

Sample Items

SCIENCE *Spring 2015*

MICHIGAN STATE BOARD OF EDUCATION
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The sample items included in this set can be used by students and teachers to become familiar with the kinds of items students will encounter on the paper/pencil summative assessments. The sample items demonstrate the rigor of Michigan's academic content standards. They are not to be interpreted as indicative of the focus of the M-STEP assessments; they are simply a collection of item samples. Every standard is not included in this sample set.

DIRECTIONS

This test has multiple-choice questions that will help you demonstrate your understanding of science. Some questions will include a graph, table, or other science-related information. Use that information along with what you already know to answer the questions.

You must mark all of your answers on your **Answer Document** with a No. 2 pencil. You may underline, circle, or write in this test booklet to help you, but nothing marked in the test booklet will be scored.

Mark only one answer for each question. Completely fill in the corresponding circle on your **Answer Document**. If you erase an answer, be sure to erase it completely. Remember that if you skip a question in the test booklet, you also need to skip the answer space for that question on the **Answer Document**. If you are not sure of an answer, mark your **best** choice.

A Periodic Table of the Elements has been provided for your reference on the next page.

A **STOP** sign will indicate that you have reached the end of the test. If you finish early, you may go back and check your work. Be sure you have answered every question.

Wait to turn the page until you are told to do so.

WAIT 

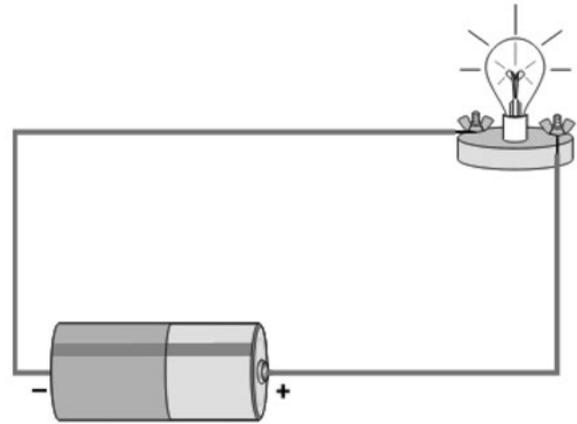
1 The formulas HCl, H₂SO₄, and H₂CO₃ represent what type of compounds?

- A acids
- B salts
- C bases
- D hydroxides

2 One main function of the kidney is filtering certain minerals from blood and eliminating them from the body. Which two body systems primarily facilitate this function?

- A immune and digestive
- B nervous and respiratory
- C reproductive and skeletal
- D circulatory and excretory

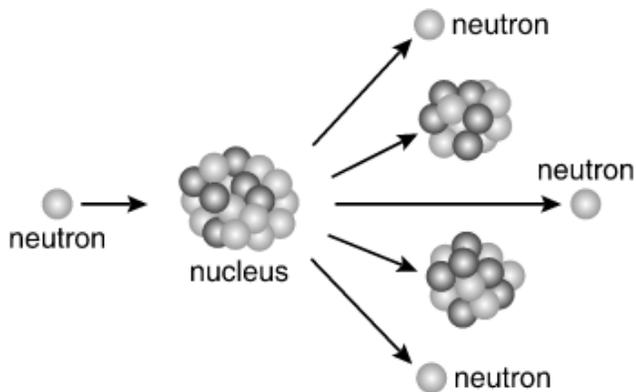
3 A student constructed the simple circuit shown below.



What will occur if the student replaces the light bulb with a higher resistance light bulb?

- A The voltage will increase.
- B The current will decrease.
- C The battery will gain stored electrical energy.
- D The light bulb will go out due to a short circuit.

- 4 Use the diagram below to answer the question.



Which technology utilizes this process to obtain energy to generate electricity?

- A solar cell
- B combustion turbine
- C nuclear fission reactor
- D nuclear fusion generator



**You have reached the
end of the test.
If you finish early, you may go
back and check your work.**

Item Number	Correct Answer	Standard/ Benchmark	Description
1	A	C5.7A	Recognize formulas for common inorganic acids, carboxylic acids, and bases formed from families I and II.
2	D	B2.5B	Explain how major systems and processes work together in animals and plants, including relationships between organelles, cells, tissues, organs, organ systems, and organisms. Relate these to molecular functions.
3	B	P4.10D	Discriminate between voltage, resistance, and current as they apply to an electric current.
4	C	P4.12A	Describe peaceful technological applications of nuclear fission and radioactive decay.



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