

## The Importance of Space Exploration

### A Question to Consider

1 Is space exploration really worthwhile when so much needs to be done on Earth? This is a  
2 question that has been asked for decades and requires serious thought.

### Arguments Against Space Exploration

3 The arguments against space exploration stem from a belief that the money spent could be used  
4 differently – to improve people’s lives. In 1953, President Eisenhower captured this viewpoint.  
5 He opposed the space program, saying that each rocket fired was a theft from citizens who suffer  
6 from hunger and poverty. Indeed, over 46.2 million Americans (15%) live in Poverty. Nearly  
7 half of all Americans also have trouble paying for basic needs such as housing, food, or medicine  
8 at some point in their lives.

9 In other countries people are dying because they do not have access to clean water, medical care  
10 or simple solutions that prevent the spread of diseases. For example, malaria, a disease spread by  
11 mosquito bites kills over 3,000 African children every day. This could be prevented simply by  
12 hanging large nets over children’s beds. This would protect people from being bitten as they  
13 sleep. These nets cost only \$5 each, but most families at risk for malaria cannot afford them.

14 It is not just people that need help. The Earth is suffering also. Many scientists believe that  
15 pollution from burning fossil fuels (gasoline and oil) is destroying our air and oceans. We need  
16 new, cleaner forms of energy to power cars, homes, and factories. A program to develop clean  
17 energy could be viewed as a worthy investment. Maybe exploring space should not be a priority  
18 when there is so much that needs to be done on Earth. In 2012, the United States spent 19  
19 billion dollars for space exploration. Some people think that money should be spent to help  
20 heal the people and the Earth.

**investment**  
money spent in  
hopes of more  
gain in the  
future

### Benefits of Space Exploration

21 Those in favor of space exploration argue that 19 billion dollars is not too much. Nineteen billion  
22 was only 1.2% of the total national budget. This is a tiny amount compared to the 670 billion  
23 spent that year on national defense (26.3% of the national budget). It is even less than the 70  
24 billion the federal government spent on education (48% of the budget).

**NASA**  
the U.S.  
organization in  
charge of the  
space program

25 Another reason to spend money on space exploration is that it has led to benefits in many fields.  
26 One such field is medicine. Before NASA could send astronauts into space, scientists needed to  
27 find ways to monitor their health under stressful conditions. NASA wanted to make sure the  
28 astronauts could survive the harsh conditions of launch and reentry. The scientists developed  
29 medical instruments to monitor body functions. They also learned a lot about how the human  
30 body reacts to stress. In rising to meet the challenges of space exploration, NASA scientists have  
31 developed other innovations that improve our lives. These include better exercise machines and  
32 airplanes, and more accurate weather forecasting. All of these innovations resulted from  
33 technologies that engineers developed to make space travel possible.

**innovations**  
new ideas or  
products

**monitor**  
watch, check

34 Even the problems of hunger and poverty can be tackled by space exploration. Satellites that  
35 circle Earth can monitor land and the atmosphere. They can track and measure the conditions of  
36 crops, soil, and rainfall. We can use this information to improve the way we produce and  
37 distribute food. This will enable us to provide more food at a lower price to people who need it.  
38 When we explore space, we are also helping to solve serious problems on Earth.  
39

40 Beyond providing us with inventions, space exploration is important for the challenge it provides  
41 and the motivation to bring out the best in ourselves. Often we make progress in solving difficult  
42 problems by first setting challenging goals, which inspire innovative work. Space exploration is  
43 important because it can motivate beneficial competition among nations. Imagine how much  
44 human suffering can be avoided if nations competed with planet-exploring spaceships instead of  
45 bomb-dropping airplanes. We saw an example of this during the 1960s. During the Cold War, the  
46 United States and Russia competed in a race to explore space. They each wanted to be the first to  
47 land a spacecraft on the moon and visit other planets. The National Academy of Science says that  
48 this competition led to significant investments and improvements in American education,  
49 especially in math and science. This shows that by looking outward into space, we also improve  
50 life here on Earth.

### Returning to the Question

51 All this brings us back to the question: Should we explore space when there is so much that  
52 needs to be done on Earth? It is true that we have many serious problems to deal with on Earth.  
53 However, space exploration is not at odds with solving human problems. In fact, it may even  
54 help find solutions. Space exploration leads to long-term benefits that more than justify the  
55 immediate cost.

**not at odds with**  
does not go  
against

**justify**  
prove to be a  
good reason for

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### Writing Prompt

Consider the reasons given in the article for why we should and should not fund space exploration. Did the author convince you that “space exploration leads to long-term benefits” that justify the cost? Give reasons for your answer. Support your reasons with 3-4 pieces of evidence from the text.<sup>1</sup>

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<sup>1</sup> This text draws from the following sources:

[http://www.nasa.gov/missions/solarsystem/Why\\_We\\_01pt1.html](http://www.nasa.gov/missions/solarsystem/Why_We_01pt1.html)

<http://www.lettersofnote.com/2012/08/why-explore-space.html>

<http://lightyears.blogs.cnn.com/2012/10/20/exploring-space-whys-it-so-important/>

[http://malaria.jhsph.edu/about\\_malaria/](http://malaria.jhsph.edu/about_malaria/)