

Student Name: _____

Life on a New Planet

Your Assignment:

A national magazine is sponsoring a short story contest. Your teacher has assigned your class the task of entering this contest. The first, second, and third place entries will be published and read by a national audience.

To prepare yourself to write this story, you must do research about other planets and the possibility of life elsewhere in the universe. The research will act as a foundation to make your story more believable.

As part of your initial research, you have found three sources, including two articles and a letter to the editor of a local newspaper.

After you have reviewed these sources, you will answer some questions about them. Briefly scan the sources and the three questions that follow. Then, go back and read the sources carefully so you will have the information to answer the questions and finalize your research. You may take notes on the information you find in the sources as you read.

In part 2, you will write a short story on a topic related to the sources.

Directions for Beginning:

You may now look at the sources. You can look back to these sources as much as you would like. Be sure to take notes when reading. You may want to use them while you are writing your short story.

Research Questions:

After examining the research sources, use the rest of the time in part 1 to answer three questions. Your answers to these questions will be scored. Also, your answers will help you think about the information you have read, which should help you write your short story in part 2.

You may refer back to your scratch paper to review your notes when you think it would be helpful. Answer the questions in the spaces below the questions.

Your written notes on scratch paper will be available to you in part 1 and part 2 of the performance task.

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PART 1

Source 1

This scientific article, written by scientist Ashley Rice, was published on May 21, 2012, in the magazine *Other Worlds*. It explains why life has not been found elsewhere in our solar system.

Why Can't We Move Somewhere Else?

By: Ashley Rice

If you think about it, we are very lucky to have been born here on planet Earth. Why? It has everything that people and other living things need to live. The atmosphere is rich with oxygen, which plants and animals must breathe in order to live. It also has plenty of carbon dioxide, which plant life relies upon.

Over 70 percent of the planet's surface is covered with water. While most of it is too salty to drink, there is enough fresh water for all living things.

Most importantly, it is just the right distance from the Sun. Not only does the Sun give enough light for the world's plants to grow, but it also keeps the Earth at a perfect temperature for life—not too hot and not too cold.

What about the other planets in our solar system? Could we ever live on one of them? For such a thing to happen, people would have to find ways to tolerate climate conditions and atmospheres much different from our own.

The planet Earth is one of the planets in our solar system. The first four are alike in some ways. Mercury, Venus, Earth, and Mars are all about the same size. They are all solid and made of rock. But there are also differences that keep Mercury, Venus, and Mars from being good places to live. Mercury is very close to the Sun, which makes it extremely hot. Regular temperatures can reach as high as 410 degrees! Mercury also does not have an atmosphere, so we would have no air to breathe.

Venus, on the other hand, does have an atmosphere, but we probably could not breathe it for very long. Its dense air is made of 96 percent carbon dioxide. At this amount, it is even hotter than Mercury.

The "red planet," Mars, is often called Earth's twin because it is closer and more similar to our planet than any other. People still would not be able to live there without some sort of mask. Its air contains toxic gases, and its distance from the Sun makes it rather cold compared to the Earth. Rarely does the temperature on Mars rise above freezing.

We could not survive very long on Mercury, Venus, or Mars. But we would have much more luck on one of these planets than on the other planets. Jupiter, Saturn, Uranus, and Neptune are often called the "gas giants." It is easy to see how they earned this name. Each of these planets is many, many times larger than the Earth. In addition, they are not made of solid rock like the first four planets. Each gas giant is composed of gases like methane, hydrogen, and helium, with a small, icy core. Even if these planets were not so cold and dry, there would be no solid ground to stand on!

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Scientists are currently studying Mars, one of our closest neighbors. They are deciding if it will ever be possible for people to live in special colonies on that planet. But for the time being, Earth is the only known place in our solar system where we can live and be comfortable.

Rice, A. (2012). Why can't we move somewhere else? *Other Worlds*. Retrieved from <http://otherworlds.edu/whycan'twelivesomewhereelse>

Source 2

This scientific article, written by a science engineer, was published on January 29, 2015, in the journal *Modern Technology*. This article suggests that life may exist elsewhere in our universe.

We Are Not Alone

By: Jason P. Blume

The universe is larger than we can imagine. It is hard to comprehend that our Sun is one of over 100 billion stars within our own galaxy, the Milky Way. What is even harder is thinking about the fact that in our universe, the Milky Way, is one of over 100 billion galaxies!

Ever since mankind discovered how big the universe is, it has asked one question: is Earth the only planet in the entire universe where living things exist?

In the past, scientists have looked for life within our own solar system. Mars is a planet that is very similar to Earth in many ways. It has a thin atmosphere and small amounts of water, which are necessary for life. They have also researched the possibility of life on some of the moons of Jupiter, which share some of the traits of Earth and Mars. However, in our own solar system no signs of life have yet been found.

