

物理学科推薦入試小論文〔問題〕用紙	受験番号	氏名
受験番号と氏名を全ての用紙に記入すること。 試験終了時に全ての用紙を回収します。		

## 北里大学理学部物理学科 2024年度公募制推薦入試 小論文課題

下記の英文を読み、設問に答えなさい。

### “The Power of the Sun”

The sun is the closest star to Earth. Even at a distance of 150 million kilometers (93 million miles), its gravitational pull holds the planet in orbit. It radiates light and heat, or solar energy, which makes it possible for life to exist on Earth.

Plants need sunlight to grow. Animals, including humans, need plants for food and the oxygen they produce. Without heat from the sun, Earth would freeze. There would be no winds, ocean currents, or clouds to transport water.



Solar energy has existed as long as the sun - about five billion years. While people have not been around that long, they have been using solar energy in a variety of ways for thousands of years.

Solar energy is essential to agriculture - cultivating land, producing crops, and raising livestock. Developed about 10,000 years ago, agriculture had a key role in the rise of civilization. Solar techniques, such as crop rotation, increased harvests. Drying food using sun and wind prevented crops from spoiling. This surplus of food allowed for denser populations and structured societies.

Early civilizations around the world positioned buildings to face south to gather heat and light. They used windows and skylights for the same reason, as well as to allow for air circulation. These are elements of solar architecture. Other aspects include using selective shading and choosing building materials with thermal mass, meaning they store heat, such as stone and concrete. Today, computer programs make applications easier and more precise.

The greenhouse is another early solar development. By converting sunlight to heat, greenhouses make it possible to grow plants out of season and in climates that may not be suited for them. One of the earliest greenhouses dates to 30 C.E., before glass was even invented. Constructed from translucent sheets of mica, a thin mineral, it was built for the Roman emperor Tiberius, who wanted to be able to eat cucumbers all year. The general technique is the same today, although there have been many improvements to increase the variety and amount of crops grown.

orbit : (公転の)軌道、 oxygen : 酸素、 current : 流れ、 billion : 十億、 cultivate : 耕す、 crop : 作物、  
raise : 育てる、 livestock : 家畜、 harvest : 収穫物、 prevent ... from ~ : ...が~するのを妨げる、 spoil : 腐る、  
dense : 密集した、 surplus : 余剰、 greenhouse : 温室、 30 C.E. : 紀元 30 年、 translucent : 半透明の、  
mica : 雲母、 Roman emperor Tiberius : ローマ皇帝ティベリウス、 cucumber : キュウリ

National Geographic Education より抜粋

問1 下線部を和訳しなさい。

問2 この文章を読んで、どのようなことを感じたか。また、太陽のエネルギーが、社会でどのようなことに利用されてきたか、将来どのように利用していくべきか、などの点について、自分の考えや知っていることも含めて 400 字以内で文章にまとめなさい。