdy hand-built crank for lowering a man to the bottom and sending up buckets of sand. A dozen hopeful men in stained straw hats stood back to let me **inspect** their work, which so far had **yielded** only a mountain of **exhumed** sand, dry as dust. I looked down that black hole, then turned and climbed the sand mound to hide my **unprofessional** tears. I could not fathom this kind of **perseverance** and wondered how long these **beleaguered** people would last before they'd had enough of their water woes and moved somewhere else.

WORD BANK:

beleaguered

exhumed

perseverance

crying

journalist

sand

emotional

Journalists

well

SUPPLEMENTARY QUESTIONS:

9. What were the men doing?

The men were digging a well.

10. Did the men find water? How do you know?

The men did not (did/did not) find water. The text says they exhumed (dug up) only sand.

11. Why does it mean that Barbara had to "hide [her] unprofessional tears."

Barbara was crying.

12. *Why was Barbara crying?*

Barbara was crying because she could not understand the perseverance of these beleaguered people.

13. *Why were Barbara's tears unprofessional?*

Barbara was there as a journalist. Journalists are not supposed to make judgements about what they see. Journalists are not supposed to be emotional.

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Five years later they are still bringing up dry sand, scratching out their fate as a **microcosm** of life on this planet. There is nowhere else. Forty percent of the households in sub-Saharan Africa are more than a half hour from the nearest water, and that distance is growing. Australian farmers can't follow the rainfall patterns that have shifted south to fall on the sea. A salmon that runs into a dam when **homing in** on her **natal** stream cannot make other plans. Together we dig in, for all we're worth.

WORD BANK:

Australia

sub-Saharan Africa

SUPPLEMENTARY QUESTIONS:

14. *In this paragraph, Barbara describes more examples of places on Earth where there is not enough water. List two of the examples.*

Two places on Earth where there is not enough water are sub-Saharan Africa and Australia.

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Since childhood I've heard it's possible to look up from the bottom of a well and see stars, even in daylight. Aristotle wrote about this, and so did Charles Dickens. On many a dark night the vision of that round slip of sky with stars has comforted me. Here's the only problem: It's not true. Western civilization was in no great hurry to give up this folklore; astronomers **believed** it for centuries, but a few of them **eventually** thought to test it and had their **illusions** dashed by simple **observation**.

WORD BANK:

believe

centuries

illusion

water

SUPPLEMENTARY QUESTIONS:

15. *Since she was a child, Barbara heard the following: if you stand at the bottom of a well and look up, you will see stars even in the daytime. Is this true?*

Not, this is not true (Yes, this is true/No, this is not true).

16. *How long did astronomers (scientists who study the universe) believe this story?*

Astronomers believed this story for centuries (hundreds of years).

17. *Why does Barbara tell us the story about the well?*

She tells us the story to remind us that what we believe might not be true. Humans today believe that there is enough water. But just like the well, this is an illusion.

RESPONSE TO GUIDING QUESTION(S):

How and why does Barbara Kingsolver describe places on Earth that have too little water for humans to live without struggle?

Suggested response: Barbara Kingsolver describes places on Earth that have too little water. These places include the Piura Desert in Peru and Ecuador, sub-Saharan Africa and Australia. She wants her readers to understand that water is a serious issue on Earth today.

WATER NOTE-CATCHER

INSTRUCTIONS FOR TEACHERS: <ul style="list-style-type: none"> Review student instructions. 	
INSTRUCTIONS FOR STUDENTS: Work with a partner. Use your water note-catcher to write down key, or important, information from the text. You will write down main ideas and some details, or specific information, about each main idea. You can use information from your Thinking Log. Some information is already filled in for you.	
WORD BANK: attention, believe , changing, eight, evidence , microcosm , observe , option, region , water, weather, wells	
Summary from yesterday: Humans are <u>changing</u> our world and the <u>weather</u> . We must start paying <u>attention</u> .	
Main idea: Bajo Piura is an example of a <u>region</u> that doesn't have sufficient <u>water</u> .	Supporting details: People who live there have to walk <u>eight</u> hours a day to collect <u>water</u> . People who live there are trying to dig <u>wells</u> for water. But they have not found <u>water</u> yet.
Main idea: Bajo Piura is <u>microcosm</u> of life on earth. Living in Bajo Piura is an example of living on earth.	Supporting details: Everyone needs <u>water</u> . Like the people in Bajo Piura, if we cannot find <u>water</u> , there is nowhere else to go. We do not have another <u>option</u> , or choice.
Conclusion: People do not always look for <u>evidence</u> , or proof, of what they <u>believe</u> . But we can <u>observe</u> the truth. In this passage we can <u>observe</u> that we can run out of water.	

FUNCTIONAL ANALYSIS

INSTRUCTIONS FOR TEACHERS:

- Review student instructions for functional analysis with the whole class.
- Complete the functional analysis with the whole class.
- Have students work with a partner to rewrite the sentence in their own words.

INSTRUCTIONS FOR STUDENTS:

Work with your class to analyze an important sentence(s) from the text.

- Every sentence has someone or something that *does* something. First you determine this *who* or *what*.
- Every sentence has something that they *do* or *did*. Figure that part out next. Now you have the most important parts of the sentence in place.
- Then you will figure out what they did the action *to* or *for*.
- Finally, you will write the descriptive details.
- Write your answers in the spaces below.
- When you are done, write the sentence again in your own words.

You may want to use definitions from the glossed text in the sections above.

Functional Analysis:

Five years later they are still bringing up dry sand, scratching out their fate as a microcosm of life on this planet.

