

OSSLT Grade 10 Academic

Read the following OSSLT passages from your textbooks and answer the corresponding Multiple Choice Questions. Please place all answers on your answer sheet for marking. Each multiple choice question is worth 1 communication mark. This assignment is worth 5% of your final grade.

CHEMISTRY ~Awesome Science: Poisonous Jewellery (page 255)

1. According to the article, which is not a contributing factor to a nickel allergy?
 - a. presence of electrolytes
 - b. the type of metal involved
 - c. prolonged direct skin contact
 - d. wearing 18-karat yellow gold
2. What is the purpose of the last paragraph in the article?
 - a. to persuade readers to avoid all piercings
 - b. to encourage safe decisions about piercings
 - c. to explain the consequences of nickel allergies
 - d. to describe why nickel allergies are growing problem
3. Which paragraph details the chemical reaction that produces nickel ions?
 - a. paragraph 1
 - b. paragraph 2
 - c. paragraph 4
 - d. paragraph 5
4. In paragraph 1, the words “shiny” and “silvery” are used to describe
 - a. nickel
 - b. 18 karat gold
 - c. dental braces
 - d. surgical implants
5. Use the information in the article to write a paragraph explaining how to avoid developing a nickel allergy. (short answer)

Tech Connect: Scrubbers: Antacids for Smokestacks (page 291)

1. According to the selection, what is the function of a scrubber?
 - a. to change calcium carbonate to liquid
 - b. to increase the productivities of smelting plant
 - c. to reduce the pollution emitted from a smokestack
 - d. to keep water vapour from entering the atmosphere
2. What is the purpose of this article?
 - a. to inform
 - b. to persuade
 - c. to entertain
 - d. to investigate

3. According to the information in paragraph 2, what does sulfur dioxide form when it reacts with water?
 - a. nickel ore
 - b. sulfuric acid
 - c. calcium sulfite
 - d. carbon dioxide

4. What is “The Problem” referred to in the heading above paragraph 2?
 - a. pollution reduction
 - b. scrubber technology
 - c. sulfur dioxide emissions
 - d. strict environmental laws

5. Write a paragraph that explains why scrubbers should be installed in all smokestacks, even if the laws of a particular country do not require them. (short answer)

Awesome Science: Processing Hazardous Waste (page 179)

1. According to the article, what percentage of Ontario households routinely bring their hazardous wastes to waste collection depots for disposal?
 - a. 10%
 - b. 50%
 - c. 85%
 - d. 100%

2. What happens when hazardous waste first arrives at the waste collection depot?
 - a. It is recycled as scrap metal
 - b. It is sorted into different classes of materials
 - c. it is packaged and shipped to a processing company
 - d. it is sold to institutional users, such as the government

3. What is the main purpose of this article?
 - a. to explain how hazardous waste is processed
 - b. to describe the consequences of untreated hazardous waste
 - c. to explain how consumers can produce less hazardous waste
 - d. to describe how hazardous materials are manufactured and marketed

4. What does the last sentence in paragraph 1 tell the reader?
 - a. the final conclusion of the entire article
 - b. the author’s opinion of hazardous waste
 - c. what information will be presented in the next paragraphs
 - d. what information was presented at the beginning of paragraph 1

5. Summarize the information in the article and write a paragraph that explains how hazardous waste is treated. (Short answer)

OPTICS ~ Science Works: Hiding in Plain Sight- The Invisibility Cloak (page 534)

1. Which property would be most important in developing an invisibility device?
 - a. refractive index
 - b. melting point
 - c. metallic lustre
 - d. density

2. In a metamaterial, light is
 - a. completely unrefracted
 - b. totally reflected
 - c. refracted on the opposite side of the normal
 - d. refracted on the same side of the normal

3. The first sentence of paragraph 3 means that scientist hope to
 - a. repeat the invisibility experiment with copper rings and microwaves
 - b. use metamaterials and microwaves to produce invisibility
 - c. use metamaterials and visible light to produce invisibility
 - d. make copper rings seem to disappear in visible light

4. According to the article
 - a. invisibility cloaks for people are expected very soon
 - b. invisibility has only been produced to date with microwaves
 - c. metamaterials are easily constructed
 - d. invisibility devices remain strictly science fiction

