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When and where are they going?

Would you like to travel into outer space or even go the moon? Many people dream of space travel, but you can't just fly there in a jet plane. Jet engines work by using oxygen from the air to burn their fuel. And of course there is little or no oxygen in space depending on where you're headed. Fuel cannot burn without oxygen. The only kind of engine that will work in space is called a rocket engine. This is because it carries its own oxygen supply. This is also where the National Aeronautics and Space Administration better known as NASA come into play. I bet you were thinking to yourself, " Yes!" I would love to go into space, but I bet you don't know all the time, effort, and money that are put toward just one mission. In the precious time you get through reading this paper you will know about NASA and from then and after you will know and be well informed!

NASA was founded in 1958 by the Aeronautics and Space Act (NASA) in response to two things: First the Russians launched Sputnik, showing that they had the technology to launch the heavy nuclear weapons of the time on rockets, while humiliating the competing U. S. Army and Navy rocketry labs. Second the competition between Army and Navy, while in the best tradition of Sports, was resulting in duplication of effort. Congress set up NASA to oversee and coordinate American non-military space research. It was fortunate to inherit over a decade of research by the Rocket and Satellite Research Panel and important contributions of the International Geophysical Year. Because of all the vital data that had had been compiled NASA was off to a flying start.

Many people wonder why NASA is needed. But many people really don't know how NASA helps mankind. It was hoped by geologists back on Earth that the explorations of the moon would give some hint of the origin of both the moon and the Earth. NASA is working and has done many things to help man. As of right now NASA is studying the character from the movie "Rain Man's" brain.

NASA scientists are studying autistic savant Kim Peek, hoping that technology used to study the effects of space travel on the brain will help explain his mental capabilities. He has undergone a series of tests including computerized tomography and magnetic resonance imaging, the results of which will be melded to create a three-dimensional look at his brain structure. He came to the attention of NASA researchers at the Center for Bioinformatics Space Life Sciences at the NASA-AMES Research Center when he spoke in late October at a Rotary Club in central California. NASA also helps to take the Earth's vital signs and become a major force in the campaign to save the planet. Major help in studying the earth's environment is expected to emerge from a project being planned by the National Aeronautics and Space Administration. Called Mission to Planet Earth, the program would consist of a series of satellite flights designed to monitor the earth with sensitive instruments that measure such vital signs as temperature, winds and atmospheric chemistry. Mission to Planet Earth would go a long way toward answering critics who have insisted that the U. S. space program has for years had no clear mission.

Did you know that when the Solar System is explored there aren't live men aboard? Exploration of the moon was but one phase of NASA's space

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program. Equally ambitious was a series of unmanned spacecraft designed to explore the planets which orbit the sun. Among the earliest was the Mariner program, in which a series of instrument-laden craft were launched to fly by, photograph, record and transmit as much data back to Earth as the equipment would allow. Mariner 9 was the first to achieve an orbit of the planet Mars. Mariner 9 was launched on 30 May 1971 at a time when Earth and Mars were in the closest proximity to each other since 1924. Carrying barely 150 pounds of scientific instruments and looking like a stone ashtray windmill, the blue winged satellite was successful. During its first year of operation, Mariner 9 sent back over 50 billion bits of information via radio signals.

These signals were picked by a huge radio telescope at Goldstone in the Mojave Desert of California. Here they were reconstructed as vital information on Mars. Mariner 9 was able to photo snap the entire surface of the planet, probe its atmosphere, record its temperature, and determine its chemical make-up. During that first year, Mariner sent back signals which were translated into more than 7300 photographs. Never before had Mankind seen such a close view of the ‘Red Planet’. Earlier in 1965 and 1969 people had suggested that Mars was dead planet but all of these earlier conclusions were disapproved by the information sent by the Mariner 9. These small unmanned spacecraft offered much information to science. Mariner 10 gave the first close-up view of Venus and Mercury.

The little spacecraft, which looked like a louvered pillbox equipped with radiating arms, solar panels and a ‘parasol’ sunshade, had a number of problems. But despite all that it reached its target with an error of only 104

miles in a flight path of 250 million miles. It nevertheless performed without a flaw. Mercury, as the planet nearest the sun and hardly larger than the Earth's, moon, had always been especially difficult to view. Venus was almost obscure, due to the heavy cloud cover. For years, astronomers had thought of Venus as the Earth's twin since the two planets resemble each other so closely in size, mass and density. But Mariner's resolved this notion.

