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The Phenomenon of Shooting Stars from the Perspective of Science and the Qur'an: Integrating Students Building Character

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ABSTRACT

The article aims to understand the differences between asteroids and meteorites, identify the causes of meteor formation, and analyze the mechanisms by which Earth protects itself from collisions with extraterrestrial objects. Furthermore, the research explores the phenomenon of shooting stars from both a scientific perspective and the teachings of the Quran. This study employs a literature review method with a qualitative descriptive approach, in which data are collected from various sources, including previous research, books, and the Quran. The data analysis process involves filtering relevant information according to the research theme, presenting it narratively, and drawing conclusions. The findings indicate that asteroids and meteorites are distinct celestial bodies in terms of their location and size. Meteoroids are more likely to enter Earth's atmosphere, where friction causes partial or complete combustion, producing the luminous effect known as meteors or shooting stars. From a theological perspective, meteors are associated with arrows used to prevent jinn from eavesdropping on divine matters. Therefore, it is inappropriate to associate God with this natural phenomenon by requesting or invoking shooting stars. In a religious context, humans are expected to follow divine commandments by worshiping God alone. Consequently, integrating the values of faith and devotion into science education is essential, as scientific knowledge and the teachings of the Quran have never been proven to be in conflict.

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INTRODUCTION

The universe and its contents include all things, including matter, energy, space, time, and phenomena. Even the vastness of the universe is infinite according to human standards. No human has been able to explore the corners of the universe. The Big Bang causes it to expand continuously. As a result, stars and galaxies move away from each other (Arifin, Fazriah, Azzahra, Fukoroh, & Rosa, 2024). This proves the truth of the Qur'an in the letter Al-Anbiya verse 21, which explains that in the beginning, the heavens and the Earth were a unified whole, which was then separated between the two (Munawar, 2022).

The creation of the universe is still a mystery to humans, giving rise to many theories about its origins. However, the Qur'an explains that the universe was not created by itself but by Allah, the Almighty Creator. In several verses of the Qur'an,

one of which is in Surah Hud verse 7, Allah has created the universe consisting of the heavens, the Earth, and its contents with six periods (Ramadhan, 2022). The theory closest to the creation of the universe is the Big Bang theory, which describes the universe's initial conditions as sm oke. According to the Big Bang theory, all space occurred from a very large explosion from a small hot point, resulting in scattered gases that formed fog. Then, the mist formed space with billions of galaxies (Hendra, 2020).

The universe has a structure consisting of a collection of various galaxies. Billions of galaxies fill this universe. Each galaxy is inhabited by billions of stars in the form of gas balls that emit light and heat. Some are orbited by planets: the sun, G2, TRAPPIST-1, and Proxima Centauri (Frustagli et al., 2020; Meadows et al., 2018; Turbet et al., 2020). However, some of them also have large stars with short life cycles that do not have planets orbiting them, such as R136a1, VY Canis Majoris, UYScuti, and RW Cphei (Harshit & Mittal, 2022; Kalari et al., 2022; Nguyen & Guinan, 2022). Furthermore, many other stars in the sky are not fully known due to the limitations of human-made observation technology. This proves how vast God's Knowledge is.

The only galaxy currently inhabited by humans is the Milky Way, a spiral galaxy. The Milky Way is estimated to be 13.6 billion years old and has a diameter of about 27,000 light years from the galaxy's center. In comparison, the number of stars in it ranges from 100 billion to 400 billion(Tuckwell, 2024). One of the billions of stars is the sun, the center of the solar system. It has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, and Neptune. Moreover, Planet Earth is where humans live. Humans and all life, such as plants and animals, also exist on Earth as a place to live. In the Qur'an, Surah Al-Baqarah verse 22, it is explained that Allah made the Earth a place where humans can live and sent down rain from the sky to grow fruits as sustenance for humankind on Earth (Irian, 2022). This means that there is no other earth that humans can inhabit at this time with conditions that allow human life to occur.

