

MOCRISIS 2026

The Second Space Race

The Asteroid Belt

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Background Guide

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Equity Letter

This committee acknowledges that topics discussed may involve unethical or controversial issues, including issues about or similar to colonialism, war and other political issues. Due to the nature of this committee, parallels to colonialism are used solely to provide context about the nature and tensions of this committee, and this committee in no way supports or attempts to minimize the effects of colonialism. As such, delegates should refrain from discussing these topics in committee. If necessary, some flexibility will be allowed for discussing sensitive topics in context, however they should be discussed respectfully and carefully.

MOMUN 2026 has a zero-tolerance policy for equity violations within or outside of the committee. We acknowledge that this committee may touch on controversial issues; however, we implore delegates to maintain a high degree of respect and decorum. As a reminder, instances of racism, sexism, homophobia, transphobia, xenophobia, ableism, or any other form of discrimination will not be tolerated and may lead to disqualification from awards or removal from MOMUN 2026, depending on the severity.

We strongly encourage delegates to refrain from controversial topics, past and present. For clarity, please email or speak to any staff member of this committee. We kindly ask all delegates to approach sensitive issues with the utmost respect and understanding toward others. Moreover, a basic level of respect and order is expected when interacting with other delegates, pages, staff, faculty facilitators, and all MOCRISIS personnel who make this conference possible.

Director's Letter

Dear Delegates,

Welcome to MOCRISIS 2026, my name is Ben Krakauer, I am a grade 12 IB student at Monarch Park Collegiate, and I'll be your committee head for this committee. This will be my second time directing a committee, and as of MOCRISIS, it will be my fifth time staffing a conference. I have been in many different committees over the past two years, but some of my favourite committees have always been conceptuals. This is the second conceptual committee I have directed, and I hope it to be even better than my first. My favourite part about conceptual committees is the freedom it gives delegates to act both independently and as a team with no strict direction that must be followed. I have tried to design this committee to give every character enough resources to pursue large goals, and give the committee as a whole many possibilities for action in this committee. I am excited to see what you can come up with in The Second Space Race.

This committee is an idea I've had for over a year now, but I was never able to get the idea right, and I have gone through many iterations to get this committee to where it is now. I had a lot of influences while writing this committee. Initially all I knew was that I wanted to create a committee in space, not just centered around the Earth but at a larger scale. The influence that solidified my idea was learning more about asteroid mining, and I realized that it could be the basis for a really interesting committee. Like any other race for resources, there are so many complex political, economic and social aspects that must be considered, and asteroid mining was a way to take modern races for resources to a conceptual future. I also took some ideas from movies like the Star Wars prequels, as a major aspect of the conflict in those movies is the economic and political struggles of a huge space republic. Those movies were a major influence in designing the tensions of this committee. In The Second Space Race, you are a committee of countries and companies, all of whom have different stakes and goals. Some countries want to bring more prosperity to Earth, while some companies want to monopolize

resources as quickly as possible for the sole purpose of money. This committee takes place far in the future, in the year 2100, yet it has many parallels to modern day issues. Resources will always be fought over, currently that is oil, microchips, and a plethora of others. In this committee, it is metals, in a future scenario where they have become the resource that humanity lacks the most. I hope you have a great experience in this committee, and if you have any questions, feel free to contact me at 343282406@tdsb.ca.

- *Ben Krakauer*, Director and Background Guide Author of *The Second Space Race: The Asteroid Belt*

Glossary

Celestial Body

Any natural physical object that exists outside of Earth. This includes other planets, moons, asteroids and stars, but not man-made objects such as satellites.

Interplanetary United Nations (IUN)

The IUN is an independent body of the United Nations designated for managing interplanetary affairs such as the colonization of planets and asteroids, fights for resources, and other issues that take place outside of Earth

M-Type Asteroid

Asteroids with high metal composition, often common elements such as iron and nickel, but may also possess rarer and more valuable metals such as platinum, lithium, gold and other rare-earth metals.

Nuclear Fusion

The process of superheating hydrogen atoms until the point where they fuse together. The final product, helium, has a lower total mass than the original hydrogen, where the entirety of that lost mass is converted into energy. This energy heats water to spin a turbine generating an incredible amount of energy.¹

¹Barbarino, Matteo. 2023. "What is Nuclear Fusion?" IAEA. August 3, 2023. Accessed October 5, 2026. <https://www.iaea.org/newscenter/news/what-is-nuclear-fusion>.

Orbital Period

The time it takes for a celestial body (planets, asteroids, etc.) to complete a full revolution around the sun.²

Trojan Asteroids

Asteroids that sit in the same orbit as a planet, either 60 degrees ahead or 60 degrees behind that planet in its orbit. Jupiter has many while other planets have far fewer

² Orbital Radar Newsroom. 2026. "Understanding Orbital Period: Key Concepts and Calculations." Orbital Radar. August 17, 2026. <https://orbitalradar.com/blog/orbital-period-explainer>.

