

The following companion includes Achieve3000 Literacy articles matched to the Lines of Inquiry, Learner Profile Attributes, and key concepts to support the designated theme for the International Baccalaureate Middle Years Programme. Use the [Discussion Question Activity Recommendations](#) as an instructional resource to enhance critical thinking, engagement, and participation in collaborative discussions.

A3K Article	Statement of Inquiry	Inquiry Questions	Learner Profile Attributes	Key Concepts
<p>Food Science Unwrapped</p> <p>Summary: Food scientists are the magicians behind advancements in food production, processing, packaging, and product development.</p>	<p>Science and technology help us learn about, improve, and create the food we eat.</p>	<p>Factual: What do food scientists and food safety experts do?</p> <p>What are some jobs in the food science field?</p> <p>Conceptual: How do food scientists use creativity and science together?</p> <p>Why is food safety so important in food production?</p> <p>Debatable: Should we rely more on food science to solve world food problems?</p> <p>Are processed foods better or worse than natural ones?</p>	<p>Inquirers: Students are curious about how food is made and tested.</p> <p>Thinkers: Students solve problems re: food safety and nutrition.</p> <p>Communicators: Students share findings clearly (e.g., lab results, taste tests).</p> <p>Balanced: Students think about healthy food choices and careers.</p> <p>Reflective: Students think about what we eat and how it's made.</p>	<p>Form: What does food science do, and how does it work?</p> <p>Systems: How do the different parts of food production work together?</p> <p>Development: How do food scientists come up with new ideas and products?</p>

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<p>The Floating City</p> <p>Summary: One city will not flood as sea levels around the world rise: Dogen City. Will it be the wave of the future?</p>	<p>People can use new ideas and technology to deal with climate change and create new ways to live.</p>	<p>Factual: What is Dogen City? How does climate change threaten coastal populations?</p> <p>Conceptual: How can design and technology be used to solve global challenges? What makes a city sustainable and self-sufficient?</p> <p>Debatable: Should governments invest in floating cities rather than improving existing ones? Is it ethical to build high-tech cities that may only be accessible to the wealthy?</p>	<p>Thinkers: Students address global concerns such as urban planning, healthcare innovation, and climate change.</p> <p>Inquirers: Students investigate the use of science and technology in the planning of future urban areas.</p> <p>Caring: Students consider the needs of communities that have been displaced and climate refugees.</p> <p>Open-minded: Students take into account innovative concepts and solutions that go beyond conventional lifestyles.</p> <p>Balanced: Students think about how innovation equity, access, and sustainability fit together.</p>	<p>Systems: How do interconnected systems keep a floating city running?</p> <p>Development: How can new technologies help us adapt to climate change?</p>
<p>Sports Drinks: Sip or Skip?</p> <p>Summary: Sports drinks are promoted as electrolyte-boosting beverages that aid in optimal hydration, but should most people sip them...or skip them?</p>	<p>Science and technology influence our health, the choices we make, and the products we use every day.</p>	<p>Factual: What are electrolytes, and why are they important? What health benefits and risks are linked to sports drinks?</p> <p>Conceptual: How can science and media influence what people choose to drink? In what ways do people’s needs differ when it comes to hydration?</p> <p>Debatable: Should sports drinks be marketed to nonathletes and children? Are sports drinks a smart choice or just another sugary beverage?</p>	<p>Inquirers: Students explore health information and making informed choices.</p> <p>Thinkers: Students weigh scientific evidence and health claims.</p> <p>Communicators: Students discuss opinions with facts and clarity.</p> <p>Principled: Students consider the ethics of marketing health-related products.</p>	<p>Development: How do products like sports drinks develop in response to human health needs?</p> <p>Systems: How do the body’s systems interact with what we eat and drink?</p> <p>Perspective: Why do people have different views about health and hydration?</p>