Planets are not the only celestial bodies that orbit the sun. However, other celestial bodies still orbit the sun, such as dwarf planets, satellites, asteroids, meteorites and comets, and even cosmic dust measuring several Units Armstrong. Orbit the sun. Do humans still think this is a natural phenomenon that happens? Of course, all of this is controlled by God, who regulates all affairs and does not let anything created escape his supervision. Moreover, nothing is made in vain because all have their respective roles. As stated in the Qur'an Surah AL-Ahqof verse 3, Allah did not create the heavens and the Earth and what is between them but with a true purpose and at a specified time (Makrus, Baihaqi, & Isnaeni, 2023). Moreover, everything created with its form, measure, and size is perfect. This shows how great God is, who has no match. This study will prove that everything in this world does not exist alone. The eternal God Al-Awwal and Al-Akhir created everything. Evidence of the conformity between science and the Qur'an must be explained. The results of this study can be a reference for teachers in teaching astronomical knowledge in science learning. So that in addition to building knowledge, it can also improve students' character.

Allah created celestial bodies that appear beautiful at night. Everything is not a coincidence. Allah explains in the Quran Surah Ash-Shafaat verse 6 that Allah has created stars to decorate the sky closest to the Earth (Amsori & Sumiati, 2024). Occasionally, a shooting star will appear. However, the absence of religious knowledge in science is the cause of the persistence of various myths that contradict the belief in Allah. Many myths are circulating in society, even almost worldwide, that seeing a shooting star is a sign of good luck, so it becomes the right time to request

(Sulistiyawati, 2016). Some people also believe that shooting stars are a sign of an impending disaster, so to ward it off, they must ask for Forgiveness as a form of remembering God (Pramudianto, Subarkah, & Pamungkas, 2024).

Meanwhile, the Sentani community believes that meteors are known as "*dalo imobahe,*" when old stars fall to Earth and emit light (Triwiyono & Adiwikarta, 2015). Scientifically, shooting stars are a natural phenomenon when celestial bodies are burned by the Earth's atmosphere and produce light called meteors. Meteors usually come from small meteorites and asteroids. There are billions of meteors and asteroids of various sizes in space that can hit the Earth at any time. Everyone has different responses and beliefs when seeing a shooting star according to the customs of the surrounding culture; some consider it a good time to pray, some believe it is a sign of a disaster, and some consider it a natural phenomenon. Previous studies discussed natural phenomena that were related to myths and cultures. However, this study discusses phenomena based on science and the Quran, which do not contradict each other. So, the task of a teacher in science learning must be to integrate the values of science and religion to foster students' character and their faith in God as the creator and maintainer of the universe so that they do not follow the wrong habits of society that are not right.

The solar system and its celestial bodies have been included in the science subject matter studied since elementary school. Teachers have a big role in explaining how natural phenomena can occur scientifically and religiously to strengthen faith in the Almighty. This is an inseparable part of the formation of students' character. In addition to science, students must also be equipped with religious knowledge so that they do not go astray and go beyond their limits as human beings. Hence, the article aims to understand the differences between asteroids and meteorites, identify the causes of meteor formation, and analyze the mechanisms by which Earth protects itself from collisions with extraterrestrial objects

METHOD

This research is library research with a qualitative descriptive approach. Library research is conducted by studying references and previous similar studies to obtain a theoretical basis for the problems studied (Siahaan, Sitorus, & Sitohang, 2022). Meanwhile, a qualitative descriptive approach was chosen so that the research focuses on deeper and more detailed phenomena. The phenomena observed include meteors as natural phenomena studied scientifically and the Qur'an, which cannot be separated from the social phenomena in the surrounding community.

The data collected in the study are in the form of documentation sourced from previously existing data and records, such as the results of previous research, books, and notes in the holy book of the Qur'an (Dewi, 2023). The data that has been collected is analyzed using qualitative methods. The data analysis technique in this study refers to the data analysis technique according to Miles and Huberman, including:

1. Data reduction is used to simplify the collected data according to needs so that information is obtained. Data from various sources are sorted, and only important data is collected for use in research.
2. Data presentation is used to present data that has been reduced so that it is easier for readers to understand and absorb the information presented. The data presented in this study is in the form of narratives and quotations.
3. Concluding to improve understanding of the phenomena studied to achieve all research objectives.

This study uses triangulation of secondary data sources from various library sources such as previous research articles, books, and the holy book of the Koran to strengthen the research results on the meteor phenomenon.

