

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## The Pale Blue Dot



The pale blue dot.

The Voyager 1 spacecraft was launched in 1977 with the mission to photograph Jupiter and Saturn. By February 1990 Voyager I had completed its original mission and was more than 6 billion kilometers (4 billion miles) from Earth, on its way out of our solar system. Before leaving the planets of our solar system and the Sun behind, scientists sent instructions to Voyager to turn around for one last photo opportunity, a “family portrait” of our solar system. This image is the photo Voyager 1 took of Earth. In the image, Earth looks like a tiny point of light, like a distant star.

In 2012, Voyager 1 became the first spacecraft from Earth to leave our solar system. Knowing that Voyager 1 would be moving fast enough to escape the Sun's gravity forces, scientists decided to include a message should the spacecraft ever be found by intelligent life-forms from other planetary systems exploring the Milky Way. The spacecraft carries a golden record with photos of Earth and its life-forms, a range of scientific information, spoken greetings from people around the world, and the sounds of whales, a baby crying, waves breaking on a shore, and a collection of music.



1. What would you include in a message to other intelligent life-forms?

The astronomer Carl Sagan was so inspired by the Pale Blue Dot photo that he wrote a book called *Pale Blue Dot: A Vision of the Human Future in Space*. This is an excerpt from that book.

Look again at that dot. That's here. That's home. That's us. On it everyone you love, everyone you know, everyone you ever heard of, every human being who ever was, lived out their lives. The aggregate of our joy and suffering, thousands of confident religions, ideologies, and economic doctrines, every hunter and forager, every hero and coward, every creator and destroyer of civilization, every king and peasant, every young couple in love, every mother and father, hopeful child, inventor and explorer, every teacher of morals, every corrupt politician, every "superstar," every "supreme leader," every saint and sinner in the history of our species lived there--on a mote of dust suspended in a sunbeam.

The Earth is a very small stage in a vast cosmic arena. Think of the rivers of blood spilled by all those generals and emperors so that, in glory and triumph, they could become the momentary masters of a fraction of a dot. Think of the endless cruelties visited by the inhabitants of one corner of this pixel on the scarcely distinguishable inhabitants of some other corner, how frequent their misunderstandings, how eager they are to kill one another, how fervent their hatreds.

Our posturings, our imagined self-importance, the delusion that we have some privileged position in the Universe, are challenged by this point of pale light. Our planet is a lonely speck in the great enveloping cosmic dark. In our obscurity, in all this vastness, there is no hint that help will come from elsewhere to save us from ourselves.

The Earth is the only world known so far to harbor life. There is nowhere else, at least in the near future, to which our species could migrate. Visit, yes. Settle, not yet. Like it or not, for the moment the Earth is where we make our stand.

It has been said that astronomy is a humbling and character-building experience. There is perhaps no better demonstration of the folly of human conceits than this distant image of our tiny world. To me, it underscores our responsibility to deal more kindly with one another, and to preserve and cherish the pale blue dot, the only home we've ever known.

-- Carl Sagan, *Pale Blue Dot*, 1994

2. Carl Sagan wrote that the Pale Blue Dot photo “underscores our responsibility to deal more kindly with one another, and to preserve and cherish the pale blue dot, the only home we’ve ever known.” What do you think he means by this? Do you agree or disagree with this sentiment?
3. Think back to Lesson 1 when we learned about the connection between patterns in the sky and rhythms of life on Earth across time, space, and culture. How have your ideas about this connection changed over this unit, and why?