5. Why would invisibility experiments using microwaves have anything to do with invisibility experiments involving visible light? (short answer)

Tech Connect: Cleaning with Light (page 487)

1. In paragraph 1, “manual scraping” refers to a scraping done
 - a. according to an instruction booklet
 - b. by hand
 - c. with chemicals
 - d. while a supervisor watches

2. Laser light cleans statues and paintings by
 - a. bleaching dirt particles to make to make them transparent
 - b. melting the paint surface, so it absorbs and hides dirt particles
 - c. rapidly vaporizing dirt particles, turning them into gas
 - d. heating dirt particles, causing them to expand and fall off

3. In the second sentence of paragraph 3, the commas are used to
 - a. highlight contrasting information
 - b. set off information that is not essential to the sentence
 - c. separate independent clauses
 - d. indicate missing words

4. Which of the following uses of lasers relies on these same properties of lasers as the cleaning of art?
- laser surgery that reshapes the surface of the eye
 - bouncing laser to cut or weld steel
 - using lasers to cut or weld steel
 - laser scanning of product barcodes in stores
5. Based on the last sentence of the article, discuss whether lasers were developed for scientific reasons or technological reasons. Cite wording from the article in your answer. (short answer)

Awesome Science: The Einstein Ring (page 571)

- the first sentence of paragraph 1 expresses
 - a supporting detail
 - a main idea
 - a conclusion
 - a purpose
- Which word would best replace the word “distort” in the second sentence of paragraph 1?
 - tear
 - crush
 - collapse
 - warp
- Which alignment could form an image of a quasar visible from Earth using the process of gravitational lensing?
 - Earth, quasar, and massive galaxy all in a straight line
 - massive galaxy, earth, and quasar all in a straight line
 - quasar, massive galaxy, and Earth spaced equally apart on a circle
 - quasar, massive galaxy, and Earth all in a straight line
- Which of the following is best alternate title for this article?
 - “Einstein’s Predictions”
 - “Gravitational Lenses”
 - “Quasars in New Light”
 - “Hubble Shows an Amazing Universe”
- What evidence supports the existence of gravitational lenses? Use specific details to support your answer. (short answer)

BIOLOGY ~ Awesome Science: Aging: It is in Our Cells (page 45)

- Telomeres:
 - in older cells do not line up
 - stand guard over the orientation of centromeres
 - protect chromosomes from damaged during cell division
 - are like shoelaces

2. Daughter cells with defective copies of the gene COX-2 can lead to
 - a. old age
 - b. alzheimer's disease and osteoporosis
 - c. heart and kidney failure
 - d. faulty cell divisions

3. The topic sentences of paragraph 3 is
 - a. the first sentence in the paragraph
 - b. the second sentence in the paragraph
 - c. the fourth sentence in the paragraph
 - d. the last sentence in the paragraph

4. COX-2 is
 - a. a mutant gene
 - b. an example of an "aging gene"
 - c. a defective gene
 - d. a protein produced by a gene

5. Summarize this selection. Include the main idea and one relevant point that supports it. (short answer)

Science Works: West Nile Virus (page 90)

1. Lab technicians test birds as well as mosquitoes for the West Nile Virus because
 - a. They need practice
 - b. the two tests are very similar
 - c. birds also carry the virus
 - d. they need a control group for comparison

2. Insect repellants may not be effective because
 - a. mosquitoes may be becoming resistant to them
 - b. people are using them more often
 - c. they must be applied by a licensed applicator
 - d. people are spending less time outdoors

3. Paragraph 4
 - a. contains no topic sentence
 - b. contains details that relate to the topic sentence of paragraph 3
 - c. contains two topic sentences
 - d. contains details that do not support the topic sentence

4. Which choice represents the conclusion that officials have made about controlling West Nile Virus?
 - a. spray pesticides intensively whenever the virus appears
 - b. be alert, use pesticides sparingly, clean up breeding grounds, keep researching
 - c. never use pesticides
 - d. forces people to stay inside during warm months.