With the extreme size and scope of the universe, that is likely to change. It may also change sooner than we think. According to astronomers, or scientists who study space, it is very likely that we will discover life somewhere in space within the next twenty years. To do so, special telescopes are being developed. These telescopes will look for planets that are the same size and shape of Earth. Then, astronomers will examine these planets. Astronomers will study the amount of light the planets get from their stars. In order for life to exist, there must be sunlight, water, and just the right amount of heat.

Astronomers will also find out what types of atmosphere they have. If the air on these planets is made of poisonous gases, it is unlikely that living things will be able to breathe. Life on a planet is likely if certain gases are found. These include oxygen, nitrous oxide, and methane. When animals, plants, and even microscopic creatures breathe, they create gases such as these. The search for extraterrestrial life would take a great step if such a planet were found.

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In 2014, scientists made an exciting discovery in the search for planets that might harbor life. Their telescopes found a new solar system very far away. This solar system has five planets that orbit its star. One of them, which the scientists have named Kepler-186f, is the same size as Earth. It is also the same distance from its star as Earth is from the Sun. Much research will need to be done to determine if life exists on Kepler-186f. But if we are not alone in the universe, its discovery is a big step to finding whom we share it with.

Blume, J.P. (2015). We are not alone. *Modern Technology*. Retrieved from <http://moderntechology.org/wearenotalone>

Source 3

This article in *The Evergreen Telegraph*, written by a reporter for the magazine, was published on November 1, 2014. It argues in favor of space exploration and colonization.

Let's Go to Space!

By: Nathaniel Silverman

Our planet is in trouble. There are too many people and not enough resources for us all. It is estimated that even if we recycle all of our trash, we will not have enough resources to last another 40 years. There is one solution. That is colonizing other parts of the universe.

Limited resources are not the only reason why we must seek other planets as homes. We are naturally curious. We have been given a huge universe to explore. Yet, we have done very little to explore it. Eventually, we have to leave home. Like a baby who is growing up, we cannot remain in the cradle forever.

Our planet is wonderful. It has been the home of all humankind for millions of years. But who is to say that there are not better worlds out there? There may be a greener planet, with fresher air, cleaner water, and more plants and animals to learn about.

It is true that we have not yet found a planet that can support human life. For that reason, we need to try harder. We need to expand our space program. We also need to find ways to adapt to other conditions that we might meet in other parts of the universe. What if we find a planet that is perfect in most ways but that happens to have poor soil that we cannot use to plant crops? If this happens, we need to be ready. A solution to such a problem must already be formed.

I will agree, however, that it is important that while seeking solutions to planetary exploration we also work on our own issues here on Earth. One argument that some people make against space colonization is that we have ruined our own planet. It is definitely true that we have hurt our planet in many ways. We have polluted the environment and caused other species to become extinct. Before we go out into the universe and explore other planets, we must do what we can to fix our own. In addition, we must make sure that we have a plan in place so that we do not make the same mistakes in other worlds. The universe is a magnificent place. We only need to reach out and discover it for ourselves.

Silverman, N. (2014). Let's go to space! *The Evergreen Telegraph*. Retrieved from <http://evergreentelegraph.com/let'sgotospace>

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Research Questions

Using the information you have just read from the three articles, answer the questions below.

- 1. Source 1 includes information about what a planet needs for life to exist there. Explain how this information would be helpful if it were added to Source 2. Include *two* details from Source 1 that would support the information in Source 2.**

- 2. Which source would *most likely* be the most helpful in understanding how life on other planets might be located? Explain why this source is *most likely* the most helpful. Give at least *two* details from the source to support your answer.**

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3. Select the boxes to match each source with the idea or ideas that it supports. Some ideas may have more than one source selected.

	Source 1: Why Can't We Move Somewhere Else?	Source 2: We Are Not Alone	Source 3: Let's Go to Space!
Useful resources may be found on other planets as well as Earth.			
The air surrounding a planet is very important to life.			
We have the technology to explore the universe in ways never done before.			

END OF PART 1

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PART 2

Directions:

You will now review your notes and sources and plan, draft, edit, and revise your writing. You may use your notes and refer to the sources. Now read your assignment and the information about how your writing will be scored, then begin your work.

Your Assignment:

After completing your research, you share your findings with your teacher. The teacher suggests that you write your story using the sources you have located to make your short story's setting more realistic and factual.

Today, to prepare for the contest, you will write a multi-paragraph story about your first day on a new planet in a far-away galaxy. On your first day on this new planet, you will meet an alien and see where her or she lives. You will also get to experience what they do on a daily basis.

After you have brainstormed for your story, begin writing your story. Your story should be several paragraphs long.

Remember:

A well-written story:

- has a clear plot and clear order of events
- is well organized
- uses details from the sources to support your story
- uses clear language
- follows rules of writing (spelling, punctuation, and grammar)

You may begin working on your story. Make sure that you manage your time so that you can plan your story, write your story, and revise and edit the final draft.

For part 2, you are being asked to write a multi-paragraph story, so be as thorough as possible.

Remember to check your notes and your prewriting/planning as you write and then revise and edit your story.