RESULT AND DISCUSSION

The Qur'an, Surah Hud verse 7, explains that the heavens and earth universe were formed in six periods (Kementerian Agama Republik Indonesia, 2013). The closest theory of the creation of the universe is the big bang theory. About 13.7 billion years ago, the universe was created from a big explosion that originated from a small, dense, hot point and then expanded (Nabillah & A'la, 2024). The creation of the universe in Surah Al-Mulk verse 3 explains that at first, the earth and the sky were a unified whole, separated so that there was a distance between them. A more detailed explanation is in Surah Fussilat verses 9-12. In this verse, it is explained that the earth was created in two periods, but at that time, the creation of the earth was still not perfect. Then, two more periods were needed to perfect the creation of the earth and its contents, including the earth's spread, mountains and all kinds of plants and fruits that humans can use. So, there are 4 periods of creation of the earth and its contents to be perfect. Before the creation of the earth and its contents was perfected, God perfected the creation of the heavens first for two periods because, from the creation of the sky, the rain will descend, reviving the dry earth so that fruits and all kinds of plants can grow.

Surah Fussilat verse 11 explains that the sky was smoke in the beginning. In the Big Bang Theory, smoke is formed due to a super-powerful explosion from a dense and high-temperature point (Ritonga, 2018). In the next verse, Fussilat verse 12, it is explained that Allah created seven layers of heaven in 2 periods, each with its affairs or tasks. Then, the stars were made in the sky closest to the Earth, and all that was created was inseparable from His care. This verse provides information about how vast the sky created by God is. Moreover, no one can measure it. If the position of the stars is in the sky closest to the earth while the number of stars is infinite according to human standards, how vast is the universe? This proves that the universe is indeed experiencing expansion and is reinforced by Surah Az-Zariyat verse 47, which states that Allah has built the sky with His power and then expanded it.

Stars are giant balls of gas that are so hot and dense that they undergo nuclear reactions in their cores and emit energy in the form of light. The glow of these stars is what causes them to be observable from Earth. A collection of stars will form a star cluster that looks beautiful to look at AL-Hijr verse 16. Stars are formed from nebulae or molecular clouds consisting of collapsed clouds, gas, and dust (Fitria, Maflahah, Istiqomah, & Sari, 2024). Stars are celestial bodies with fairly large masses and volumes and are high in temperature, so they can spread visible and invisible rays due to the influence of light waves. Stars also experience a life cycle, which is known as star evolution. Starting from birth, young stars and old stars finally explode or experience a cycle of dimming first and then exploding (Qibty, Azhari, Hizbullah, & Ramadhan, 2023).

The closest star to the Earth is the sun. The sun can emit its light because of the fusion reaction from its core(Sulistari, 2023). The light emitted by the sun will be reflected by the celestial objects around it, making them glow. These cosmic objects are planets, comets, asteroids, satellites, and the moon. Celestial objects that are bright but cannot emit their light are known as pseudo-stars. At the same time, real stars can emit

light because of nuclear reactions in their cores (Allailiyah, 2020). Referring to this understanding, the phenomenon of shooting stars humans have seen so far is not the real meaning that stars have fallen. The real star closest to the Earth is the sun, while other real stars are far from the Earth. The disappearance of real stars is not due to falling but rather dimming, exploding, and dying. The celestial objects that are possible to fall to earth so far are asteroids and meteorites.

1. Asteroid and Meteorid

Asteroids are rocky objects located between the orbits of Mars and Jupiter. The existence of asteroids separates the planets in the solar system into two types: inter planets and outer planets. Inter planets consist of Mercury, Venus, Earth, and Mars. At the same time, the outer planets consist of Jupiter, Saturn, Uranus, and Neptune. Asteroids vary from the smallest, only a few meters, to the largest, measuring several kilometres. Asteroids are formed from the remains of material that was not accreted into planets during the solar system's formation. These remains cannot gather into planets because of Jupiter's strong gravity. Asteroids have a variety of shapes and compositions, including rocks, metals, and a mixture of both. Because of its fairly large size and made of metal, steroids can glow due to the reflection of sunlight. (Mu'minin, Walhadi, & Kurniawati, 2023).

Asteroids are celestial bodies that orbit the sun. Some have orbits close to the Earth, so they have the potential for collisions. The Earth's gravitational force allows asteroids smaller than the Earth to be attracted so that a crash occurs (Imron, 2019). A collision from a fairly large asteroid occurred about 66 million years ago, causing the extinction of dinosaurs on this earth. The asteroid collision formed the Chicxulub crater in Mexico, which was 11.27 km to 80.47 km (Mariyam, 2020). The fall of a fairly large asteroid can destroy living things. The dust cloud resulting from the collision will cover the earth and block sunlight so that plants cannot photosynthesize, herbivores will become extinct, and carnivores will also follow their extinction because they do not get food. The fall of a meteoroid that is not commensurate with the size of the earth alone illustrates how devastating the consequences are, especially if the stars fall scattered on the earth as written in surah Al-Infitar verses 1 – 3, which describes the events of the doomsday. When the sky splits, the stars will fall to the earth, causing the seas to overflow. This illustrates an extraordinary disaster in that the dropping of stars can cause a powerful tsunami, considering that the oceans on this earth are wider than the land. God's power is great. So humans should not act arrogantly on earth and disgrace Him.