Timeline

1969

Humans first land on the moon, marking the beginning of true exploration beyond Earth.

2010s-2020s

Major talk begins of travelling to Mars and expanding human civilization beyond Earth. Soon this effort is redirected to the Moon. During this time, asteroid mining becomes a real potential source of resources.

2027

Humans successfully land on the Moon for the first time in 55 years. This marks a resurgence in human space exploration.

2035

The first fully functioning moon base is built by NASA, serving as the only permanently manned settlement on the moon. Lunar mining operations also begin.

2040

The first Moon-made rocket is successfully built, making it possible to build and launch rockets directly from the Moon rather than from Earth.

2050

Humans land on Mars and begin the creation of settlements, bringing humanity one step closer to the Asteroid Belt.

2085

Metal shortages on Earth become far more significant, with wealthier countries hoarding metals. Regional wars begin to break out between smaller countries for some of the last remaining metal deposits.

2100

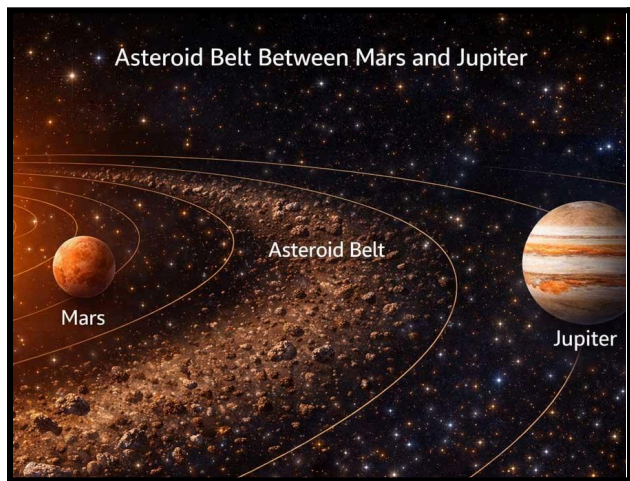
The first asteroid mining mission is complete, with 800 thousand tonnes of metals currently stationed on Mars. The committee begins.

Conceptual Background

The background of this committee can be summarized mostly by the idea that for humanity to have continuous expansion, the number of resources we have access to must increase exponentially. Humanity is built on endless growth, and without will likely collapse. It is also important to understand aspects of the committee such as the Asteroid Belt, orbits, and the balance of power of the world of the committee.

The Asteroid Belt

The asteroid belt is a region of space lying between the orbits of Mars and Jupiter, containing millions of asteroids, with over 1.5 million of them being over 1 kilometer in width, and many other much smaller ones.³ Although in pop culture, asteroid belts are often depicted as having asteroids only meters from each other, in reality, on average they are actually separated by



around 1 million kilometers of empty space. The belt has immense wealth of metals, far more than can actually be mined on Earth, with singular asteroids predicted to have more metals than all metal ever mined. In total, the mass of the asteroid belt is somewhere between 10^{20} to 10^{21} kilograms, with roughly 8-10% being M-type (metallic) asteroids.⁴ The Earth has far more total total metal than

³ Cermak, Alicia. 2026. "Asteroid Facts." NASA Science. August 17, 2026. <https://science.nasa.gov/solar-system/asteroids/facts/>.

⁴ Tillman, Nola Taylor, Daisy Dobrijevic, and Paul Sutter. 2025. "Asteroid belt — What it is, where it is and how it formed." Space. December 15, 2025. <https://www.space.com/16105-asteroid-belt.html>.

asteroids, but the majority sits in the core and the mantle, which cannot be mined, putting the total amount of minable metal around 10^{14} to 10^{15} kilograms, one-millionth of the amount in the asteroid belt. This is the potential wealth that will fuel the race to mine the Asteroid Belt.

The Asteroid Belt does not include the only asteroids available to mine, as there are a number of other asteroids that may be accessible for mining. The most notable ones are Trojan asteroids. Trojans are asteroids that share an orbit with a planet, either 60 degrees ahead or behind the planet.⁵ Almost every planet has Trojans, but only Jupiter has a significant number. While the rocky planets have a total of 18 asteroids, with some that are large enough to be worth mining, Jupiter has over 11,500.⁶ In many diagrams, Trojan asteroids are referred to as either Trojan or Greek, depending on whether they are behind or ahead of Jupiter respectively, however they are generally referred to solely as Trojan asteroids.

Orbital Periods

Another aspect of the Asteroid Belt and the solar system at large that can be easily overlooked is orbital periods. Orbital periods are determined by a celestial body's distance from the Sun. As a celestial body gets further away from the Sun, it takes longer to orbit.⁷ For this committee, this plays an important role in the transportation and movement between planets, and the ability to claim parts of the Asteroid Belt. One example where differences in orbital periods are very significant is between the orbits of Earth and Mars. Earth completes its orbit every year, however Mars orbits every 1.88 years. This means that Earth and Mars are constantly changing distance from each other, and are only at their

⁵ "Trojan Asteroids | Astronomy and Astrophysics | Research Starters | EBSCO Research." n.d. EBSCO. <https://www.ebsco.com/research-starters/astronomy-and-astrophysics/trojan-asteroids>.

