IOLS Simplified Chinese

Start of Block: Default Question Block

Q1 Greetings!
Our research team is interested in your understanding of the ocean. Please answer the questions below as best as you can. We will not share your responses with your teacher or school, we just want to know what you know about the ocean. Do your best to answer them correctly, but we are interested in what you know now, so please don't try to find the answers online. Your participation is completely voluntary, if you do not want to answer a question you may skip it and you are free to stop taking the survey at anytime. Thanks for your contribution to our work.

Q70



Q2 Do you agree to participate in the International Ocean Literacy Survey?

- ○ Yes (1)
- ○ No (2)

Skip To: End of Survey If Q2 = 2

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Q3 In which country do you live?

_____

Q4 What city do you live in?

_____

Q5 What is the name of your school?

_____

Q6 I identify my gender as:

- Male (1)
- Female (2)
- Non binary (3)
- Prefer not to disclose (4)

Q7 I am:

- 15 years old (1)
- 16 years old (2)
- 17 years old (3)
- Other age (4)

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Q8 Select the one best response for each question.

Q9 What is the best explanation of how ocean water moves?

- Water in each ocean basin (e.g., Atlantic, Pacific, Indian) moves only within that basin. (1)
- Water in the Pacific Ocean basin will eventually move to all other ocean basins. (2)
- Ocean water moves throughout either the northern hemisphere or the southern hemisphere. Water does not cross the equator. (3)
- Water in smaller basins, like the Mediterranean Sea, remains there and does not move to other basins. (4)

Q10 Because the ocean covers most of the Earth:

- it has the most dominant influence on Earth's weather and climate. (1)
- most living things are concentrated on land. (2)
- most of the Earth is not useful for humans. (3)
- it generates most of the Earth's greenhouse gases. (4)

Q11 Which statement describes the main process that shapes the features of the land and the ocean floor?

- Both the land and the ocean floor are shaped by movement of the Earth's crust. (1)
- Erosion caused by rivers brings material from the land to the ocean which shapes the ocean floor. (2)
- Both land and ocean features are shaped by the wind. (3)
- Both the land and the ocean floor are shaped by changes to climate. (4)

Q12 Ocean currents are influenced by both:

- global ship traffic and Earth's rotation. (1)
- the position of land masses and Earth's rotation. (2)
- global ship traffic and the acidity of the ocean. (3)
- adjacent land masses and the acidity of the ocean. (4)

Q13 How is sea level measured?

- Average depth of the ocean. (1)
- Average height of the ocean relative to the land. (2)
- Height of the ocean relative to land at the lowest tide. (3)
- Height of the ocean relative to land at the highest tide. (4)

Q14 Which of these statements about seawater and freshwater is true?

- Seawater freezes at a lower temperature than freshwater, and seawater conducts electricity better than freshwater. (1)
- Seawater freezes at a higher temperature than freshwater, and seawater conducts electricity better than freshwater. (2)
- Seawater freezes at a lower temperature than freshwater, and freshwater conducts electricity better than seawater. (3)
- Seawater cannot freeze and seawater conducts electricity better than freshwater. (4)

Q15 Where is most of the water on Earth?

- In the atmosphere. (1)
- In polar ice caps. (2)
- In rivers and lakes. (3)
- In the ocean. (4)

Q16 Which of the following is the most accurate about the water in the Earth's water cycle?

- Much of the same water has been traveling through the water cycle for millions of years. (1)
- Water joins the water cycle when new water is made through condensation. (2)
- Water leaves the water cycle when it evaporates from the ocean. (3)
- Water leaves the water cycle when humans and other organisms drink it. (4)

Q17 What connects the ocean to all water on Earth?

- Transpiration and precipitation. (1)
- Precipitation and evaporation. (2)
- Deposition and evaporation. (3)
- Deposition and transpiration. (4)

Q18 Rivers supply most of the salt to the ocean. The salt in the rivers comes from:

- mountain ice melting. (1)
- erosion of land. (2)
- rainfall in the rivers. (3)
- human caused pollution. (4)

Q19 Sand on the shoreline is:

- likely to stay on the same beach for hundreds of years. (1)
- continually transported by waves and currents. (2)
- continually transported by activities of animals that live there. (3)
- likely to be transported inland by wind and rivers. (4)

Q63 What occurs during an El Nino year?