Meteoroids are also space rocks that can fall to Earth. However, meteoroids are much smaller than asteroids. Meteoroids range from 10μm to 1m (Rubin & Grossman, 2010). Meteoroids can come from separate parts of asteroids or comets. Meteoroids from asteroids usually have a stronger structure than meteoroids from comets (Campbell-Brown, 2019). If asteroids are located between the orbits of Mars and Jupiter, then meteoroids are located in interplanetary space. Meteoroids can be found in various locations in the solar system, including near the Earth's orbit. When a meteoroid enters the earth's atmosphere at high speed, the meteoroid will burn. The burning event of this meteoroid will emit light so that it looks like a shooting star called a meteor. When the meteorite rocks do not burn out and reach the earth, they produce rock residue. The remains of meteorite rocks that reach the earth's surface are called meteorites. There are three meteorites: metal, which contains nickel and iron elements; rocks, which contains silicon elements; and a mixture of metal and silicon elements.

Meteoroids are celestial bodies that often fall to Earth, but their presence is frequently undetected. In addition to their small size when they reach Earth, the place where they fall is sometimes in remote areas or even in the ocean. Some incidents of meteorites falling to earth include the Kolang meteorite that fell in August 2020 in West Sumatra; the meteorite was detected as a CM1/2 carbon chondrite (Jenkins, 2024). Furthermore, the Astomulyo Meteor that fell in Lampung in 2021 was classified as an H-chondrite meteorite (Harbowo et al., 2021). The fall of a meteorite may not be as frightening as the fall of an asteroid. However, the meteorite that fell in Lampung was also confirmed to have damaged residents' buildings because it had high kinetic energy even though it had slowed down compared to its initial speed. Even the meteorite still felt hot when it arrived on earth. Meanwhile, the meteorite that fell near Lipetsk, Russia in 2018 did not cause damage to buildings because in addition to experiencing deceleration and loss of mass, the initial energy of the meteorite had turned into a flare at an altitude of 25 km - 27 km (Chernogor, 2019).

2. Shooting Stars and Their Fact in Science and Qur'an

Meteors are natural events when celestial bodies such as meteoroids and asteroids burn and emit light when they rub against the Earth's atmosphere. However, the occurrence of meteoroids entering the Earth's atmosphere is much greater than that of asteroids and can even happen at any time. So, the phenomenon of shooting stars is more due to meteoroids. The entry of celestial objects into the Earth's atmosphere can be caused by several factors such as orbital perturbations, collisions with other celestial objects, the gravitational influence of other planets, changes in the structure of the celestial object itself, solar radiation, the moon's gravity, and the earth's gravity (Jehan, 2020). Of course, the occurrence of meteoroids becoming meteors cannot be separated from God's power over His creations. As in Surah Al-Isra Verse 44, all that is in the heavens, earth, and between the two, including inanimate or living things, obey and submit to His Lord. All created will glorify and praise Him in a way unknown to humans. This shows how vast Allah's Knowledge is. So, it is not fitting for humans to associate their one God with His creations, such as asking for requests or praying to shoot stars, because this is an act of shirk as a very great sin.

Meteoroids that humans only consider as small rocks in interplanetary space are not just lumps of rock that were created just like that. Nothing in this universe was created in vain. As in Surah Ali Imron Verse 191, rational people will always remember Allah in any condition and always think that nothing is in vain in the creation of the heavens and the earth. Allah has a purpose and goal for everything He created. When God decorates the sky with beautiful stars, both real and imaginary stars, smaller meteorites cannot reflect light. It does not mean that meteorites are useless because all of His creations glorify Him in a way unknown to humans. Meteoroids also have a task as a thrower of demons when jinns try to steal news in the sky. In Surah Jin Verse 8 – 9, jinns can no longer steal news in the sky because they will encounter arrows of fire that are stalking them. Surah Al-Mulk verse 5 also explains that God decorated the sky near the stars and made the stars launchers for Satan.

