

<p>LENGTH: 2 DAYS 45 minutes</p>	<p>Text: <i>Kepler</i></p> <p>By Lexile conversion, this article is on highest band of grade 4, and appropriate for grade 5 ; Lexile level of the bottom part is grade 3/ Article is used in modeling and students are receiving reading support</p> <p>Genre: Non Fiction/ Informational</p>
<p>PURPOSE OF TASK: To bring world relevance to text reading, establish a purpose for reading, model fluent reading, provide opportunities for students to become interactive with the text, and think critically about information in the text.</p>	
<p>Major Understandings <i>What do you want students to know after reading the text?</i> <i>What does the author want them to know?</i></p>	<p>CONTENT:</p> <p>Discovery of an Earthlike planet may make life outside Earth possible.</p> <p>Earth is the only habitable planet.</p> <p>Earth's characteristics make it habitable.</p>
<p>PROCEDURE</p> <p>Model this for students with this article this week. Repeat if needed with whole class, or target small groups and individuals.</p>	<p>1. Number The Paragraphs 2. Chunk the text (decide what sections will you read together or at once) 3. Anchor student into text marking system</p> <ul style="list-style-type: none"> • Circle words you may not know • Underline the key ideas • LEFT margin – What is author saying- summarize each chunk • RIGHT margin-jot down your thoughts • use power verb to <ul style="list-style-type: none"> • describe what author is doing (comparing, telling,..) • draw a pic or symbol • ask any questions you have
<p>Purpose:</p> <p>Familiarizing students with key ideas in the text and teaching students to critically (closely read the text)</p> <p>Today you will read aloud to students as you analyze the text. You are modeling the close reading procedure to be used with other</p>	<p>STEP BY STEP</p> <p>Before starting, anchor students to the unit's Central Idea</p> <p>Colonization or migration of people to new worlds changes societies and environment.</p> <p>Tell students that in this unit we will learn about how our exploration of the new worlds impact people and environment. We will start by learning about the new frontier space in science (if social studies content is being learned as well – and how people explored and colonize in the past so that we can learn from their experiences)</p> <p>Tell students you will teach them the way to read articles and really understand them.</p> <p>DAY 1</p>

<p>MATERIALS:</p> <p>Poster Anchor charts</p> <p>Article Close Read Read with your pencil handout Article copy Pencils</p>	<p>FIRST READ (Key Ideas & Details)</p> <p>Focus: What does the text say?</p> <p><i>Do not frontload vocabulary and prior knowledge or use pre-reading activities. You are modeling for students how to read a text they have never seen before. Any such text will have unknown word and parts that may be difficult to comprehend because student does not have . Close reading is a way to navigate a complex, unknown text.</i></p> <p><i>If your students are not familiar with procedure or marking, today you will just model for them. If your students are familiar with text marking, guide students in numbering and chinking, then model the first chunk.</i></p> <p><i>Note that the goal for today is to learn how to close read by marking the text. Explain to students that when the text is read “closely” and carefully, you read it more than once.</i></p> <p>ASSESSMENT: <i>You assessment for the day will be the last chunk that students will do independently. NOTE: if a student is reading below grade level (3) they may struggle. That’s OK – it gives you formative assessment data on that student. The task is short enough so that a student will not get frustrated, and you would have read and marked the rest of the article, making students feel successful.</i></p> <p>GROUPING <i>Students will be working in pairs. Make sure that you group so that at least one student is able to read on grade level or close. This way, a student who is not yet at that level is getting additional modeling, while the peer is engaged in meaningful task.</i></p> <p>ELL</p> <p><i>This task is suitable for ELL. You are modeling and explaining, with comprehensible input included in all components. Make sure to have anchor posters that students can see. You are also using and explaining language, which helps your ELL students acquire language.</i></p> <p>MODELING PREPARE</p> <ol style="list-style-type: none"> 1. Explain the purpose of close read 2. Point to the Close read marked text poster and have pairs discuss what the paper look like. 3. Explain to students that when we read, we read with our pencil. This means that we use our pencil to mark on the text thoughts and ideas, and to underline and circle what is important. 4. Point to the Anchor poster and briefly explain each step 5. Have students look at the “Pencil” Handout and discuss each line item with the pair’ summarize the “Pencil” steps <p>Discuss with students TEXT FEATURES on the poster example. When you hand them the article-have them identify text features with a partner and put them on the sticky note.</p>
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MODEL

