

Name \_\_\_\_\_

## We Know Where You Live - Student Worksheet

*Aliens, they know where you live, or do they?*

Many students, but not all, will have written their Universal address inside a diary, notebook or school bag. Complete yours below.

Name \_\_\_\_\_

Room \_\_\_\_\_

School \_\_\_\_\_

Suburb or Town \_\_\_\_\_

State \_\_\_\_\_

Country \_\_\_\_\_

Hemisphere \_\_\_\_\_

Planet \_\_\_\_\_

Star System \_\_\_\_\_

Galaxy \_\_\_\_\_

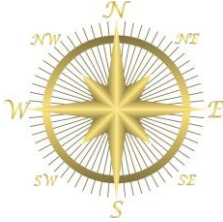
Location in galaxy \_\_\_\_\_



Name \_\_\_\_\_

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Most of the information contained in your Universal address could only be understood by someone who spoke your language and was familiar with Earth and its conventions.



Once you have left Earth can you still use terms such as "North or South" for directions? Can we use the points of the compass and a compass itself to find our way on other planets or the Sun?

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How can astronauts accurately plot their location and trajectory in space beyond the Solar System?

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So far no astronauts have gone far enough out into space to need to find their location by using known stars. However unmanned spacecraft such as Voyager 1 & 2 have travelled close to other planets using star locations

How could we communicate with another form of Life?

In 1974, the American astronomer Carl Sagan and others beamed a radio message from Arecibo in Puerto Rico to a star cluster 25,000 light years away.

1 light year = 63239.7Au or 9,461,000,000,000km.

Radio waves travel at the speed of light

At this time there were no personal computers, microwave cookers, mobile phones and Wi-Fi. The pictorial "Arecibo" message included:

- Our position in our solar system.
- Basic principles we use in mathematics and in science.
- A picture of NASA's radio antenna.
- Pictures of human body shapes and a structure of our DNA.

How might life on the Star cluster know where the message came from?

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Name \_\_\_\_\_

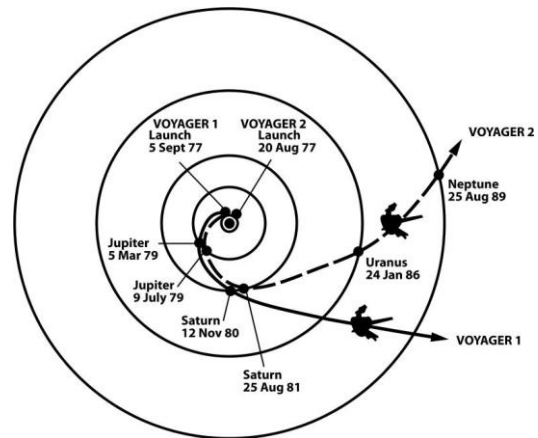
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Why do you think the message was described as a time capsule from Earth?

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Space probes Voyager 1 & 2 were launched in 1977 and had gold plated phonogram records (similar to early vinyl phonogram records) which contained sounds, music and images of not only humans but of other species and of Earth's geography. These are still travelling outwards.



Since the search for exo-planets (planets in other solar systems) began, we now know that there are many exo-planets, some of which may be hospitable to life. In early 2017, NASA announced that its Spitzer Telescope had discovered a sun they called Trappist-1, which is orbited by seven planets. It lies about 39.5 light years away in the constellation of Aquarius in our own Milky Way Galaxy. Three of its rocky planets are in Earth-like orbits. We may not be alone!



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Form groups of two or three. Take five minutes to write down your opinion on the following question.

What would be the advantages and disadvantages of alerting an alien planet to life on Earth.

Advantages	Disadvantages