The fire arrows in Surah Jin verses 8 – 9 can be interpreted as meteoroids that enter the earth's atmosphere at high speed so that friction occurs and light up like fire arrows. This means that the Jin who tries to steal news in the sky cannot cross the earth's atmosphere because of the many meteors. Meteors will chase every Jin who tries to cross. And not a single Jin escapes supervision. As in Surah Al-Fajar verse 14, God watches over His creatures wherever they are. Moreover, in Surah Ali Imron verse 5, Allah knows best, and no one can hide from Him in the sky or on earth. It shows that

even Jin, invisible to humans, is not free from Allah's supervision. In Surah Ar-Rahman verse 33, it is explained that not only Jin but also humans will not be able to cross the corners of the sky without the power of God. Although humans can go into space with rockets, the furthest distance that humans can still travel is still within the scope of the earth's atmosphere.

3. How the Earth protects itself from meteor strikes

The atmosphere provides many benefits for life on Earth. Some of its benefits are protecting the Earth from celestial bodies, protecting it from the ozone layer, making weather forecasts, and the orbit of artificial satellites and space stations (Ramangsa, 2023). The Earth's atmosphere consists of several layers, namely the troposphere, the stratosphere, which contains the ionosphere; the mesosphere; the thermosphere, which is also known as the ionosphere; and the exosphere (Pangestu, Fauziah, & Hayati, 2020).

1. The troposphere is the lowest layer of the earth's atmosphere, with a height of up to 12 km. This layer is where climate phenomena occur.
2. Stratopause, which is the layer that separates the troposphere and the stratosphere. The layer affects the weather in the troposphere by changing the pattern of air movement (Putra & Darmawan, 2024).
3. The stratosphere is a layer that stretches from a height of 12 km to 50 km. The wind blows hard in this layer and has a certain flow pattern. This layer is where aeroplanes operate.
4. Ozonosphere: This layer is in the Stratosphere layer. This layer has an ozone layer that protects the earth from ultraviolet rays. This layer is at an altitude of 12 km to 20 km.
5. The mesosphere is a layer stretching from a height of 20 km to 85 km. This layer is the coldest, so the air density is high. In this layer, space objects will burn if they cross it.
6. The thermosphere is a layer at an altitude of up to 650 km. This layer is also known as the ionosphere layer. It is called the ionosphere layer because it is where ionization of gases occurs due to ultraviolet radiation and X-rays from the sun, resulting in the aurora. The thermosphere layer helps transmit long-distance radio waves. In this layer, artificial satellites and space stations are located and orbit the Earth.
7. The exosphere is the outermost layer of the earth's atmosphere, where radiation and solar wind interact (Yani & Rasti, 2023).

Based on the explanation above, the Earth is covered by an atmosphere to avoid the impact of meteoroids and asteroids. It shows that Allah created the universe with detailed calculations, including the earth inhabited by humans. Based on Surah Al-Baqarah verse 29, everything made on earth is for the benefit of His creatures, so nothing is in vain. Then, he perfected the seven layers of the sky. However, based on the earlier verses, the atmosphere's outermost layer is not the highest part of the sky because the stars created to decorate the sky are located in the sky closest to the Earth. The distance between the atmosphere and the stars is still very far. Thus, the atmosphere is the part that protects the Earth from the impact of outer space objects. Namely, when the fire arrows chase the jinn trying to find news from heaven, it is not appropriate for humans to associate God with his creation. So, asking for a request as a prayer to be granted when a meteor occurs is an act of shirk and is a major sin. What should be done is to remember the greatness of God.

DISCUSSION

Asteroids and meteoroids are two different things. Their size and location distinguish both. Asteroids are located between the orbits of Mars and Jupiter. The collection of asteroids is known as the asteroid belt. The asteroid belt separates the outer and inner planets. Asteroids are larger than meteoroids. Meteoroids are located in interplanetary space. Asteroids and meteoroids are rocks that do not glow like planets and natural satellites. This is because their size does not allow them to reflect sunlight effectively. Meteoroids can come from fragments of asteroids or even comets (Kokhirova, Zhonmuhammadi, Khamroev, Latipov, & Jopek, 2024). When entering the Earth's atmosphere, these objects glow in the sky and are known as meteors (Venkat Ratnam, Teja, Pramitha, Eswaraiah, & Vijaya Bhaskara Rao, 2025). Large meteoroids will produce a bright glow like a fireball (Campbell-Brown, 2019). Meteors that appear to light up as if they were falling stars are not real stars.