1. Number the Paragraphs (note that this text has many paragraphs, as elementary level texts often do- this one could be as many as 8 chunks)). This gives you an opportunity to model the first three, then ask students to number the rest as you circulate to assure all students can identify paragraphs (will be important in writing)

2. Chunk the Text (explain to students that sometimes it is difficult to read the whole article at once because it has too much information; therefore we” chunk the information in smaller parts; tell students that whenever possible, we want to chunk articles when it is logical; point to subheadings, reviewing this text feature; then tell to students that sometimes there is too much in between subheading, so you may want to chunk even smaller; In this text draw a bracket [spanning first tow paragraphs. Model another chunk, than have students chunk with pair.

Although these two steps may take some time the first few times you model and work on close reads, it is an important step. It will become automatic to students the more this is done!

Anchor students back to the close read poster. Identify Left and right margin (have students literally writ – “left margin” and “right margin” on the top of their article (this will eventually be unnecessary as marking becomes automatic)

3. Explain to students that we will use margins to jot down thoughts and ideas.

In the LEFT margin (point to it on the poster)- we will put in what the author is saying- important words, key idea, and a brief summary of each chunk”

In the RIGHT margin (point to it on the poster)- we will jot down our thoughts - what is author is doing (comparing, describing, giving example, questions that you have, AHA thoughts- what surprised you, sources of information, or any other connections, ideas thoughts.

BEGIN READING

Tell students that you will MODEL (I DO) the first chunk. This means that they are just watching, not writing !

Model Reading using the marking system. Stop and explain your thought process as you are marking .

Example:

Read the Title “Scientists Discover a Planet like ours”– hmmm? I wonder what this will be about- perhaps about finding new Earth? Are there people and animals there? Where is it?- jot this down in the RIGHT margin (my thoughts).

Circle word PLANET– what is a planet? Generate few responses and then say “ I am going to read on and see if I can figure out what the word means from the article.

Begin reading the article. Note the markings the teacher makes. For each one – model the thinking process for students. Have students jot down your notes as a

	<p>model.</p> <p>Now go to the next “chunk” – do the same , but have students write down along with you. Use your judgment on when to release them to pair work (you may need additional model). At the chunk three some students may be ready to work with a pair, some not. You can circulate and assist pairs as you move along, sharing good ideas with the class.</p> <p>Individual work: The last 3 chunks should be individual work – some students are ready and some not. The first of the last two chunks is your first formative assessment. Walk around and see who is struggling with the content. If you have already assessed reading levels (for example with running records, you may already have idea). Remember that the purpose is to teach the close read purpose. During the 1st independent chunk, circulate and assist any students that are “stuck”. Note down the assistance you provided) “ I had to read to Mary” or “ Bob was able to read but was not marking”. The LAST 2 chunks chunk do not provide ANY assistance – it is SHORT and will not cause a lot of frustration. You will assess this part before students move to read #2 tomorrow.</p> <p>Close the session by using a cooperative learning structure such as 3 way interview , reviewing close reading components. Three way interview chart is attached in materials section.</p> <p>SUMMARY Text-Dependent Question(s) <i>Select appropriate number of cognitive level questions that will require students to use evidence from the text.</i></p> <ol style="list-style-type: none"> 1. What does a word HABITABLE mean? Where did you find information that helped you understand this word? 2. Why is this discovery important? Provide examples from the text? 3. What would be another good title for this article? <p>EXIT TICKET Student independently responds to question What is the main idea of the section with subheading “A Breakthrough”?</p>
	<p>DAY 2</p> <p>SECOND READ -give students (10 minutes) to INDEPENDENTLY reread the article, taking any additional notes on the margins and using close read strategies.</p> <p>(Craft & Structure) - 10 minutes Focus: How does the text work? What does the author mean?</p> <p>Begin by asking students to look at the text that was close read; questions – allow students to refer to text (10 min); Use number heads together for students to discuss text dependent questions and then pull random students to respond – if a student is NOT responding or has provided a wrong response – ask a students to keep stands while you ask</p>

some other students – you will come back to that student so that he/she can summarize what others are saying.