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<p>Old Machine, New Answers</p> <p>Summary: Researchers have uncovered evidence that an ancient astronomy tool was used to track the dates of the ancient Olympic games.</p>	<p>Learning about ancient discoveries can change the way we think about history and what people knew long ago.</p>	<p>Factual: What was the Antikythera Mechanism used for?</p> <p>How did researchers uncover the device’s functions?</p> <p>Conceptual: Why is the Antikythera Mechanism important to the study of ancient technology?</p> <p>How do new technologies help us learn about the past?</p> <p>Debatable: Should ancient artifacts be reinterpreted as technology improves?</p> <p>Can we ever fully understand how ancient tools were used?</p>	<p>Inquirers: Students ask questions about history and science.</p> <p>Knowledgeable: Students understand how evidence builds historical knowledge.</p> <p>Open-minded: Students are willing to revise what they believe about the past.</p> <p>Reflective: Students consider the impact of discoveries on what we think we know.</p>	<p>Systems: How do ancient inventions help us understand the past?</p> <p>Development: How does technology help us solve mysteries?</p>
<p>The Winged Man</p> <p>Summary: Meet inventor Abbas ibn Firnas. He is the first person in recorded history to achieve flight!</p>	<p>Human curiosity and creative experimentation can lead to innovation that shapes the future.</p>	<p>Factual: Who was Abbas ibn Firnas, and what did he do?</p> <p>What materials and ideas influenced Firnas’ flying device?</p> <p>Conceptual: How do science, culture, and imagination intersect in technological invention?</p> <p>In what ways does failure contribute to future success?</p> <p>Debatable: Should historical innovators like Abbas ibn Firnas receive more recognition in the story of science and technology?</p> <p>Can scientific progress exist without risk?</p>	<p>Thinkers: Students think about the importance of imagination and critical thinking in solving real-world problems.</p> <p>Risk-takers: Students learn about an example of being willing to experiment and explore the unknown.</p> <p>Knowledgeable: Students explore how ideas and discoveries connect across time and disciplines.</p>	<p>Development: How can creative thinking and experimentation lead to technological breakthroughs?</p> <p>Connections: How do historical and cultural contexts influence technological discovery?</p>

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<p>Animals in the Race to Space</p> <p>Summary: Before humans ever went into space, animals were sent to test the effects of low gravity.</p>	<p>Scientific progress in space exploration has often relied on testing systems with animals, raising questions about innovation, risk, and ethics.</p>	<p>Factual: What role did animals play in early space missions?</p> <p>Which countries led the early efforts in space exploration?</p> <p>Conceptual: How do scientific and ethical considerations shape innovation?</p> <p>Why is testing necessary in scientific advancement?</p> <p>Debatable: Should animals still be used in scientific experiments today?</p> <p>Is space exploration worth the risks and resources involved?</p>	<p>Inquirers: Students explore the history and goals of scientific missions.</p> <p>Thinkers: Students evaluate the ethics of experimentation.</p> <p>Communicators: Students share perspectives on global cooperation in space.</p>	<p>Change: How does space exploration reflect changes in science and society?</p> <p>Systems: How do technology and experimentation work together in space programs?</p>
<p>You Got That Right, Um, Wrong</p> <p>Summary: If you think bats are blind, tomatoes are vegetables, and wet hair causes pneumonia, you're not alone. It's time to set the record straight on these and other common misconceptions.</p>	<p>Misconceptions can persist when ideas are not questioned, or evidence is misunderstood.</p>	<p>Factual: What are some common misconceptions mentioned in the article?</p> <p>What is the actual tallest mountain when measured from base to summit?</p> <p>Conceptual: Why do some misconceptions last even when there is evidence to disprove them?</p> <p>How does scientific thinking help us correct false beliefs?</p> <p>Debatable: Should schools do more to teach students how to identify misinformation?</p> <p>Is it more important to know facts or to question them?</p>	<p>Inquirers: Students explore questions and look for evidence to separate fact from fiction.</p> <p>Thinkers: Students analyze why certain beliefs persist and apply logic to test ideas.</p> <p>Knowledgeable: Students learn new information that corrects widespread myths and misunderstandings.</p> <p>Communicators: Students discuss and explain why some facts are misunderstood and how to clarify them.</p> <p>Reflective: Students consider how their own thinking has changed after encountering new evidence.</p>	<p>Perspective: How do different cultures, time periods, or people influence what we think we know?</p> <p>Communication: How does the way information is shared affect what people believe?</p> <p>Change: How does new evidence change our understanding of science, history, and everyday ideas?</p>