WHO (Actor): they

WHAT HAPPENED (Action): *are still* bringing up

WHAT: *dry* sand

DESCRIPTOR : [they are] scratching out *their fate*

DESCRIPTOR (As What): *as a microcosm of life on this plant*

DETAIL (When): five years *later*

What the sentence says:	My own words:
five years later	_____
they	<i>the men in Bajo Piura</i>
are still bringing up	_____
dry sand	_____
[They are] scratching out their fate	<i>The men in Bajo Piura are</i> _____
as a microcosm of life on this planet	<i>They are an example of</i> _____

Write the sentence in your own words and then explain it to your partner.

It is _____ later.

The men in Bajo Piura are still _____

The men in Bajo Piura are _____

They are an example of _____

EXIT TICKET

INSTRUCTIONS FOR TEACHERS:

- Review student instructions with the whole class.

INSTRUCTIONS FOR STUDENTS:

This graphic organizer will help you keep track of information about water for all of the readings. Each day you will write down new information from each reading.

- First, write new information you have learned about global water sustainability.
- Next, write what else you want to learn about water sustainability.

Think about what we have learned so far. What are new things you learned about *global water sustainability*?

Some people live in very dry regions because

They have to work very hard to

What else are you wondering about water sustainability?

Appendix A: Glossary

Word	Definition	Example
<i>adapt</i>	become adjusted to new conditions	The desert was beyond the limits of endurance for anything but sparse stands of the deep-rooted <i>Prosopis pallida</i> , arguably nature's most arid- adapted tree.
beleaguered*	bothered with difficulties	I wondered how long these beleaguered people would last before they'd had enough of their water woes and moved somewhere else.
believe	think something is true	Western civilization was in no great hurry to give up this folklore; astronomers believed it for centuries, but a few of them eventually thought to test it and had their illusions dashed by simple observation.
collect	gather or get something	But milking goats is hard to work into her schedule when she, and every other woman she knows, must walk about eight hours a day to collect water.
desertification*	when land becomes desert, usually because of drought, deforestation, or unsustainable agriculture	In Bajo Piura people exacerbate desertification by cutting anything living for firewood.
disperse	scatter or disperse	Peruvian conservationists were guiding the population into herding goats, which eat the protein-rich pods of the native mesquite and disperse its seeds over the desert.
<i>economic</i>	having to do with money	They are economic refugees, looking for land that costs nothing.

Word	Definition	Example
El Niño*	a weather pattern caused by a warm ocean current; it can cause terrible weather	Between January and March it might get close to an inch of rain, depending on the whims of El Niño .
endemic*	common to a region; native	The Piura Desert is home to many endemic forms of thorny life.
<i>eventually</i>	in the end; finally	A few astronomers eventually thought to test it and had their illusions dashed by simple observation.
evidence	facts; proof	People do not always look for evidence , or proof
exacerbate*	make a problem or bad situation worse	People exacerbate desertification by cutting anything living for firewood.
exhume* (exhumed)	dig up	A dozen hopeful men let me inspect their work, which so far had yielded only a mountain of exhumed sand, dry as dust.
folklore*	traditional beliefs, customs, and stories	Western civilization was in no great hurry to give up this folklore and astronomers believed it for centuries.
Holocene*	recent geographical history	The Bajo Piura Valley is a great bowl of the driest Holocene sands I've ever gotten in my shoes.
home in* (homing in)	move towards a target or goal	A salmon that runs into a dam when homing in on her natal stream cannot make other plans.
illusion	a fantasy or belief in something that isn't true	A few astronomers eventually thought to test it and had their illusions dashed by simple observation.
<i>innovative</i>	new and creative	What brought me there, as a journalist, was an innovative reforestation project.

Word	Definition	Example
<i>inspect</i>	look at something carefully	A dozen hopeful men let me inspect their work, which so far had yielded only a mountain of exhumed sand, dry as dust.
limit	boundary	For hours we passed through white-crusteD fields ruined by years of irrigation and then into eye-burning valleys beyond the limits of endurance.
microcosm*	a small system or place that is very much like the larger system	Five years later they are still bringing up dry sand, scratching out their fate as a microcosm of life on this planet.
natal*	native; place where you were born	A salmon that runs into a dam when homing in on her natal stream cannot make other plans.
observation	the ability to notice things, especially significant details	A few astronomers eventually thought to test it and had their illusions dashed by simple observation .
perseverance	continuing to do things, even if it is very difficult	I could not fathom this kind of perseverance and wondered how long these beleaguered people would last before they'd had enough of their water woes and moved somewhere else.
project	an activity that takes effort	What brought me there, as a journalist, was an innovative reforestation project .
reforestation	plant new trees in an area that used to have trees	What brought me there, as a journalist, was an innovative reforestation project.
region	an area of the world	Profiles of this eco- region describe it as dry to drier, and Bajo Piura on its southern edge is what anyone would call driest.

Word	Definition	Example
remarkable (remarkably)	surprising	Remarkably , some scattered families of people live in this desert.
unprofessional	not acting within the standards, or what is normal, for a profession or job	I looked down that black hole, then turned and climbed the sand mound to hide my unprofessional tears.
well	a deep hole dug in the ground to get water	Their husbands were digging a well nearby.
yield	give forth	A dozen hopeful men let me inspect their work, which so far had yielded only a mountain of exhumed sand, dry as dust.

**Vocabulary from the Expeditionary Learning lessons.*

Italicized words are from the Academic Word List.