- There are large but temporary changes in the salinity of the ocean. (1)
- The temperature of the ocean gets colder. (2)
- There are large but temporary changes in global weather patterns. (3)
- There are large permanent changes in global weather patterns. (4)

Q64 Most rain that falls on land originally evaporated from:

- the ocean near the equator. (1)
- the middle of each ocean basin. (2)
- nearby lakes and rivers. (3)
- the nearest ocean basin. (4)

Q20 The ocean affects climate change by absorbing, storing, and moving:

- carbon and salt. (1)
- carbon and heat. (2)
- phytoplankton and heat. (3)
- phytoplankton and salt. (4)

Q21 How is climate change impacting the Arctic?

- The impact on the Arctic is the same as on the rest of the planet. (1)
- The Arctic is warming faster than the rest of the planet. (2)
- Glaciers are melting in some parts of the Arctic and growing in other parts. (3)
- Tropical ocean fishes are migrating to the Arctic. (4)

Q22 Where did most of the oxygen in the atmosphere originally come from?

- Released into the atmosphere by volcanos erupting. (1)
- From interstellar gases when the Earth was first formed. (2)
- Released during photosynthesis by land plants. (3)
- Released during photosynthesis by marine organisms. (4)

Q23 Fossil evidence shows that life most likely first evolved:

- on land. (1)
- in the ocean. (2)
- under Earth's surface. (3)
- in outer space. (4)

Q24 What is the largest animal ever to live on Earth?

- Giant squid. (1)
- Woolly mammoth. (2)
- Blue whale. (3)
- Giganotosaurus (4)

Q25 Most living material (biomass) in the ocean is found in:

- fishes (sharks, salmon, cod, etc.). (1)
- plankton (jellyfish, krill, diatoms, etc.). (2)
- marine mammals (whales, dolphins, walruses, etc.). (3)
- molluscs (snails, clams, squid, etc.). (4)

Q26 There are over 30 major groups of organisms (vertebrates, arthropods, molluscs, etc.) on Earth. Where are most of these major groups found?

- Most are found exclusively in the tropical rainforests. (1)
- Most are found on both land and in the ocean. (2)
- About half are found exclusively in the ocean. (3)
- Almost all are found exclusively in the ocean. (4)

Q27 Both land and ocean provide space for organisms to live. How much of Earth's living space is found in the ocean?

- Only a little bit (less than 10%). (1)
- About half (40–60%). (2)
- More than half (60–80%). (3)
- Nearly all (more than 90%). (4)

Q28 In the ocean, organisms are found:

- at the surface, in the water column, on the sea floor, and on the seashore. (1)
- at the surface, on the sea floor, and on the seashore but not in the water column. (2)
- on the sea floor and in the water column, but not on the surface or on the seashore. (3)
- mostly in the water column and on the sea floor but not at the surface or on the seashore. (4)

Q29 Which of the following most influences the depth at which organisms live in the open ocean (away from the shoreline)?

- Salinity levels. (1)
- Crashing waves. (2)
- Light levels. (3)
- Human activity. (4)

Q30 What is the source of energy for ocean ecosystems where there is no sunlight?

- Chemical energy from hydrothermal vents. (1)
- Wave energy from the wind. (2)
- Nuclear energy from underwater radioactive material. (3)
- Thermal energy from volcanoes. (4)

Q31 Which of the following has the largest influence on the vertical distribution of organisms on the seashore?

- Sunlight. (1)
- Salinity. (2)
- Tides. (3)
- Trampling by people. (4)

Q32 Which of the following marine ecosystems is the most important nursery areas for many marine species?

- Coral reefs (reefs formed by living corals). (1)
- The deep sea (more than 100m below the ocean surface). (2)
- The open ocean (away from the shoreline). (3)
- Estuaries (where rivers meet the ocean). (4)

Q33 What is the best explanation of ocean acidification?