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<p>Pluto: Full of Surprises</p> <p>Summary:</p> <p>A spacecraft finally reached Pluto after traveling for nearly 10 years. It began transmitting data and photos of the dwarf planet.</p>	<p>Scientific innovation leads to new understanding of space and challenges previous assumptions about our solar system.</p>	<p>Factual: What is Pluto made of?</p> <p>What did the New Horizons mission discover?</p> <p>Conceptual: How can extreme environments like Pluto support geological activity?</p> <p>Debatable: Should space exploration of distant bodies continue to receive significant funding despite high costs and risks?</p>	<p>Inquirers: Students ask questions about Pluto and use data to explore its features.</p> <p>Thinkers: Students analyze evidence and challenge old ideas about the solar system.</p> <p>Knowledgeable: Students gain new understanding about Pluto through scientific discoveries.</p> <p>Communicators: Students explain Pluto’s features and discoveries clearly to others.</p> <p>Reflective: Students consider how new evidence has changed their thinking.</p>	<p>Perspective: How have scientific views about Pluto changed over time, and why?</p> <p>Communication: How does the way NASA shares new discoveries shape public understanding of space?</p> <p>Change: How has new evidence from New Horizons transformed what we know about Pluto?</p>

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<p>The Magic of Snowy River</p> <p>Summary:</p> <p>Snowy River is the longest known cave formation. It's so long that scientists haven't even reached its end.</p>	<p>Exploring hidden places on Earth helps us make new discoveries that can change what we know about nature, life, and our planet.</p>	<p>Factual: What is Snowy River, and where is it located?</p> <p>How was Snowy River discovered?</p> <p>What minerals and life forms have scientists found in the cave?</p> <p>Conceptual: How do underground environments like caves form and change over time?</p> <p>How can life exist without sunlight in extreme environments?</p> <p>What can Snowy River teach us about Earth's geology and ecosystems?</p> <p>Debatable: Should Snowy River and other natural formations be protected even if they contain valuable resources?</p> <p>Is scientific exploration more important than preserving untouched natural areas?</p>	<p>Inquirers: Students ask questions about underground ecosystems and how they form.</p> <p>Thinkers: Students evaluate scientific theories about caves and crystal formation.</p> <p>Knowledgeable: Students learn about geology, microbes, and environmental conservation.</p> <p>Communicators: Students explain how Snowy River was discovered and why it matters.</p> <p>Reflective: Students consider how their ideas about life and Earth's systems change with new evidence.</p>	<p>Knowledge: How do scientists discover and confirm what lies beneath Earth's surface?</p> <p>Perspective: How do exploration and scientific discovery shape the way we understand natural environments?</p> <p>Communication: How does the sharing of new scientific findings influence public interest and conservation efforts?</p> <p>Change: How does new evidence about caves and microbes change our understanding of life on Earth?</p>