President Kennedy was the first to make the statement of the fact to "Fly man to the Moon in this decade". Speaking to Congress and the Nation, President Kennedy said on May 25, 1961: "I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely to Earth. No single space project in the period was more impressive to mankind or more important in the long-range exploration of space; and none will be so difficult or expensive to accomplish. Neil Armstrong and Edwin "buzz" Aldrin are the founding members of one of the world's most exclusive clubs. They were the first men ever to set foot on the Moon on 21 July 1969, and only another 10 followed them over the course of the next three-and-a-half years. Many people feel different about NASA, most can even remember where they were and what they were doing at the special moment for Neil and Buzz. Colin Mackaller, from Sydney, Australia says he was 12 years old and in Australia, and the moon walk happened at lunchtime.

He had the privilege of seeing the better pictures than that of which the rest of the world was seeing. Australian TV audiences saw these pictures from Honeysuckle Creek tracking station and not those from TV via Houston. Peter Webb from the UK said that he was in Karlsruhe, Germany on a school

exchange trip. There was much excitement about the landing and I was invited to sit with the family and all of their neighbors and friends who had come around to watch the event on their television. All of these worries and tempered the excitement of seeing the event, live, on the flickering television screen. “ An awesome event that I will never forget”. The feeling has seemed to have changed over the years, maybe because lack of the newness of NASA, or for other reasons. Now that the US space agency has announced plans to send crews of four astronauts to the Moon for one- week stay by 2020 onboard the Crew Exploration Vehicle.

Many other people have different options on NASA not quite like that of seeing NASA for the first time go to the moon. Mike from New York believes that the Bush administration continues to abuse and use governmental agencies that once had an actual purpose for short-term political stunts. “ We’ve been to the Moon before, and there was essentially nothing there. I’m all for Moon-mapping satellites and unmanned expeditions, but it’s far past time to retire the shuttle, let the space station fall into the sea, and get down to some scientific business rather than the too expensive and scientifically dubious manned missions. On the other hand, Greg Toronto from Canada said that he thought that it was an excellent idea to go back to the Moon and create a more permanent presence. I think this should be coupled with real efforts to develop and deploy the Space Elevator to reduce transit costs, and to ensure a sustainable space strategy.

Lucy Boyce from Pennsylvania said that he thinks it’s a waste of money in a country with poor families who are homeless and struggling after recent natural disasters. He thinks that the USA should put the pork spending on <https://assignbuster.com/research-paper-on-nasa-essay-sample/>

hold and share the wealth with the least of her citizens. He believes that charity begins at home; the moon's not going anywhere. And that there will be time for that later. Joel Yonkers from somewhere in the United States said that they should be thinking of how to fix the federal deficit, social security, and Medicare, instead of doing missions in the moon. Robert from Ft. Lauderdale feels different from the most people this decade saying that " its about time, there are so many skeptics that feel it was all a hoax back in 1969.

Let's show those idiots that we're the only country to put man on the moon. Geoff Lane from Bury feels that 100 billion is just a \$1 a day per US citizen for a year. Seems like a bargain to him. " You get a lot of research and technology for your money plus a great view when you get there." As far as my opinion goes I would rather see manned NASA missions be put on the back burner, and lower gas prices and try raising minimum wage for a good change.

The thing that is complained about the most about NASA is the cost. Of course all the engineers, rocket scientists, astronauts, and the NASA afflicted people have to make their money but I'm talking about how much money it really cost to send a man to the moon. But let's really put NASA's budget in perspective. The federal government spent about 14 billion dollars on NASA in the year of 1999. That is a lot of money, but what does that really mean? For an abundance of people it is merely an abstract concept. For example in 1999 the total expenditures were 1, 699, 217 million approximately 1. 7 trillion. NASA's budget of 14 billion is then only about 0. 8% of the total expenditures during 1999. In fact since 1975 NASA's budget has only varied

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between 0.7% and 1.0% of total expenditures. Many people might not know that Microsoft's corporate revenues in 1998 were roughly the same as NASA's budget that year. NASA's budget is roughly the same size as the budgets of Alabama, Connecticut, Kentucky, Louisiana, Missouri, and Tennessee.

The federal government spends over 30 times as much money on Social Security as it does on NASA. The average American all together spent over 19 times as much at restaurants in 1997 as the federal government in 1999.

