Functional Independence
Spring 2013

Science

Item Descriptors

Grade 11
MICHIGAN STATE BOARD OF EDUCATION
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**DIRECTIONS**: Read each question. Choose the **BEST** answer for each question.
NOTE: For each item listed throughout this booklet, the first statement is a summary of the Michigan Extended Grade Level Content Expectation (EGLCE) and the second statement or problem is the descriptor for the item’s stem or question.

1 C.CN.FI.EB.I.1.h.4a: Identify and/or use various sources of scientific information

Identify the best source of information for making a personal health decision

A selected a source that could provide incomplete information as a basis for a decision

B selected a source that could provide incomplete information as a basis for a decision

C correctly selected the information source that is best for making the decision

2 R.RO.FI.EB.II.1.h.1a: Evaluate a plan based on the strengths and weaknesses of claims, arguments, or data

Identify the best science reference to evaluate a product opinion

A correctly identified the best scientific reference

B selected a reference that does not offer a scientific reference

C selected a reference that does not necessarily provide unbiased scientific information

3 R.RO.FI.EB.II.1.h.6a: Develop an awareness of and sensitivity to the natural world

Recognize which activity promotes habitat restoration

A selected an activity that does not restore habitat

B correctly identified an activity that promotes habitat restoration

C selected an activity that does not restore habitat
4 L.CE.FI.EB.III.1.h.1a: Recognize that multi-cellular organisms grow and reproduce

Compare and distinguish 3 cell samples from different multi-cellular organisms

A did not identify the cell sample which had a unique characteristic
B identified the cell sample that had the unique characteristic
C did not identify the cell sample which had a unique characteristic

5 L.CE.FI.EB.III.1.h.1a: Recognize that multi-cellular organisms grow and reproduce

Explain how a specified mammal physical feature grows

A selected the correct explanation for how the feature grows
B selected a reason that does not explain how the feature grows
C selected a reason that does not explain how the feature grows

6 L.OR.FI.EB.III.2.h.2a: Identify the life cycle of an organism associated with human disease

Recognize how a type of medicine can cure an illness

A selected an incorrect reason for how the type of medicine works
B selected an incorrect reason for how the type of medicine works
C recognized that the medicine kills a disease causing organism

7 L.OR.FI.EB.III.2.h.1a: Compare and/or classify organisms in major groups based on their structure

Recognize an animal’s group classification based on its observable features

A did not identify the animal’s group
B correctly classified the animal in its group based on its features
C did not identify the animal’s group
8 L.OR.FI.EB.III.2.e.1ADDh:  Identify specific variations of observable body parts in a variety of animals

Recognize which body part of an animal serves the same function as the specified body part of a different animal

A selected a body part that does not provide the same function
B selected the body part of the animal that has a same function as the body part on the specified animal
C selected a body part that does not provide the same function

9 L.OR.FI.EB.III.2.h.4a:  Recognize how living things maintain a healthy balance

Recognize which result of a blood test indicates a specified disease condition

A selected a result that does not indicate presence or absence of infection
B selected a result that does not indicate presence or absence of infection
C correctly identified the blood test result that indicates presence of an infection

10 L.OR.FI.EB.III.2.h.5a:  Describe how technology is used to prevent, diagnose, and treat disease

Recognize which of three activities will best help an individual avoid getting a specified illness

A selected the activity that will best help an individual avoid getting the illness
B selected a healthy activity, however not the best to avoid the specified illness
C selected a healthy activity, however not the best to avoid the specified illness

11 L.OR.FI.EB.III.2.h.1a:  Compare and/or classify organisms in major groups based on their structure

Recognize an example animal that is a member of a specified class

A selected an incorrect animal example
B correctly selected an animal example of the specified class
C selected an incorrect animal example
12 L.OR.FI.EB.III.2.h.4a:
Recognize how living things maintain a healthy balance

Understand the definition of a balanced diet

A selected the correct definition of a balanced diet
B selected an incorrect definition of a balanced diet
C selected an incorrect definition of a balanced diet

13 L.OR.FI.EB.III.2.h.3a:
Explain why plants and animals store food

Recognize a survival benefit for an organism’s ability to store food

A selected an incorrect statement that makes the ability of the organism to store food irrelevant
B selected an incorrect statement that makes the consumption of food irrelevant
C correct, identified the benefit from stored food when an organism is unable to consume food

14 L.EC.FI.EB.III.5.h.3a:
Identify and/or describe general factors that influence population size

Identify an organism’s population change that could likely occur in an ecosystem after a specified change to another organism population

A correctly selected the likely population change after the specified change
B selected an unlikely subsequent population change
C selected an unlikely subsequent population change