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<p>What's in a Name?</p> <p>Summary: Some organizations let people pay money to name new species.</p>	<p>Scientific research can benefit from creative funding methods, but this also raises questions about ethics and ownership.</p>	<p>Factual: What is taxonomy, and how does it work?</p> <p>How was the Goodhartz sea worm discovered and named?</p> <p>How does Scripps prevent fraud in its naming program?</p> <p>Conceptual: Why do naming systems matter in science?</p> <p>What are the ethical considerations of selling naming rights for new species?</p> <p>Debatable: Should people be allowed to pay to name a species they didn't discover?</p> <p>Does fundraising through species naming help or harm scientific research?</p>	<p>Inquirers: Students ask questions about how and why species are named and investigate how science and funding are connected.</p> <p>Thinkers: Students analyze the ethical issues involved in selling naming rights and apply reasoning to evaluate both sides of the debate.</p> <p>Knowledgeable: Students learn about taxonomy and how scientific naming systems work to classify and share information.</p> <p>Communicators: Students discuss how naming choices influence scientific understanding and public perception.</p>	<p>Form: How do scientists decide what something is and how to name it?</p> <p>Development: How do scientific systems like taxonomy change over time?</p> <p>Communication: How does the naming of species help scientists share and organize knowledge?</p> <p>Perspective: How do personal values or motives affect scientific practices?</p>

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<p>A Strange World, Right Here on Earth</p> <p>Summary: In the deepest parts of the ocean, scientists found thousands of species they'd never seen before.</p>	<p>Exploring the deep sea helps us discover new forms of life and understand how living things survive in extreme environments.</p>	<p>Factual: What is the Census of Marine Life? How do deep-sea creatures survive without sunlight? What is the goal of the Ocean Census project?</p> <p>Conceptual: Why is biodiversity important, even in extreme places like the deep sea? How do scientific tools and technology improve our understanding of life on Earth?</p> <p>Debatable: Should more funding be invested in deep-sea exploration instead of space exploration? Is it important to protect ocean species that we've only just discovered?</p>	<p>Inquirers: Students ask questions about life in the deep sea and seek evidence to understand biodiversity.</p> <p>Thinkers: Students analyze survival strategies in extreme environments and apply reasoning to global environmental issues.</p> <p>Knowledgeable: Students learn about newly discovered species and how they fit into Earth's ecosystems.</p> <p>Communicators: Students explain discoveries clearly and discuss the impact of new technologies on science.</p> <p>Reflective: Students consider how their understanding of life on Earth changes with new scientific discoveries.</p>	<p>Form: How do scientists classify newly discovered sea life?</p> <p>Change: How has our understanding of ocean life changed with new discoveries?</p> <p>Connections: How is life in the deep sea connected to the larger systems of Earth's biosphere?</p> <p>Development: How does new technology help us learn more about Earth's most unexplored places?</p> <p>Creativity: How do scientists solve challenges of exploring extreme environments like the deep sea?</p>

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<p>Steps Toward Walking</p> <p>Summary: A man paralyzed after being struck by a car can move again because of a device implanted on his spinal cord.</p>	<p>Scientific innovation can give people new hope and possibilities, even when challenges seem impossible to overcome.</p>	<p>Factual: What medical technology was used to help Rob Summers move again?</p> <p>How does the spinal cord stimulator work?</p> <p>Why was Summers' case so groundbreaking?</p> <p>Conceptual: How can science and technology change what we believe is possible for people with disabilities?</p> <p>What factors influence the success of new medical treatments?</p> <p>Debatable: Should all patients with paralysis have access to spinal cord stimulators, even if results are not guaranteed?</p> <p>How much should society invest in high-cost medical innovations that help a small number of people?</p>	<p>Inquirers: Students investigate how new technology can improve lives and ask questions about what's possible in science.</p> <p>Thinkers: Students evaluate evidence and explore how medical innovations are tested and applied.</p> <p>Knowledgeable: Students learn about the nervous system, spinal injuries, and real-world applications of biomedical research.</p> <p>Communicators: Students explain how Rob Summers' case shows the power of scientific collaboration and clear communication.</p> <p>Reflective: Students consider how their views on ability, health, and the limits of science might change after learning about this case.</p>	<p>Change: How do scientific discoveries lead to life-changing possibilities?</p> <p>Development: How does medical technology evolve to help people with physical challenges?</p> <p>Identity: How can health and ability shape someone's sense of self and future?</p> <p>Connections: How do breakthroughs in one field of science influence others and improve lives?</p>