⁶ "Trojan (Celestial Body)." 2026. Wikipedia. June 28, 2026. [https://en.wikipedia.org/wiki/Trojan_\(celestial_body\)](https://en.wikipedia.org/wiki/Trojan_(celestial_body)).

⁷ Orbital Radar Newsroom. 2026. "Understanding Orbital Period: Key Concepts and Calculations." Orbital Radar. August 17, 2026. <https://orbitalradar.com/blog/orbital-period-explainer>.

closest roughly every 26 months.⁸ On top of this, for a significant portion of time, the two planets are inaccessible to each other as they will be on opposite sides of the Sun. Currently Earth is a few months past its closest with Mars, putting the committee in a safe position for movement between planets.

Orbital periods get more complicated when looked at in the Asteroid Belt. The Asteroid Belt is not one unified ring, but is instead millions of asteroids with unique orbits. Due to the width of the Asteroid Belt, about 150 million kilometers, the asteroids at the close edge orbit every three years, while the asteroids at the far edge orbit every six years.⁹ Asteroids are never in the same position relative to the Earth, or to each other, contemplating the logistics of mining asteroids. Claiming sections of the Asteroid Belt is also complicated as the belt is constantly changing.

Technology

This committee takes place nearly 75 years after the present day, in 2100, meaning technology has changed vastly in this committee. Not every aspect of new technologies can be discussed in the background guide, instead only those most relevant to the committee will be explained. However, it can be assumed that every other technology has advanced equally so to those discussed. One of the most important technological advancements is the creation of industrial-scale nuclear fusion. Nuclear fusion is the best source of energy humanity has access to, and is the primary source of electricity in the majority of the developed world. It has brought down the cost of many other technologies, and even has direct applications in space exploration, which will be addressed next.

⁸ Espinoza, Luis, and Nasa Hubble Mission Team. 2025. "Mars: Closest Encounter - NASA Science." NASA Science. March 20, 2025. <https://science.nasa.gov/missions/hubble/mars-closest-encounter/>.

⁹ OpenStax. n.d. "Chapter 13 Comets and Asteroids: Debris of the Solar System." In BCIT Astronomy 7000: A Survey of Astronomy, 13.1. Pressbooks. https://pressbooks.bccampus.ca/a7000y2018/chapter/13-1-asteroids/#OSC_Astro_13_01_Belt.

The spaceship industry has grown exponentially, as such, launch and construction capabilities have grown equally so. Launching spaceships has become far cheaper through technologies such as nuclear fusion rockets, which utilize fusion reactors to superheat hydrogen atoms and eject them from a rocket to generate thrust. However traditional fuel is still often used as it offers far less complications and a lower initial cost than constructing fusion reactors. Construction has also become far cheaper, especially through the construction of spaceships in orbit around Earth. Logistically, it is much easier to launch components into space and put them together there rather than launch one huge ship. The use of construction and launching on the Moon and Mars is another method that has reduced the cost of space exploration. The core principles of rockets and spaceships are still roughly the same, however the scale has changed radically. For the new needs of asteroid mining and space exploration, spaceships have gotten far larger. Three main types of spaceships exist, being explorers, transporters and freighters. Explorers are small, however can travel extremely long distances very quickly, and serve as the sole method of long-distance space exploration, some having travelled as far as Saturn. Transporters carry smaller payloads, either being materials for spaceship construction, larger numbers of people (100+), or other life-sustaining resources. Finally, freighters have huge storage capacities of over 100,000 cubic metres, are generally over 150 metres long, and are physically impossible to launch from any body. As such they must be built and moved solely through space. Freighters are necessary for asteroid mining, as they have both the storage for huge amounts of metal and carry the mining equipment on board. These freighters are powered with on-board fusion reactors designed to operate unmanned for upwards of a century. Finally a fourth type of spaceship that has become increasingly common are war spacecraft. These are spaceships specially designed to attack other ships or defend larger ships like transporters and freighters. They are the least common, however many countries have invested in building them for their space forces and to protect their assets in space.

Robots and machines are another important technology in this committee. Many of the processes of space exploration and asteroid mining are reliant on AI and robotics. Freighter ships are

generally unmanned when used for asteroid mining, as the distance is too great to send humans along with them. AI is utilized to conduct mining missions autonomously, and are trained for the sole purpose of mining, collecting, and sorting metals. Robots are sent from freighters onto asteroids, where they mine the surface, collect the rock, return to the freighter, recharge and repeat. Robots will serve a key role in the supply chain of asteroid mining, and as such have become one of the most important technologies of the new 22nd century.