NASA was also compared to other federal government expenditures.

Congress spent 2,621 million, Judiciary branch spent 3,793 million, the Executive branch spent 416 million, International Assistance Programs spent 10,059 million making their ratio to nation $\frac{3}{4}$. Agriculture including food stamps spent 62,885 million dollars. Food Stamps alone spent 19,051 million dollars. Commerce spent 5,036 million dollars. Education spent 33,521 million dollars. Transportation spent 41,819 million dollars, and this is just to name a few. So if you compare NASA to other expenditures of the US then the budget of NASA doesn't look so bad after all, for the job that NASA does for mankind.

Is your dream job to be a Rocket Scientist? Well if it is you should pay close attention. Becoming a rocket scientist is the ultimate thrill for the mathematically and scientifically inclined, but getting there requires enormous focus application. If you listen to a rocket scientist talk about work is impressive, but tough for the scientifically challenged. It's not unlike having a conversation in a foreign language, you barely know. Rocket Science used to be preserved for white males, but recent enrollment of

woman and minorities in the MIT aeronautics astronautics program has shown steep increases. The rewards of the career are great. It is something everyone can immediately respond to. You can definitely make a difference becoming a Rocket Science. The day- to- day business of aeronautics and astronautics can involve a lot of drudge work. Including testing components, assemblies and so on.

The stress factor can be severe, especially where the rubber meets the road. Rocket Science is relatively underpaid. Entry-level salaries start around 40, 000, and many new recruits have at least a master's degree and often take time out for a doctorate. Salaries rise as you go up in the ranks but stabilize around the 125, 000 mark. But is more like becoming a teacher, it is not about the money, although it is a factor, is more about helping people. This field attracts true believers, people with serious, long term scientific objectives. It's all about the intellectual allure of solving really hard problems. And hopefully, seeing what you've worked so hard on actually fly and come back home safely. Rocket scientists are the people who put assemble the rocket. But who are the people are actually in them? The answer that question would be astronauts. Congratulations! You have been chosen to fly with the astronauts on a shuttle mission next year. Imagine that is what said to you. What would you do? You and your fellow astronauts would start training for your mission a year or more before you take off. Sometimes, you would train tighter, and sometimes separately.

To find out what the feeling of weightlessness is like, you fly in an aircraft, which climbs and dives suddenly. For a few seconds you float in the air exactly as you will in space. You might also train for weightlessness in a <https://assignbuster.com/research-paper-on-nasa-essay-sample/>

water tank. Here you would wear a suit like a simulator. This is a dummy space craft, which looks like a real space craft inside. Here you wear a suit like a spacesuit. It is weighed so that you neither sink nor rise. You will experience G-force. Through the windows of the simulator you see a view of the earth from space. The windows are actually video screens. The simulator is rather like playing a complicated video game. There is a great difference between a manned spacecraft and a satellite. A manned spacecraft must be able to carry human beings safely back to earth. To keep the crew alive, a manned spacecraft has a life-support system. This provides the astronauts with air, food, and water. It allows for breathing, eating, drinking, and elimination of body wastes, sleeping, exercises, and recreation-all in temperature-controlled environment. The job of a Rocket Scientist and an Astronaut is truly different.

NASA has not had a perfect nor clean slate. Many mishaps have happened in space. Just to name one the Space shuttle Challenger.

It was to be a glorious day for Christa McAuliffe. She and her six crewmates walked across a narrow bridge toward the hatch of the space shuttle Challenger. She was about to live the dream of going into space. One of the technicians at the hatch had a gift for McAuliffe. His name was Johnny Corelew. When he was a boy he often picked apples to give to his teachers at school. He would not miss the chance to give an apple to his teacher. The National Aeronautics and Space Administration as the first teacher in space had chosen Christa McAuliffe. The Teacher in Space program was invented by President Ronald Reagan to help boost interest in the space program. It was working. School children around the country were watching the

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countdown on the television. McAuliffe was ready to become the first private citizen ever to fly in space. Wearing her blue NASA flight suit, McAuliffe stepped toward the hatch. Corlew gave her the apple.