The entry of large celestial bodies will cause damage to the earth (Drolshagen et al., 2020). The earth is equipped with an atmosphere to prevent the impact of celestial bodies. The atmosphere is a layer that can protect the Earth from the threat of impacts from asteroids, meteorites, or other celestial bodies that come at high speed. Celestial bodies that cross the atmosphere will change. As a result of friction, they finally burn, releasing mass when they ignite and become thermal energy. After travelling a distance of about 45.34 kilometres, this process ends with them disappearing due to combustion (Goshu & Ridwan, 2024). With the atmosphere, the risk of impacts from celestial bodies can be minimized or even avoided. Fragments of small solar system objects that enter the Earth's atmosphere are suspected of being important contributors of organic compounds to the ancient Earth. For example, meteors carry cyanide radical emissions (CN) (Pisarčíková et al., 2023).

The assumption that meteors are dead stars is wrong because it is not under scientific facts. Praying for good luck from shooting stars is also not right because it is an act of shirk that violates the monotheism of uluhiyah. The phenomenon of meteors is also not a sign of the arrival of bad things. Because only Allah can bring benefits and harms to everything in this world, as written in Surah Al-An'am verse 17 (Nasifah & Abdillah, 2021). Asteroids and meteoroids will be dangerous when they hit the earth's surface. Allah created everything in this world with full order. Nothing was made in vain. All that is created is subject to and obedient to Him. When Satan tries to steal news in the sky, he will be chased by arrows of fire that shine sharply and look real. Allah has also prepared protection for the inhabitants of the earth and its contents from the threat of meteors. The Earth has an atmospheric layer that can burn asteroids and meteoroids. This process will reduce or eliminate its form before it arrives on Earth.

Studying the universe without science will only foster superstition. Studying the universe without religious knowledge will make humans arrogant. Therefore, science and religion should not be separated. The creation of the universe and its contents have been written in the Quran. Everything that happens cannot be separated from God's intervention. The more humans explore knowledge, the more they must believe in the existence of their God as the creator who must be worshipped alone. No knowledge exceeds the breadth of God's knowledge. No power matches the power of God. So, it is fitting for humans to worship only Him. Under His word, humans and Jinn were created only to worship Him. Hopefully, this research can be a reference for teachers and lecturers teaching astronomy to their students. God's involvement in creating the universe and all its contents and phenomena is written in the Quran as a guide for human life. Regularity, balance, cause and effect events, and so on can foster awareness

that everything that happens must have someone who creates and regulates it (Ansori, 2020). Thus, studying science can increase faith and devotion to God to realize character-based education.

The results of this study still have some limitations, such as the need for interpreters to strengthen the data or sources of information derived from the Qur'an. The presence of an expert interpreter minimizes the possibility of misinterpreting the verses of the Quran. In addition, this research is only limited to literature studies, so the real action of researchers on improving student character through science learning based on the Quran has not been seen directly.

Further research would be much better if real action were carried out in the field by conducting science learning based on the Quran. Or create a learning module about the solar system and the universe that is integrated with the verses of the Quran. The module can be used as a teaching medium that students can read directly. Thus, in addition to knowledge, students also learn about religious knowledge. Because science and religion are two inseparable things, both are interrelated as proof that God is the creator who must be worshipped without associating partners with him. Thus, learning in class improves learning outcomes and student character (Husna, Hasan, Mustafa, Syukri, & Yusrizal, 2020).

CONCLUSION

Based on the results and discussion of the study, it can be concluded that asteroids and meteoroids are two different celestial bodies. Asteroids are larger and are located between the orbits of Mars and Jupiter. Meanwhile, meteoroids are smaller and are found anywhere in interplanetary space, including in Earth's orbit. Asteroids and meteoroids both have the potential to hit the Earth. However, the most potential is meteoroids because they are more easily attracted to Earth's gravity because of their small size and unstable orbits. When celestial bodies such as asteroids and meteoroids are about to hit the Earth, the Earth has protection. These celestial bodies that move at high speed will first rub against the atmosphere so that they emit light. The light beam is known as a meteor. The function of the meteor is as a fire arrow that chases the jinn who wants to steal news from the sky. Contemplating and thinking about the creation of the universe and the events that occur in it should make rational people increasingly believe in the One God. So, it is not right for humans to associate their God with what He created. Thus, it is important to instil the character values of faith and piety toward God in science learning because science and the Qu'ran have been proven to never be in conflict.

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