Historical Parallels

The race for resources is a story that has happened many times in the past, and is a major factor in nearly every war ever fought. The scramble for Africa and colonialism was at its core an attempt to control more resources and thus more power. The result of this was the British Empire, the most successful country at colonizing, being the world's top power for over a century. The scramble for Africa could have resulted in a continental scale war between the European great powers, but mediation at the Berlin Conference was able to prevent this and prevent a deadly war.¹⁰ Attempts to monopolize microchip infrastructure is another example of this.¹¹ Despite the resource being technology rather than land or minerals, it still stands that the countries with the most control over technology have the most power over the world. In the Asteroid Belt this is happening once again, as whoever controls the greatest portion of the asteroid belt will become the world's next great power.

¹⁰ "Berlin Conference." 2026. Wikipedia. August 15, 2026. https://en.wikipedia.org/wiki/Berlin_Conference.

¹¹ Kitchen, Klon. 2022. "The geopolitical implications of the microchip race – GIS Reports." GIS Reports, May 16, 2022. <https://www.gisreportsonline.com/r/microchip-race/>.

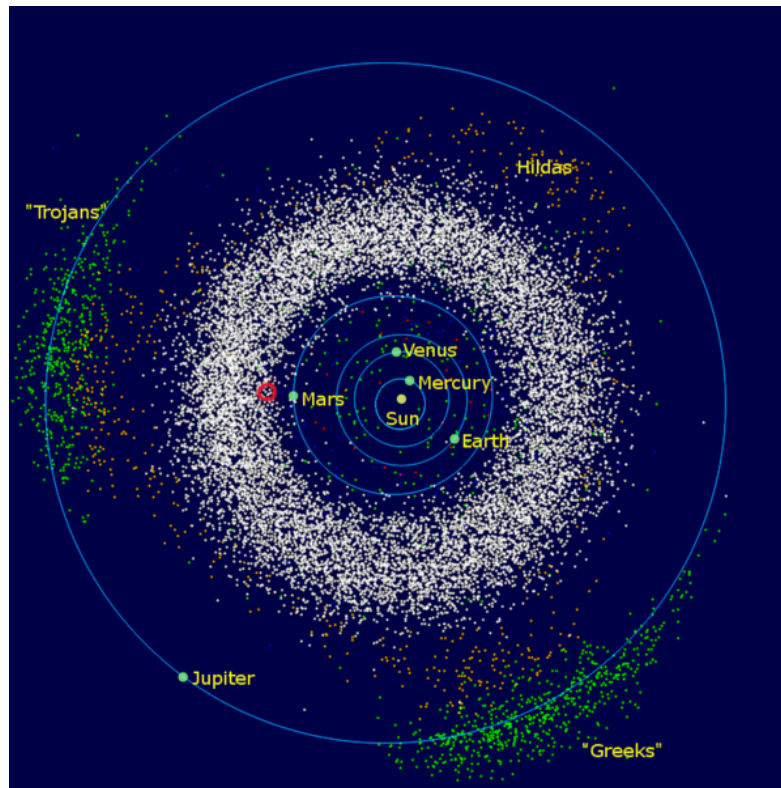
The Balance of Power

Currently control over the Asteroid Belt and space is very minimally regulated, and no guidelines exist on lawful expansion or the dynamics of power in space. Currently power is divided over three types of bodies. Countries are the most significant and control the majority of power on Earth, however their slow moving bureaucracy has meant that their control of space is weaker when compared with other bodies. Companies control huge areas of the Moon and Mars, and are some of the first to take claim over parts of the Asteroid Belt. Privatized rocket building has proved far more efficient and has allowed companies to cement power in space, and has forced many countries to rely on them for launch capabilities. The control that companies hold over the vast resources of the Asteroid Belt may pose a huge risk to Earth, as this control could lead to monopolies and extreme overpricing, potentially having disastrous consequences. Although regulation is minimal, some organizations do still exist in order to protect the balance of power. The Interplanetary United Nations (IUN) is one such organization designated to moderating conflicts between countries that take place beyond Earth, and exists as a fully autonomous branch for the UN. Some other organizations include the Lunar Control Organization and the Mars Treaty System, each responsible for the delegation of power and the rules that must be followed on their respective moon or planet. These regulatory bodies can only exert as much power as given to them by countries, and often cannot seriously influence the course of events, but they have the potential to hold significant power if it is granted to them. Countries, companies and organizations will all fight for power over the Asteroid Belt, and the power dynamics between them will surely influence who ends up with the most power in the belt.

Current State of Affairs

There are a number of locations and systems that are key to understanding the nature of this committee. Although this committee is mostly about the Asteroid Belt, the Earth is still the core of humanity, and serves as the base for every country and the majority of companies. As well as this, the Moon and Mars are important to address, and will play important roles in this committee. The current state of the Asteroid Belt, Mars, the Moon and Earth will all be addressed in this section of the background guide.