- Burning fossil fuels (coal, oil, etc.) adds carbon dioxide to the atmosphere, which is absorbed by the ocean and increases its acidity. (1)
- Pollution adds toxic chemicals to the ocean that increases its acidity. (2)
- Fertilizers from agriculture are washed into the ocean and this increases the acidity of the ocean. (3)
- Upwelling of naturally acidic sea water from deep in the ocean increases the acidity at the surface. (4)

Q34 Which of the following are happening because of human-caused changes to ocean temperatures and pH levels?

- Ocean salinity is increasing and the frequency of oil spills is increasing. (1)
- The frequency of oil spills is increasing and many coral reefs are degraded or dying. (2)
- Many coral reefs are degraded or dying and the diversity of life in the ocean is decreasing. (3)
- The diversity of life in the ocean is decreasing and ocean salinity is increasing. (4)

Q35 The use of satellites, buoys, and remotely-operated vehicles improve our understanding of the ocean because the new technologies:

- reduce errors from human measurements of the ocean. (1)
- cause less disturbance to the marine environment. (2)
- are cheaper than previous tools. (3)
- collect much more data than scientists on ships can. (4)

Q36 Sea level changes have:

- reversed the direction that some rivers flow. (1)
- changed global temperatures. (2)
- changed the shape of the coastline. (3)
- increased fish populations. (4)

Q37 Scientists are discovering that more species than they expected live in the deep sea. These discoveries are only being made now because:

- environmental conditions are causing species to migrate to the deep sea. (1)
- deep sea species evolve more rapidly than shallow water species. (2)
- shallow water species have been overfished. (3)
- scientists are just beginning to explore the deep sea. (4)

Q38 Which of the following is the best way for scientists to make predictions about complex ocean and atmospheric interactions, like hurricanes and climate change?

- Simulations in aquariums (1)
- Detailed long term monitoring of ocean and atmosphere. (2)
- Observations of coastlines. (3)
- Mathematical modeling. (4)

Q39 Making new discoveries about the complexity of the ocean requires:

- a degree in marine biology. (1)
- living near the ocean. (2)
- collaboration among people with different expertise. (3)
- use of SCUBA gear for diving. (4)

Q40 Over the last 50 years humans have:

- increased their use of ocean resources. (1)
- explored most of the ocean. (2)
- reduced total emissions from ships into the ocean. (3)
- reduced unsustainable use of ocean resources. (4)

Q41 Absorption of carbon dioxide (CO_2) by the ocean has a direct influence on which of the following?

- The greenhouse effect and dead zones in the ocean. (1)
- Acid rain and harmful algal blooms. (2)
- Acid rain and ocean acidification. (3)
- The greenhouse effect and ocean acidification. (4)

Q42 Clams, oysters, and other marine organisms use the carbon dissolved in the ocean to:

- breathe underwater. (1)
- regulate body temperature. (2)
- build shells. (3)
- assist in reproduction. (4)

Q43 Which of the following is true about ecological relationships in the ocean?

- They are very similar to those on land, including similar food webs, life cycles, and symbiotic relationships. (1)
- They are mostly unknown since so much of the ocean has not been explored. (2)
- They are mostly very simple compared to those on land. (3)
- There are unique features of food webs, life cycles, and symbiotic relationships in the ocean that are not found on land. (4)

Q44 Which of the following is true concerning the exploration of the ocean?

- People have been exploring the ocean for thousands of years and most of it has been explored. (1)
- Almost all of the ocean has been explored in the last 50 years because of new technology. (2)
- Most of the ocean is still unexplored despite improvements in technology in the last 50 years. (3)
- Most of the ocean is still unexplored because scientists focus on the areas where most organisms live. (4)

Q46 Look at the image. If both cities are at the same elevation, it is likely that:

- city A will have warmer summers and cooler winters than city B. (1)
- city A will have warmer summers and warmer winters than city B. (2)
- city A will have cooler summers and warmer winters than city B. (3)
- city A will have similar temperatures as City B in each season. (4)

Q47 If there was no ocean, the Earth's surface temperatures would be:

- more extreme around the world. (1)
- less extreme around the world. (2)
- cooler in the summer and warmer in the winter. (3)
- about the same as they are now. (4)

Q48 Ocean resources:

- are sufficient to support today's fishing practices into the future. (1)
- can always be replaced with resources from another part of the ocean. (2)
- replenish themselves quickly. (3)
- are limited and in rapid decline around the world. (4)

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Q49 Complete each of the following sentences with the statements below them, and mark each one TRUE or FALSE.