Reading Format

Independent reading Shared Reading
 Read Aloud Think Aloud
 Paired Reading

Text-Dependent Question(s)

Select appropriate number of cognitive level questions that will require students to use evidence from the text.

1. What information do the headings give the reader about the next section of the text?
2. Look at the introduction. How do these paragraphs relate to the rest of the article. Use examples from the article in your explanation
4. Explain how the author develops his/her idea across the paragraphs. Use examples from the article in your explanation.

(Key Ideas & Details/ Summarizing) 30

Focus: What does the text say?

Explain to students that in informational text we can find more than one main idea. Often each section has a main idea with subheadings guiding us to what sections may have their own main ideas. Main ideas are supported by KEY (or important) details that are found in text. Instruct students to use Main idea sheet to find a main idea of each section and key details (those should be highlighted). Since Kepler text has 4 sections – you need to give students 2 of these (back/front) – 5 minutes for directions. Then students will write a summary – this standard (LAFS. RI.1.2) should have already been addressed in reading- therefore, you have data on which students may need scaffolds and assistance with components of this activity- use this as you circulate and confer with students.

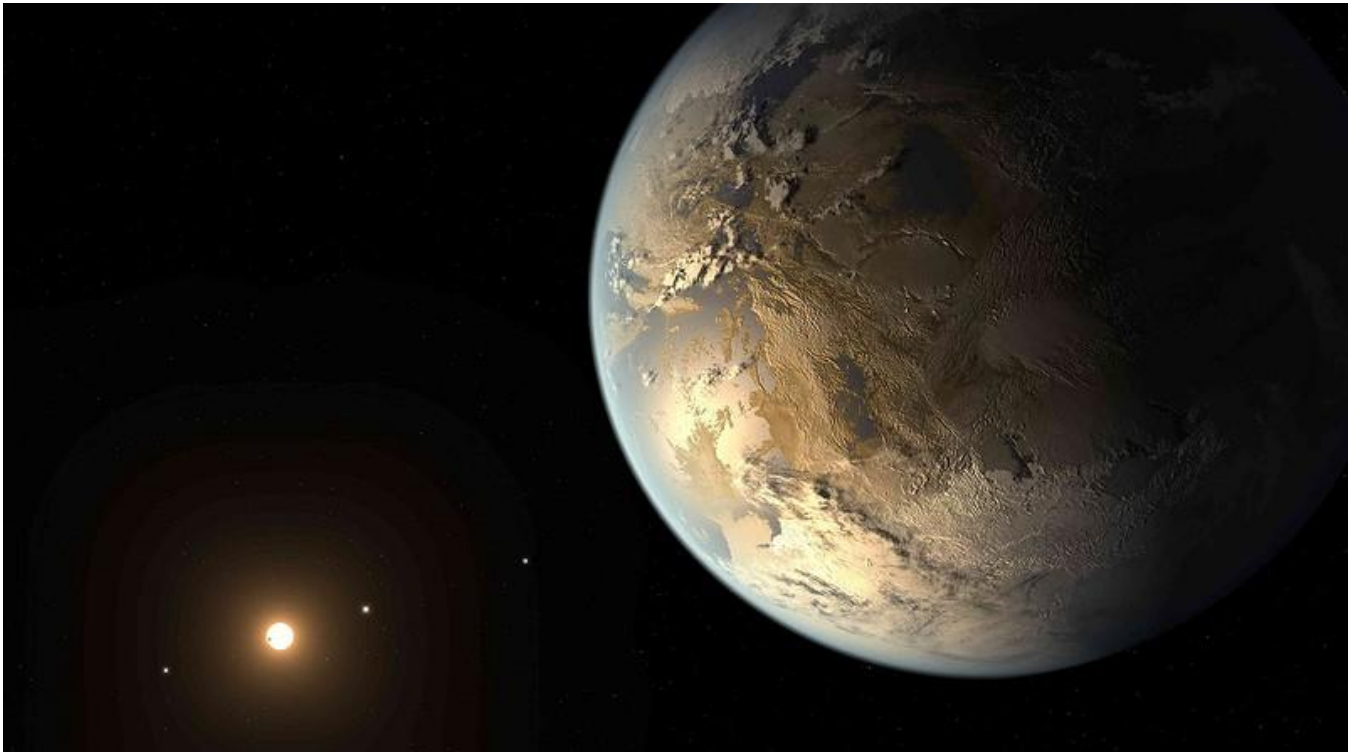
Complete the main idea/ key details sheet – 15 minutes

Students complete a SUMMARY- 10 minutes

Scientists discover a planet like ours

By Los Angeles Times, adapted by Newsela staff

Apr. 24, 2014 4:00 AM



An artist's concept depicts Kepler-186f , the first validated Earth-size planet to orbit a distant star in the habitable zone—a range of distance from a star where liquid water might pool on the planet's surface.