The teacher from Concord, New Hampshire, gave him a smile and said, “ Save it for me,” and “ I’ll eat it when I get back.” Never knowing she would never see that apple again. Commander Dick Scobee, Pilot Mike Smith, Mission Specialists Ron McNair, Ellison S. Onizuka, and Judith A. Resnik, and Payload Specialist Gregory B. Jarvis would also not return. The mission was doomed from the beginning. A dangerous design flaw in the solid rocket boosters had shown signs of trouble before. Now, on the morning of January 28, 1986, the temperature at Cape Canaveral was around 32 degrees. Icicles a foot long hung from parts of the launch pad. It was the coldest launch day ever. Too cold for a safe launch. NASA decided to launch anyway. The upper management at NASA was not aware that the cold temperatures would cause the design flaw in the solid rocket boosters to trigger a fatal explosion.

By the time Challenger lifted off the pad at 11: 38 a. m. It was a ticking time bomb. The Challenger was now Supersonic. It continued to climb toward space and the orbital speed of 17, 500 miles per hour. Only one minute into launch, the shuttle was more than 30, 000 feet high and was going one and a half times the speed of sound. Thirty-five thousand. Going through 1. 5, “ Smith said. Three second later, the unthinkable happened. “ Uh oh,” Smith said. The Challenger suddenly exploded in a blaze of flame, smoke, and debris. The two solid rocket boosters soared away uncontrollably to either side of the cloud. The spectators watching the launch were not sure what they had just seen. The orbiter did not emerge from the cloud. The column of

smoke was no longer going higher. For thirty seconds the loud speakers were silent. Finally the public address system announcer continued. His calm voice only added to the unreal feeling of what seem to have happened. “ Flight controllers are looking very carefully at the situation. Obviously a major malfunction has happened. We have no downlink.” This meant there was no communication between Mission Control and the shuttle.

“ We have a report from the flight dynamics officer that the vehicle has exploded. The flight director confirms that. We are waiting for word of any recovery forces in the down-range field.” It seemed unreal. But it was true. The Challenger had exploded. The worst disaster in American space program had just taken place. And because Christa McAuliffe was aboard, it had happened before the eyes of schoolchildren around the country. The crew of the Challenger was gone. The loss of the shuttle and its crew was truly a national tragedy. As time passed, however the story of how the crash happened began to change. The cause of the explosion was discovered in the weeks and months that followed. It became clear that the tragedy could have been avoided. The explosion of the Challenger should never have happened. The shuttle program was headed for disaster long before the morning of January 28, 1986. Some administrators at NASA were under political pressure to speed up the shuttle’s launch schedule. Christa McAuliffe became an unfortunate victim of all that was wrong with NASA.

With all that had happened in the past years the future of NASA is looking really shady. One problem is that NASA is facing a rush of retirees. A pipeline once filled with American science and engineering graduates is shrinking. Students no longer see the aerospace industry as a choice career path.

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Higher-paying private sector jobs are alluring, and interest in federal service is declining. Together, those factors raise serious questions about NASA's ability to recruit and retain a new generation of scientists, engineers and technologists needed to send astronauts back to the moon by 2025 and then on to Mars years after that. Nearly 40 percent of the 18, 146 people at NASA are age 50 or older. Those with 20 years government now are eligible for retirement. Twenty-two percent of NASA workers are age 55 or older. Those with 30 years of service are eligible for retirement benefits.

The NASA employees over 60 outnumber those under 30. There is a proposed list of the remaining space shuttle launches until 2010. The Atlantis and Discovery being the two main shuttles listed. The Boss of NASA Sean O'Keefe is the big gun picked by President Bush to show that NASA counts. He wants to cut costs, but his goal is returning NASA to its heyday, thinking way beyond the next generation of Jimmy Neutron tech, not just driving space ships. The focus will be on developing new aeronautics; space based spying, medicines, and propulsion systems. The objective is to reinstall what made this place great along the way get the management under control. So if you were looking forward to Hover cars to be flown by people by 2010, it's not going to happen. Maybe by 2050 though!

Thesis and Outline

Thesis: NASA first originated in 1958 and that was then, it is now 2005 which is now. The future of space travel will include many new and exciting things for the world to be amazed by.

I. What is NASA?

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a. Where did it originate

b. How does NASA help mankind?

II. When the solar system is explored is there always men aboard?

a. What's the Mariner 9?

b. What's the Mariner 10?

III. How do you feel about NASA?

a. How much money is spent on NASA missions?

b. What do Rocket Scientists do?

IV. What happened to Challenger?

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