Q50 Rivers can transport ____ to the ocean.

	False (1)	True (2)
nutrients (1)	○	○
sand (2)	○	○
rocks (3)	○	○
pollutants (4)	○	○

Q51 Changes to sea level are caused by _____.

	False (1)	True (2)
movement of the continental plates (1)	○	○
melting and growing of ice caps on land (2)	○	○
warming and cooling of ocean water (3)	○	○
movement of sediments from coastal erosion (4)	○	○

Q52 Changes to the shape of coastlines are caused by _____.

	False (1)	True (2)
sea level changes (1)	○	○
seawater salinity changes (2)	○	○

movement of the continental plates (3)	○	○
forces of waves (4)	○	○

Q53 Humans depend on the ocean for _____.

	False (1)	True (2)
food and medicine (1)	○	○
minerals and energy resources (2)	○	○
transportation and job (3)	○	○
benefits to the economy (4)	○	○
nuclear fusion (5)	○	○

Q54 Industrial development by humans has lead to _____.

	False (1)	True (2)
ocean pollution (1)	○	○
changing the shape of the coastline (2)	○	○
increasing ocean acidity (3)	○	○
Increasing the frequency of tsunamis (4)	○	○
improving conditions for indigenous people (5)	○	○

Q55 Humans use the ocean for _____.

	False (1)	True (2)
earthquake and tsunami prediction (1)	○	○
recreation (2)	○	○
food and medicine (3)	○	○
art and cultural heritage (4)	○	○
transportation (5)	○	○

Q56 Caring for and protecting the ocean is the responsibility of _____.

	False (1)	True (2)
leaders of each country because they set national policies (1)	○	○
highly intelligent ocean animals like whales and dolphins (2)	○	○
individuals because everyone benefits from the ocean regardless of where they live (3)	○	○

Q57 The ocean affects your life because it _____.

	False (1)	True (2)
provides much of the oxygen you breathe (1)	○	○
provides nuclear energy to heat your home (2)	○	○
supplies the rain that grows your food (3)	○	○

influences the climate of the place where you live (4)	○	○

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Q58 Mark each statement TRUE or FALSE.

Q59 Mark each geology statement below TRUE or FALSE

	False (1)	True (2)
Many rocks on land were formed in the ocean. (1)	○	○
Rocks on land are formed differently from rocks in the ocean. (2)	○	○
Geological processes (e.g., volcanoes and earthquakes) can push rocks formed in the ocean above the surface of the ocean. (3)	○	○

Q60 Mark each statement below about human impacts to the ocean TRUE or FALSE

	False (1)	True (2)
People who live far from the ocean do not cause pollution in the ocean. (1)	○	○
Airplanes increase the rate of ocean acidification more than other forms of transportation. (2)	○	○
All people, regardless of where they live, cause pollution in the ocean. (3)	○	○
People who live near the ocean contribute more to ocean acidification that people who live far from the ocean. (4)	○	○

Q61 Mark each of the statements below about the ocean and atmosphere TRUE or FALSE.

	False (1)	True (2)
Interactions between the ocean and the atmosphere	○	○

strongly influence weather and climate. (1)		
There are different seasons throughout the year because the ocean absorbs much of the heat from the sun. (2)	○	○
The water cycle is powered by the transfer of heat between the ocean and the atmosphere. (3)	○	○
Transfer of heat between the ocean and the atmosphere drives global circulation of water and air and can cause storms around the world. (4)	○	○

End of Block: Default Question Block