15 L.EC.FI.EB.III.5.h.2a:
Identify and/or explain that energy flows through familiar ecosystems

Recognized which of 3 specified organisms provides the most consumptive energy

A selected an organism that does not provide the most consumptive energy
B selected an organism that does not provide the most consumptive energy
C selected the organism that provides the most consumptive energy to the ecosystem
16 L.EC.FI.EB.III.5.h.1a:
Describe common ecological relationships between and among species and their environments

Identify the description of a mutual beneficial interaction between 2 different organisms

A correctly selected the mutually beneficial relationship
B selected a parasitic relationship between 2 organisms
C selected a relationship void of a mutually beneficial interaction

17 L.EC.FI.EB.III.5.h.4a:
Describe responses of an ecosystem to events that cause it to change

Predict the population change likely to occur to prey organisms after a specified event occurred to all predator organisms in a food chain

A selected a change in prey population unlikely to occur
B correctly selected the immediate effect on the prey’s population level
C selected a prey population change unlikely to occur

18 P.ME.FI.EB.IV.1.m.4ADDh:
Describe the arrangement and motion of molecules in solids, liquids, and gases

Identify the reason for space left between solid sections of road surfaces

A selected an incorrect reason for leaving space
B selected an incorrect reason for leaving space
C correctly identified the reason that space is necessary

19 P.ME.FI.EB.IV.1.m.2ADDh:
Identify when length, weight, area, volume, or temperature is appropriate to describe objects or substances

Select the appropriate measurement for a specified task

A identified the appropriate measurement
B chose an irrelevant measurement for the task
C chose a measurement not applicable for the task
20 P.ME.FI.EB.IV.1.h.3a:
Identify the structural parts and electrical charges of atoms

Identify the subatomic particle that is the basis for electricity

A chose an incorrect subatomic particle
B chose an incorrect subatomic particle
C chose the correct subatomic particle

21 P.ME.FI.EB.IV.1.m.4ADDh:
Describe the arrangement and motion of molecules in solids, liquids, and gases

Describe the relative energy level of molecules as temperature is reduced

A selected a described energy level opposite of a reduction in temperature
B correctly described the energy level of molecules as their temperature is reduced
C selected a described energy level opposite of a reduction in temperature

22 P.ME.FI.EB.IV.1.m.4ADDh:
Describe the arrangement and motion of molecules in solids, liquids, and gases

Describe the energy and physical state of water after it boils

A correctly selected the description of water energy and state after it boils
B selected the opposite energy level of water after it boils
C selected an incorrect physical state of water after it boils

23 P.ME.FI.EB.IV.1.h.4a:
Identify and/or explore how current is controlled in simple and parallel circuits

Using a circuit diagram, recognize the consequence of moving a switch

A selected an irrelevant consequence
B selected the correct circuit function consequence
C selected an incorrect circuit function consequence
24 P.CM.FI.EB.IV.2.m.1ADDh:  
Describe common physical changes in matter

Recognize the correct process for a change of state for a specified substance in a specified situation

A. selected the incorrect process for the change of state
B. selected the incorrect process for the change of state
C. correctly selected the change of state process described

25 P.ME.FI.EB.IV.1.m.6ADDh:  
Identify/state safety rules/precautions related to common household appliances with electrical motors

Based on the picture provided, recognize the hazard potential when using the specified appliance

A. selected an irrelevant consequence
B. selected the intended function of the appliance
C. correctly identified the potential hazard when using the appliance as depicted

26 P.CM.FI.EB.IV.2.h.4a:  
Identify common energy transformations in everyday situations

Describe the specified energy conversion process

A. selected an incorrect description which only listed 1 energy source
B. correctly recognized the energy conversion process between the 2 types of energy
C. selected an incorrect description which only listed 1 energy source

27 C.CN.FI.EB.I.1.m.3ADDh:  
Identify and/or use tools and equipment appropriate to scientific investigations

Identify the direction toward which a compass needle points

A. selected an incorrect description
B. selected an incorrect description
C. correctly identified the potential hazard when using the appliance as depicted
28 P.MO.FI.EB.IV.3.m.3ADDh: Identify and/or describe the non-contact forces exerted by magnets and gravity

Recognize a planet characteristic that produces a non-contact force

A correctly identified the planet’s non-contact force that attracts objects from space

