PEN NAME: VERONA

CLASS: B

TITLE: Space exploration is a waste of money and effort

Space exploration, since humans began we have looked to the stars, be it Wan Hu from China creating elaborate attempts at sending a human to space on what was essentially a scaled up firework, or the many space telescopes we have made each striving to be better than the last, we have always dreamed of making it and in 1961 we did, launching Yuri Gagarin to space. However, space exploration is expensive and directs the work of the planet's greatest minds towards otherworldly quests. Thus, the issue must be raised, is it even worth it?

'No, it's not worth it,' is what some people believe. There has been little development since the early 2000s. In 1969 we landed on the moon - "great achievement for humanity, surely we'll reach mars by the end of the century" – it has been 56 years since then and we have little to show for it, sure we have the ISS but it was planned to be decommissioned by 2030 – 5 years away! - and a replacement isn't even in production. We thought the shuttle program was a breakthrough but after far too many incidents and an unimaginable amount of money spent it was ended and were back where we started using traditional Russian rockets. We have not been to the moon in years, and while a program is expected to land a human crew on the moon in 2025, it was also planned to do that last year and the year before that. We sink Billions of Pounds into space exploration and what do we have to show for it? An old space station and a rocket that will not launch.

Hold on though, more has happened than you might think. Sure the ISS was meant to be sent back to earth in a ball of fire in 2031 but that was the original date set in the 90s, it is a great achievement that it has lasted this long, and that it's in fine physical condition, worst case scenario we can send replacement modules in the event of failure, this is the single most expensive thing humans have ever produced, letting it drop to earth would be the waste of money. The shuttle program did fail but we learnt plenty from it, especially about heat reflection technology and operating temperatures. It also prompted the rise of personal space projects such as 'Space X' and Jeff Bezos' 'Blue Origin.' In addition, since then we have landed rovers on the surface of Mars, this is a major step in understanding the hospitability of the planet and shows us that our rockets are capable of the trip, which is a particularly crucial step if we are to put humans on the planet.

But what does it do for us, we spend incredible amounts of money on projects that doesn't affect the average person, the rockets are destroyed in re-entry and even the ones that do make it back are hit or miss, we spend money on objects that serve no purpose to humanity when we could spend it on feeding the poor or re-building war torn countries. It is just another project for Billionaires to spend their money on as an excuse to not spend it on the impoverished.

While criticism of the private companies is fair, it is not right to criticize public operations such as NASA, they already receive the scraps of the money and it is not their job to give it to the poor, there are other organizations that should. As well as this, space exploration drives forward technologies we use today to help people such as GPS, memory foam, water filters and artificial limbs. The space program affects this in more ways than we see, even mentally, the space program is perfect for raising the morale of the people. In 1969 during the depths of the cold war, amid fear of mutual destruction, millions of people sat down to watch Neil Armstrong and Buzz Aldrin step foot on the moon, giving even those living in the greatest of fear something to be proud of.

We must however remember that we are polluting, not only our own planet but our galaxy when we launch to space, emitting an estimated 250 tonnes of CO_2 per launch, that is not even considering the pollution from leaving parts of the rocket circling the planet. It is estimated that there could be up to 9000 metric tonnes of debris in orbit of our planet, some of it is easy to clean up as it is large and could simply be collected and brought back to earth. However much of the space debris is the size of a tennis ball or smaller, the only solution for debris this size is to wait for it to fall back to earth and hope that it will burn up upon re-entry and not cause harm to the earths already delicate ecosystems. We are in a fight to keep our planet habitable, and the immense amount of damage caused by space exploration to our own planet is not sustainable.

It is right that our planet is in great danger, our species too, but putting blame on space exploration does not help our situation. In fact, space exploration could become a valuable tool in the saving of our planet. The cheapest ways of creating power and goods cause great harm to our planet, if only there was always a lifeless rock floating around us. Oh wait, there is, if we so desperately need the use of oil, gas, coal, and nuclear energy to have enough energy in the future then why not place theses harmful stations on a celestial body that could come to no harm from them such as our very own moon. This is the aim of Blue Origin, to move polluting systems away from the earth to save it. On the other hand, when reaching the issue of space debris there are steps being made in reducing the materials left in space. For example, Space X is making great strides in returning early-stage rocket boosters to earth in a way they can be reused. This not only reduces the damage to earths ecosystems by changing the boosters form landing in the middle of the ocean to be collected at some point to returning them directly to the organisation that constructs them, but it also encourages manufacturers to design rockets that shed less debris when being used as this will mean they can spend less time and money refurbishing their recaptured boosters.

In conclusion, space exploration does cost a lot of time and money, and yet humans love it anyway. It has always been embedded deeply in humans, the desire to explore, whether it be attempting to find the source of the river Nile or exploring the earths great poles. Space exploration is just the next thing in a list we have worked through for centuries. Humans are too obsessed with knowing more, having more, seeing more, that efforts to stop space exploration are in vain. Most importantly we make changes, we take the constructive criticism and ensure whatever we do is done in the best way possible. In the end this is and has always been humanity, we love excitement, and space is exciting!