As it stands, the Asteroid Belt is still a new frontier of exploration, it is effectively a blank canvas. Up until only a few weeks before this committee began, large-scale asteroid mining was still a myth, however with the successful completion of a major mining mission, asteroid mining has become a reality of our world. Glencore Mars, originally a Swiss company now based on Mars completed this operation by sending a mining probe from the Martian surface, and using huge freight ships was able to transport 800 thousand tonnes of metals, including nickel, cobalt, iron and some precious metals. Currently the metal is being held in Martian orbit, waiting to be sold. Below is a map of the inner solar system and Jupiter, keep in mind this is not an exact map as orbits have changed and are constantly changing, but it provides a rough idea of the state of the solar system. The red dot is the rough location of the mining mission recently completed by Glencore Mars, which was done as close to Mars as possible. This map also shows the different types of asteroids available to the committee, including the Asteroid Belt and the Trojan (this includes Greeks) asteroids mentioned earlier. Currently only two companies can access Trojan asteroids, that being Jupiter Industries and Trojan Metals. Both these companies have active bases in orbit around Jupiter, and are preparing for missions to attempt mining Trojan asteroids. As Jupiter is a gas planet, there is no surface for a true base to be built, and as such the planet is generally considered less valuable than the rocky planets, despite its access to alternative asteroids.



Mars has become a hotspot of activity, and many companies and countries now hold bases on the planet. The population of the planet is at least 40,000 people at all times, but can fluctuate up to 150,000 depending on how close the planet is to Earth. Mars is important for a number of reasons. For one, it is the closest major celestial body to the Asteroid Belt, and one of the few places in the solar system that can provide a comfortable home for humans other than Earth. Its lower gravity also makes it much easier to launch rockets from,¹² and it provides a midpoint between the Asteroid Belt and Earth. One of the significant uses of the planet is as a refining hub for metals coming in from the Asteroid Belt. Asteroids include a significant amount of worthless materials that must be separated from the valuable metals. When asteroid material is refined, a significant amount of weight is removed, which saves a huge amount of fuel in transportation. If asteroids are refined on Mars, the trip to Earth

¹² "Lunar Exploration." n.d. ESA SEID. <https://lunarexploration.esa.int/explore/technology/226?ia=288>.

is far cheaper, despite the additional fuel costs of landing and taking off from Earth, which makes Mars a very valuable mid-point in the asteroid mining supply chain. Currently Mars is peaceful and land claims of companies and countries do not overlap, but conflicts could arise as asteroid mining becomes a larger industry. Mars should be used for its benefits in asteroid mining, but should also be watched for potential conflicts stemming from competition for the planet.

The Moon has been a key part of space exploration for over a century, and has only become more important in the age of asteroid mining. People have lived on the moon since the early 2040s, building moon bases, conducting mining operations, and overall growing the lunar industry. The Moon is valuable for many reasons, but in recent years building and launching ships has become its primary purpose. On Earth, it can be incredibly expensive to launch huge rockets. As a spaceship becomes heavier, it needs more fuel which then makes the ship heavier and so on. This means spaceships built on Earth quickly get impossible to fuel simply due to how large they would need to be to lift their own fuel. However, lunar gravity is one-sixth of that of Earth, making it far easier to launch a spaceship on the Moon. This cheaper cost only applies if the rocket and the fuel are all made from resources from the Moon as otherwise the resources would still be launched from Earth and thus cost fuel. This is why the Moon has become a hotspot of activity. Many countries and companies have set up bases and mining operations to harvest resources to build rockets and create fuel, all of which is necessary to manufacture and launch the huge ships needed for asteroid mining.

As for the situation on Earth, the desperation for resources is only becoming worse. Countries that developed the earliest such as those in Europe and North America are facing some of the worst shortages of metals. The centuries of mining have led to few easy to mine resources, and many areas have run dry, especially in crucial rare-earth metals. Other countries such as Russia, China and Australia, despite their immense wealth of resources, have also begun to run out of many metals. Currently, the only places on Earth that still have a significant supply of metals are parts of South America, but more significantly, Africa. Many countries in Africa still have large supplies of metals,

such as the Democratic Republic of Congo and Nigeria. However political and economic unrest, especially in central Africa, have meant that these metals are far more expensive and harder to access for the rest of the world. Many of the remaining metals around the world are located in unstable countries and controlled by warlords, making their supply highly unreliable. Currently, countries on Earth are maintaining their supply of metals through either buying metal from these unstable countries, or instead mining for metals extremely deep in Earth's crust, sometimes over 5km deep. Mining this deep is both incredibly expensive and highly dangerous, as temperatures can reach over 100 degrees at 5km deep, and over 150 degrees at 10 km deep,¹³ making it nearly impossible for humans to mine, relying mostly on robots. Governments must subsidize these mining operations and the cost of buying expensive metals to prevent their economies from collapsing. However, there is only so much debt a government can put itself into before it faces collapse. It is expected that within the next 3-5 years, many countries will begin to fall apart, creating the urgency surrounding asteroid mining. Earth, although not the primary focus of this committee, is the anchor of humanity, and must be protected at all costs.

