

# Functional Independence

## Spring 2013



**Science**

*Item Descriptors*

**Grade 11**

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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 selected the direction toward which a compass needle points

**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 characteristics 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



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