5. Was the author's purpose in writing this selection to persuade people to help stop the spread of WNV? Explain your answer. (short answer)

Tech Connect: Seeing Inside (text page 33)

1. Paragraph 1 of the article does not:

- a. explain impact of new technology on disease diagnosis
- b. describe how tradition microscopy works
- c. list the advantage of confocal microscopy
- d. contain the main idea of the selection

2. What does confocal microscopy do?

- a. it allows scientist to view cells at great magnification
- b. it allows scientist to view cells at different depths
- c. it allows scientists to view fluorescent part so cells on different planes
- d. it allows scientist to view an entire cell in bright light

3. Infrared light makes images from deep inside the sample possible because:

- a. it is more focused than visible light
- b. it has more energy than visible light
- c. it is more confocal that visible light
- d. it is used more often than visible light

4. From reading the text you might infer that fluorescent materials might be incorporated into cells by:

- a. using a tiny syringe to insert material into thousands of cells by hand
- b. exposing cells to fluorescent light
- c. supplying nutrients that have fluorescent markers for cells to take up
- d. grinding up cells and mixing in fluorescent material

5. In paragraph 2, three different terms appear in parentheses. Explain why the author did this. (short answer).

CLIMATE CHANGE~ Science Works: Lake Agassiz: Studying Past Climate (page 354)

1. What caused the formation of Lake Agassiz?

- a. ice melting from 20th century climate change
- b. ice melting during the last ice age
- c. ice melting billions of years ago
- d. ocean water pouring over the land

2. The dark blue area on the map shows

- a. the extent of Lake Agassiz today
- b. the area that was once covered by ice
- c. the area that James Teller found to be covered with sand
- d. the extent of Lake Agassiz during the end of the ice age.

3. How did James Teller reconstruct the history of Lake Agassiz?
 - a. by studying ancient glaciers
 - b. by using a computer simulation
 - c. by studying ancient beaches and lake bottoms
 - d. by studying the bottoms of lakes that exist today

4. What might have caused the volume of Lake Agassiz to change suddenly?
 - a. climate change
 - b. ice breaking and water escaping
 - c. a colder climate
 - d. a sea level rise

5. Explain how volume changes in Lake Agassiz could have cause climate changes on Earth. (short answer)

Awesome Science: Geoengineering to Combat Climate Change? (page 418)

1. What idea does the question mark in the title of this article convey?
 - a. That climate change might or might not be occurring
 - b. that geoengineering is a certain answer to climate change
 - c. that geoengineering is a possible way to combat climate change
 - d. that ideas for geoengineering to combat climate change have not yet been developed

2. What heading could be used to describe the content of paragraphs 2, 3, and 4?
 - a. geoengineering ideas
 - b. the history of geoengineering
 - c. how climate change affects earth
 - d. experts' opinions about geoengineering

3. What is the main purpose of this article?
 - a. to convince people to avoid activities that contribute to climate change
 - b. to present a balanced article about the risks and benefits of geoengineering
 - c. to convince the reader that geoengineering can fix the problems of climate change
 - d. to share the author's opinion that geoengineering is not a useful kind of problem solving

4. According to the article, what is not a risk of geoengineering?
 - a. the projects might not work as expected
 - b. it could be a backup plan if Earth's climate changes suddenly
 - c. we cannot predict all the consequences of changing Earth's climate
 - d. people might assume the problem of climate change is taken care of

5. Is geoengineering an answer to climate change? Use facts to support your opinion (short answer)

Tech Connect: Using Satellites to Monitor Earth (page 379)

1. What is the purpose of the bulleted statements following paragraph 2?
 - a. to list examples of how satellites are used
 - b. to provide information about Earth's natural satellites
 - c. to give details about the path that satellites travel in as they orbit
 - d. to summarize how RADARSAT-1 is used for scientific research

2. According to the article, what is the main function of RADARSAT-1 and RADARSAT-2?
 - a. to help ships and airplanes navigate
 - b. to transmit telephone conversations
 - c. to monitor environmental conditions
 - d. to broadcast radio and television programs

3. How often does RADARSAT-2 circle Earth?
 - a. once every year
 - b. once every 24 days
 - c. once every 24 hours
 - d. once every 100 minutes

4. Which country launched RADARSAT-1 and RADARSAT-2?
 - a. China
 - b. Canada
 - c. Soviet Union
 - d. United States

5. Write a paragraph explaining the importance of satellites to monitor environmental concerns. Use information from the article in your paragraph. (short answer)