¹³Majorowicz, Jacek, Marcin Polkowski, and Marek Grad. 2019. "Thermal Properties of the Crust and the Lithosphere–asthenosphere Boundary in the Area of Poland From the Heat Flow Variability and Seismic Data." *International Journal of Earth Sciences* 108 (2): 649–72. <https://doi.org/10.1007/s00531-018-01673-8>.

Topic A - The Race

The greatest concern facing the committee in the onsetting race to control the Asteroid Belt. For the past 60 years since the first Moon base was built tensions over the control of space have continued to rise. Control over the Moon and Mars caused tension on Earth, but ended non-violently, however the world is in a far more precarious position than it was when those bodies were colonized. The stakes over who controls the Asteroid Belt are huge, and the desperation for resources an even greater motivator. This race has been dubbed the Second Space Race, although this race is pursued for very different reasons than the first. The First Space Race was not over material resources but instead over technological supremacy and intimidation.¹⁴ This Second Space Race is closer to colonialism throughout the 1500s to 1800s, a race to monopolize as many resources as possible. Without mediation, the consequences of such a race will be detrimental to both Earth and Space, likely setting asteroid mining back decades and costing many human lives.

The main players in the Second Space Race are major countries, namely the US, China and India, as well as some companies that have heavily invested in space exploration such as Glencore and SpaceX. Glencore is the only body to have mined an asteroid, but the other major countries and companies are not far behind them. As well as these, many other smaller countries have invested heavily into space exploration and are also on the brink of being able to mine asteroids. The asteroid belt is a huge area, and will likely take centuries to fully colonize or mine, but this does not make the race any less important. The countries and companies that can get a foothold in a section of the Asteroid Belt the earliest will have the best claim to those metals, meaning countries that wait will lose access to the best metals or the asteroids that are easiest to mine. The risk of the Second Space Race is a potential huge interplanetary war, with many different sides, privatized armies, and trade blockades that could

¹⁴ “The Space Race | Miller Center.” 2020. Miller Center, September.
<https://millercenter.org/the-presidency/educational-resources/space-race>.

send Earth into an even more dangerous situation than it already is. If the Second Space Race is not mediated and war becomes a reality, Earth will run out of metal and millions or billions of people may die in the ensuing violence.

The aim of this committee is to avoid this fate, and peacefully negotiate and distribute the resources in the Asteroid Belt, similar to past treaties that have mediated violence like the Berlin Conference mentioned earlier. No country benefits from violence and war, and it should be avoided at all costs. Many options are available, including pre-existing international organizations designed for mediation. The use of these organizations such as the IUN and the existing treaties is one of the easiest paths for the committee to avoid violence, however it requires turning more power over to these organizations and ensuring every country listens to their rulings, an issue that has persisted since the creation of international law. Individual countries may also take roles as mediators, or the committee itself can become the mediator of interplanetary law. Whichever path the committee chooses, they should ensure war is avoided and the future of Earth is secure.

Guiding Questions

1. What are the potential consequences of the Second Space Race?
2. How can tensions be mediated by different bodies?
3. How will it be decided who controls what sections of the Asteroid Belt?
4. What role will international organizations play in the race to the Asteroid Belt?
5. Can countries and companies claim sections of the Asteroid Belt, or will it be treated similar to international areas?

Topic B - Logistics of the Belt

A concern that can be easily ignored in the face of potential war is the logistical nightmare that asteroid mining will create. Even if war is avoided and the Second Space Race ends peacefully, Earth may still run out of metal simply due to the challenge of bringing resources from the Asteroid Belt to Earth. The rough supply chain that metals from the Asteroid Belt appears simple, but requires near-perfect timing and immense care to ensure the metals safely arrive. There are also concerns of potential piracy of metals, trade blockades, and the movement of celestial bodies, all of which complicate an already difficult task.

To mine the Asteroid Belt, mining robots are sent to an asteroid known to be rich in metals. Refining and collection ships are also sent to sort which metals are useful and which are not. These ships are huge and unmanned, and their size means they cannot be built on Earth, where the cost of fuel to escape Earth's gravity would be too extreme. These ships must either be built in space, usually in orbit, or somewhere with weaker gravity such as the Moon or Mars. In the recently completed mining mission, Glencore Mars built its ships on Mars using mostly Martian metal. Once the metals are collected, they must be sent back to Earth. They can be sent back on a straight path towards Earth, or slingshotted around Mars, however the distance is so far that orbits become a significant concern. Planets and asteroids orbiting the sun take different amounts of time to complete a full rotation. The Earth takes one year, Mars takes two Earth years, and the asteroid belt has no consistent time. The closest asteroids, 160 million kilometres from Earth, orbit every three years, whereas the further ones, 550 million kilometres from Earth, take around six. The differences between orbits is a major factor in supply chains from the Asteroid Belt to Earth, and must be factored in for any country or company wishing to mine asteroids.

