生物科学科推薦入試 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。		

北里大学理学部生物科学科　2024年度公募制推薦入試　小論文課題

[問題] 以下の英文を読んで，下の問 1~4 に答えなさい。

(1) Progress in science is often driven by advances in technology. The entire field of cell biology, for example, came into being when optical craftsmen learned to grind small lenses of sufficiently high quality to observe cells and their substructures. Innovations in lens grinding, rather than any conceptual or philosophical advance, allowed (2) Hooke and van Leeuwenhoek to discover a previously unseen cellular world, where tiny creatures tumble and twirl in a small droplet of water.

(3) The twenty-first century is a particularly exciting time for biology. New methods for analyzing cells, proteins, DNA, and RNA are fueling an information explosion and allowing scientists to study cells and their macromolecules in previously unimagined ways. We now have access to the sequences of many billions of nucleotides, providing the complete molecular blueprints for hundreds of organisms—from microbes and mustard weeds to worms, flies, mice, dogs, chimpanzees, and humans. And powerful new techniques are helping us to decipher that information, allowing us not only to compile huge, detailed catalogs of genes and proteins but also to begin to unravel how these components work together to form functional cells and organisms. (4) The long-range goal is nothing short of obtaining a complete understanding of what takes place inside a cell as it responds to its environment and interacts with its neighbors.

［出典］Molecular Biology of THE CELL, Sixth edition by Bruce Alberts et al.より改変

［注］come into being 生じる；optical craftsmen 眼鏡職人；grind 研磨する；substructure 微細構造；innovation 技術革新；conceptual 理念の；philosophical 思索の；Hooke フック（人名）；van Leeuwenhoek ファン レーウェンフック（人名）；tumble 転がる；twirl くるくる回る；droplet しずく；fueling 拍車をかける；macromolecule 巨大分子；complete molecular blueprint 全ゲノム塩基配列；microbe 微生物；mustard weed シロイヌナズナ；worm 線虫；decipher 解読する；compile 集める；unravel 解明する；nothing short of 〜　〜に他ならない

問１　下線部（１）を日本語に訳しなさい。(40 字以内)

問２　下線部（２）の Hooke and van Leeuwenhoek は何を見たのか、また、それを可能にした出来事は何だったのか、本文の内容に即して説明しなさい。(100 字以内)

問３　著者が下線部（３）のように述べる理由を、本文の内容に即して説明しなさい（201 字以上、300 字以内）

問４　下線部（４）を日本語に訳しなさい（100 字以内）