B selected a planet characteristic that is not a force

C selected a planet characteristic that is not a force

29 P.CM.FI.EB.IV.2.h.4a: Identify common energy transformations in everyday situations

Identify the example that relies on chemical energy to function

A correctly selected the example of chemical energy in use

B selected an example of electrical energy

C selected an example of solar energy

30 P.MO.FI.EB.IV.3.m.3ADDh: Identify and/or describe the non-contact forces exerted by magnets and gravity

Understand the basis of tides

A recognized the cause of tides

B selected an incorrect reason for tides to occur

C selected an incorrect reason for tides to occur

31 P.WV.FI.EB.IV.4.m.4ADDh: Identify and/or describe ways in which light interacts with matter

Given 3 examples, pick the object that is transparent

A correctly selected the transparent object

B selected an object that is not transparent

C selected an object that is not transparent
32 P.WV.FI.EB.IV.4.m.4ADDh: Identify and/or describe ways in which light interacts with matter

Identify where light is refracted as it passes from air to water

A selected a location where light is not refracted
B selected a location where light is not refracted
C correctly selected where light is refracted as it passed between 2 media

33 P.WV.FI.EB.IV.4.m.1ADDh: Recognize how sounds travel through different media

Identify the states of matter through which sound waves travel

A selected an incorrect limit to the states of matter
B selected an incorrect limit to the states of matter
C correctly recognized the states of matter through which sound waves travel

34 E.GE.FI.EB.IV.1.h.1a: Identify and/or describe surface features caused by the Ice Age

Recognize the specified landform based on the description

A correctly identified the described landform
B selected a landform that does not match the description
C selected a landform that does not match the description

35 E.GE.FI.EB.V.1.m.1ADDh: Identify and/or describe major features of the earth's surface using maps

Using 3 points on a map of the United States of America, recognize the 2 points that are endpoints of a major river

A selected the 2 correct endpoints
B selected 2 incorrect endpoints
C selected 2 incorrect endpoints
36 E.GE.FI.EB.V.1.e.2ADDh: Identify and/or describe types of earth materials and their uses

Recognize which Earth material has the best water retention property

A selected the Earth material that best retains water
B selected an Earth material that is inferior to other materials in water retention
C selected an Earth material that is inferior to other materials in water retention

37 E.GE.FI.EB.V.1.h.4a: Identify and design a plan to conserve and/or recycle at home, work, or school

Recognize the human activity that best conserves water during a drought

A selected an activity that does not use less water
B selected an activity that does not use less water
C selected the activity that uses less water

38 E.GE.FI.EB.V.1.m.4ADDh: Identify and/or explain how rocks and fossils help us understand the history of the earth

Identify the basis for using rock layers for studying the geological history of an area

A correctly recognized how rock layers provide historical information
B selected a physical property of rock that is irrelevant to its history
C selected a physical property of rock that is irrelevant to its history
39 E.HY.FI.EB.V.2.h.2a: Identify and/or describe how human activities affect the quality of water

Given 3 consequences from a land fill, identify the consequence that could harm existing environmental conditions

A selected a beneficial consequence for some organisms in the ecosystem
B selected the negative consequence that may impact an existing environmental resource
C selected a beneficial consequence for recycling resources to the environment

40 E.HY.FI.EB.V.2.m.2ADDh: Describe how surface water in Michigan reaches the ocean and returns

Identify a non-engineered route for Michigan lake water to reach a specific ocean

A correctly identified the non-engineered water route
B selected a water route that relied on engineering
C selected a water route that relied on engineering

41 E.AW.FI.EB.V.3.m.1ADDh: Identify the uses of weather tools, such as thermometers, rain gauges, and weather maps

Given temperature data for some Midwestern States and Ontario, identify the temperature range for a specific state

A selected a temperature range too low
B selected the correct temperature range for the specific state
C selected a temperature range too high

42 E.AW.FI.EB.V.3.e.2ADDh: Identify and/or describe seasonal changes in Michigan’s weather

Identify the month during which Michigan receives the least amount of sunlight per day

A selected a month that does not provide the least amount of daily sunlight
B selected a month that does not provide the least amount of daily sunlight
C correctly recognized the month during which Michigan receives the least daily sunlight
43 E.AW.FI.EB.V.3.e.3ADDh: Identify and explain appropriate safety precautions during severe weather

Using a table, select data that answers the question

A selected wrong information from the table

B selected wrong information from the table

C correct, selected the correct data from the table

44 E.HY.FI.EB.V.2.e.1ADDh: Identify safety precautions with the three states of water

Identify which water temperature is safest for the specified use

A selected a water temperature that is not safest for the specified use

B correctly identified the safest of the three water temperatures for its specified use

C selected a water temperature that is not safest for the specified use

45 E.SS.FI.EB.V.4.m.2ADDh: Demonstrate a basic and general awareness about the motion of the earth

Recognize the reason why seasonal weather is opposite between the Northern and Southern Hemisphere

A correctly recognized the basis for seasonal difference between the 2 hemispheres

B selected a description of Earth’s movement irrelevant to seasonal weather

C selected a description of Earth’s movement irrelevant to seasonal weather