Although mining is the key to this committee, it relies solely on a stable and secure supply chain. Even if the complications among orbits are dealt with, many other issues can easily arise. In the

past, space travel was so expensive that only the richest countries and a select few companies could reach space let alone explore it. However with advances in fuel and launch, it is much easier to travel to space than ever before. This raises concerns around bad actors in space, smaller companies or even small groups of people with enough money to travel to space and create chaos. Space piracy is one of these concerns. Although difficult, it is not impossible for a small group of people to fly a ship to an unmanned transportation ship and steal some of the metal. Although currently still a theory, space piracy could become a real issue that the committee must deal with. Another concern to the supply chain is trade blockades. A powerful enough space force could block the transportation of metals at any point in the supply chain, whether it be just outside of Earth, in deep space, or at a stop like Mars or the Moon. A company or country could also refuse to deliver metals, and instead hold it in orbit, potentially causing major supply interruptions. This could become a major issue for the committee, as currently there are so few countries and companies that could successfully mine the Asteroid Belt that even one blocked delivery could cause major shortages on Earth. These logistical challenges must be dealt with properly and quickly by the committee, or they risk desperately needed metals never arriving at Earth.

Guiding Questions

1. Who will manage supply chains from the Asteroid Belt to Earth?
2. How will complications around orbital differences be mediated?
3. What can be done to prevent piracy of metals? Is it even a real concern?
4. What will be done about trade blockades or trade wars if they are to arise? How can the damage of these feuds be minimized?
5. What is the best path for metals to take to be brought to Earth?

Topic C - The Economy

The last topic of this committee, while not directly related to asteroid mining, is still incredibly important for the success of this committee. The economy dictates everything, from what actions countries can take, to what companies will rise to success and which will go bankrupt. The economy is far more complex in the year 2100 than it was in the past, as it spans multiple planets, the moon, and now asteroids. Currently the economy is already falling apart. With the severe lack of metals on Earth, many supply chains have begun to break down, countries have gone into extreme debt attempting to buy some of the remaining metals, and the richest countries are just barely holding on, hoping that the demands of the global economy will eventually balance out and restabilize. What many have realized is that without fresh metal from the Asteroid Belt, the economy will not stabilize, and will continue to collapse until Earth is reset to a primitive age. The solution to this is metal from the Asteroid Belt, but in the meantime while asteroid mining is still growing, it is up to the committee to keep the economy afloat.

There are many economic issues, and not all of them can be explained in complete detail. The issues of greatest concern are supply chains on Earth and prevention of countries collapsing from debt or hyperinflation. Supply chains are highly complex, and are impossible to manage top-down. In the past, supply and demand has built supply chains, and they have grown almost organically. A lack of metal risks these supply chains right at their root, risking everything else that comes after it. The potential impact of this is a domino effect where a lack of metal creates a lack of nearly every consumer good, eventually even severely impacting agriculture, energy and other key industries. The committee must try to keep supply chains afloat from their base to delay these effects until asteroid metals can reach Earth. As for the collapse of economies, this can arise in many ways but has the same end, a ruined country. For smaller and poorer countries, the rapidly increasing price of metal has a far greater impact than for larger and richer countries. These smaller countries have already put themselves into

extreme debt, some over 200% of their GDP, simply to keep the country running. A common solution to this is printing more money, allowing for more internal spending and reducing the amount of debt relative to the country's total capital. The effect of this is called hyperinflation, where extreme printing of money causes a huge devaluation of the country's currency, potentially causing the economy to collapse.¹⁵ Rather than hyperinflation, the alternate option is to default on debt, which means the country is unable to pay back its debt, which has long-lasting negative effects¹⁶, and in the current economic state of the world, will lead the country to collapse if no intervention takes place. No matter what kinds of economic collapses take place, it is this committee's responsibility to attempt to mitigate the effects to protect the economic future of Earth.

Guiding Questions

1. How can supply chains be protected on Earth?
2. What temporary solutions can be used to secure Earth while metals are being mined?
3. How can smaller and poorer countries be aided to prevent economic collapse?
4. What role do companies play in economic issues? Should they be made to help more to take pressure off of countries?
5. What is the fastest way to get metals to Earth and stabilize the global economy?

¹⁵Kenton, Will. 2026. "Hyperinflation Explained: Causes, Effects & How to Protect Your Finances." Investopedia. April 30, 2026. Accessed October 5, 2026. <https://www.investopedia.com/terms/h/hyperinflation.asp>.

¹⁶"What Happens When a Country Goes Broke." 2023. Open Society Foundations. June 2023. <https://www.opensocietyfoundations.org/explainers/what-happens-when-a-country-goes-broke>.