LOS ANGELES—A group of astronomers say they have discovered an Earth-size planet where water could exist in liquid form. The planet is the first yet found that is habitable, which means that it is the first planet where life as we know it could exist.

Experts don't know if the planet actually has water or an atmosphere to protect it from its sun. But they said the huge discovery suggests that a large group of Earth-like planets is waiting to be found much closer to home.

“This is really a tip-of-the-iceberg discovery,” said astronomer Jason Rowe. He and his team spent a year analyzing information gathered by NASA's Kepler Space Telescope.

Rowe and the others are still looking at far-away stars and planets found by the Kepler telescope. But after finding the Earth-like planet known as Kepler-186f, it seems reasonable to guess “that other ones are likely to exist. And that's going to be the job of future missions to find (them).”

A Breakthrough

Scientists who were not involved in the study praised the find.

“This is a historic discovery of the first Earth-size planet found in the habitable zone around its star,” astronomer Geoffrey Marcy commented. “This is the best case for a habitable planet yet found. The results are absolutely rock solid.”

If such planets turn out to be common among the distant stars Kepler studies, it could mean that life might be possible outside of planet Earth. It will also mean that astronomers should be able to find plenty of similar planets closer to home.

Future NASA missions may let scientists add to the list of potentially habitable planets. Powerful telescopes in space will figure out which planets have the strongest signs of water and atmospheres that can support life.

The discovery marks a breakthrough in the search for planets that are not just Earth-size, but truly Earth-like.

Size Is Important

Out of 1,800 or so confirmed planets, fewer than two dozen sit in a habitable zone. In these zones, it’s not so hot that water would boil off into space. It’s also not so cold that it would remain in a permanent deep-freeze. None of the other planets are as close in size to Earth as Kepler-186f. It is only a little larger than our planet.

Size is very important: If a planet is about one-and-a-half times wider than Earth, it could have an atmosphere that is too thick to be Earth-like.

Kepler-186f may be close to Earth in size, but it’s not very close. It sits 490 light-years away. That means it would take 490 years traveling at 186,000 miles per second—the speed of light—to get there. It circles its home star, Kepler-186, in just 130 days.

That star is an M-dwarf, smaller, dimmer and cooler than our sun. So even though Kepler-186f sits closer to its sun than Mercury does to our sun, it is still safely located in a habitable zone.

Many scientists have thought that life couldn’t develop near M-dwarf stars. This is because they give off more flares and damaging radiation than G-type stars like our sun. Kepler-186f, however, appears to sit far away enough from its star to be out of harm’s way.

The discovery of Kepler-186f indicates that there may be more than one kind of habitable planet. From now on, scientists will look beyond planets circling stars similar to our sun.

“That’s Very Exciting”

“I believe that planets are very” varied, said astrophysicist Sara Seager. “A whole range of them could be habitable.”

That’s an encouraging thought, given that M-dwarf planets are easier to find than planets that revolve around larger stars. This is for two reasons: Their orbits are shorter and they block relatively more of their star’s light. And given that M-dwarf stars account for 70 percent of the stars in the Milky Way, there could be billions of Earth-size planets throughout our galaxy.

NASA’s Transiting Exoplanet Survey Satellite, set for launch in 2017, could look for such planets closer to home. And then there’s the James Webb Space Telescope, the follow-up to the Hubble Space Telescope. It will be able to spot water and other things necessary for life in the atmospheres of nearby planets.

The discovery of Kepler-186f is a sign that scientists are homing in on the answers to key questions about life in the universe.

“Whether we are an extremely rare fluke—a phenomenon that only happens once in a universe—or in a galaxy teeming with life is a very basic question,” said astrophysicist Dimitar Sasselov. It’s a question “not only of science, but of our existence.” For “the first time in human history we have a good shot at answering that question,” he said. “That’s very exciting.”