Committee Mechanics

For example, timelines, economy, maps.

Timeline

This committee takes place on a long time scale of multiple years due to the slow nature of space travel and innovation. This committee begins in 2100, and every committee session will take place over roughly two years. Time may be variable depending on the events within the committee, however this rough time scaling should be expected for the committee.

Orbital Map

An important consideration for this committee is the fact that over long periods of time, the position of planets and celestial bodies relative to each other changes as mentioned earlier. For this reason, a map of the current orbital position of important bodies will be updated frequently, and the committee will have to work around its implications with communication and transportation between bodies.

Finance and the Economy

Every country and company in this committee must be careful about their finances. Companies rely on profits from their products and investments to make money, but can spend this money freely for the most part. On the other hand, countries rely on their citizens' taxes for money, and their spending is more limited as their spending must satisfy their taxpayers. Countries generally have a lot more money than companies do, but their expenditure is much higher. Countries and companies alike must ensure they have enough money to keep themselves afloat and to ensure they have money for space travel, or they risk being left out from the next frontier of humanity.

Total money will not be public, however delegates may ask backrooms at any time for their current finances. This will allow delegates to know their capabilities around building spacecraft, space bases, and other financial capabilities. A summary of methods delegates may gain or lose money is given below, however it is not an exhaustive list. To simplify finances, money will be treated as its current value, and inflation from the modern day to 2100 will be ignored.

Gain Money	Lose Money
Taxes	Necessary Government Spending
Loans	R&D
Mining Profits	Construction and Production
Sales of Products	Debt Interest

Works Cited

Barbarino, Matteo. 2023. "What is Nuclear Fusion?" IAEA. August 3, 2023. Accessed October 5,

2026. <https://www.iaea.org/newscenter/news/what-is-nuclear-fusion>.

"Berlin Conference." 2026. Wikipedia. August 15, 2026.

https://en.wikipedia.org/wiki/Berlin_Conference.

Cermak, Alicia. 2026. "Asteroid Facts." NASA Science. August 17, 2026.

<https://science.nasa.gov/solar-system/asteroids/facts/>.

Espinoza, Luis, and Nasa Hubble Mission Team. 2025. "Mars: Closest Encounter - NASA Science."

NASA Science. March 20, 2025.

<https://science.nasa.gov/missions/hubble/mars-closest-encounter/>.

Kenton, Will. 2026. "Hyperinflation Explained: Causes, Effects & How to Protect Your Finances."

Investopedia. April 30, 2026. Accessed October 5, 2026.

<https://www.investopedia.com/terms/h/hyperinflation.asp>.

Kitchen, Klon. 2022. "The geopolitical implications of the microchip race – GIS Reports." GIS

Reports, May 16, 2022. <https://www.gisreportsonline.com/r/microchip-race/>.

"Lunar Exploration." n.d. ESA SEID.

<https://lunarexploration.esa.int/explore/technology/226?ia=288>.

Majorowicz, Jacek, Marcin Polkowski, and Marek Grad. 2019. "Thermal Properties of the Crust and

the Lithosphere–asthenosphere Boundary in the Area of Poland From the Heat Flow

Variability and Seismic Data.” *International Journal of Earth Sciences* 108 (2): 649–72.

<https://doi.org/10.1007/s00531-018-01673-8>.

OpenStax. n.d. “Chapter 13 Comets and Asteroids: Debris of the Solar System.” In *BCIT Astronomy 7000: A Survey of Astronomy*, 13.1. Pressbooks.

https://pressbooks.bccampus.ca/a7000y2018/chapter/13-1-asteroids/#OSC_Astro_13_01_Be
lt.

Orbital Radar Newsroom. 2026. “Understanding Orbital Period: Key Concepts and Calculations.”

Orbital Radar. August 17, 2026. <https://orbitalradar.com/blog/orbital-period-explainer>.

“The Space Race | Miller Center.” 2020. *Miller Center*, September.

<https://millercenter.org/the-presidency/educational-resources/space-race>.

Tillman, Nola Taylor, Daisy Dobrijevic, and Paul Sutter. 2025. “Asteroid belt — What it is, where it is and how it formed.” *Space*. December 15, 2025.

<https://www.space.com/16105-asteroid-belt.html>.

“Trojan Asteroids | Astronomy and Astrophysics | Research Starters | EBSCO Research.” n.d. EBSCO.

<https://www.ebsco.com/research-starters/astronomy-and-astrophysics/trojan-asteroids>.

“Trojan (Celestial Body).” 2026. Wikipedia. June 28, 2026.

[https://en.wikipedia.org/wiki/Trojan_\(celestial_body\)](https://en.wikipedia.org/wiki/Trojan_(celestial_body)).

“What Happens When a Country Goes Broke.” 2023. Open Society Foundations. June 2023.

<https://www.opensocietyfoundations.org/explainers/what-happens-when-a-country-goes-broke>.