

# Functional Independence

Spring 2014



**Science**

*Item Descriptors*

**Grade 11**

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**DIRECTIONS:** Read each question. Choose the **BEST** answer for each 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 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

- 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 that had a unique characteristic
- B** identified the cell sample that had the unique characteristic
- C** did not identify the cell sample that had a unique characteristic

**5 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

**6 L.CE.FI.EB.III.1.h.1a:**

Recognize that multi-cellular organisms grow and reproduce

Given three factors that contribute to growth, identify which factor best explains the increase in size of a specified animal body part

- A** selected a factor that facilitates growth but does not change body part size
- B** selected a factor that has a minor contribution to the increase in body part size
- C** identified the major growth factor that accounts for the change in size of the specified animal body part

**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

Given three characteristics of a commonly recognized animal, identify the characteristic that enables the animal to move in its specified environment

- A** identified the animal's body feature that enables it's movement in the specified environment
- B** selected a body feature that does not enable animal movement
- C** selected an animal feature that guides but does not enable movement

**9 L.OR.FI.EB.III.2.h.1a:**

Compare and/or classify organisms in major groups based on their structure

Recognize a characteristics both the identified trees have in common though each tree is classified into a different major group of trees

- A** selected the characteristic that both trees have in common
- B** selected a characteristic that distinguishes the trees into separate groups
- C** selected a characteristic that distinguishes the trees into separate groups

**10 L.OR.FI.EB.III.2.h.2a:**

Identify the life cycle of an organism associated with human disease

Given 3 descriptions of animal behavior, recognize which behavior demonstrates a parasitic relationship

- A** selected a behavior of a single animal
- B** selected the description of parasitic behavior in the relationship between two animals
- C** selected a description of mutually beneficial behavior in the relationship between two organisms

**11 L.OR.FI.EB.III.2.h.3a:**

Explain why plants and animals store food

Identify the type of body tissue where potential chemical energy is stored by humans

- A** identified the type of body tissue that stores potential chemical energy
- B** selected tissue that uses but does not store chemical energy reserves
- C** selected tissue that uses but does not store chemical energy reserves

**12 L.OR.FI.EB.III.2.h.4a:**

Recognize how living things maintain a healthy balance

Recognize the health-maintenance function of a specified cell type

- A** correct, identified the function of the specified cell type for maintaining health
- B** selected a body process that is not a specialized function of the specified cells
- C** selected a body process that is not a specialized function of the specified cells

**13 L.OR.FI.EB.III.2.h.4a:**

Recognize how living things maintain a healthy balance

Recognize the feature of a human body organ that provides defense from a specified type of infection

- A** selected a feature that is not applicable for the organ's provision of defense from infection
- B** selected a feature that is not applicable for the organ's provision of defense from infection
- C** selected the feature that provides for the organ's defense from infection

**14 L.OR.FI.EB.III.2.h.2a:**

Identify the life cycle of an organism associated with human disease

Recognize how injection of a vaccine promotes health

- A** selected a false statement of how a vaccine promotes health
- B** selected a false statement regarding the benefits from vaccines
- C** correct, identified how a vaccine protect against infectious diseases

**15 L.EC.FI.EB.III.5.h.2a:**

Identify and/or explain that energy flows through familiar ecosystems

Identify the described role of organisms in a food chain

- A** selected a role in a food chain that was not described
- B** selected a role in a food chain that was not described
- C** correct, identified the described role of organisms in a food chain

**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.3a:**

Identify and/or describe general factors that influence population size

Recognize the most likely factor that could lead to the change in an animal population in a specified ecosystem

- A** selected a prevailing factor that would be in place before and after the change in animal population
- B** selected an in-place cyclical factor that does not change the normal variation of sustained animal populations in the ecosystem
- C** selected an episodic factor, new to the sustained ecosystem, that could change the size of animal populations in the specified environment

**18 L.EC.FI.EB.III.5.h.3a:**

Identify and/or describe general factors that influence population size

Given three reasons as basis for change in animal population, recognize the mostly likely change-in-environment reason for change in a commonly recognized animal's population

- A** recognized the environmental-change reason that could cause a decrease in animal reproduction for the year
- B** selected an environmental change from which no obvious reason stems for change in animal population size
- C** selected a non-environmental change that is immaterial to animal population levels

**19 P.ME.FI.EB.IV.1.h.1a:** Identify the risks and benefits of using common household and agricultural materials

Recognize the need for including warning labels on household products

- A** correct, identified a valid reason for use of warning labels
- B** selected an unfounded reason for the use of warning labels
- C** selected an unfounded reason for the use of warning labels

**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

Recognize the effect on the freezing point of the solution of dissolving a specified compound into water

- A** selected the opposite effect on the freezing point after adding the compound
- B** correct, identified the effect the compound had on the freezing point of the solution
- C** selected the wrong effect on the freezing point of the solution after adding the compound

**22 P.ME.FI.EB.IV.1.h.3a:**

Identify the structural parts and electrical charges of atoms

Recognize the relationship between charged atomic particles

- A** selected the opposite relationship between two identically charged particles
- B** correct, identified the relationship between two differently charged atomic particles
- C** selected the opposite relationship between two identically charged particles

**23 P.ME.FI.EB.IV.1.m.4ADDh:**

Describe the arrangement and motion of molecules in solids, liquids, and gases

Identify the two distinct states of matter represented in an illustration

- A** selected one correct and one incorrect state of matter
- B** selected one correct and one incorrect state of matter
- C** selected the two correct states of matter

**24 P.ME.FI.EB.IV.1.h.4a:**

Identify and/or explore how current is controlled in simple and parallel circuits

Given a simple electric circuit diagram, identify the action needed to enable the circuit to work

- A** selected an action that does not appear necessary in order for the circuit to work
- B** selected an action that does not appear necessary in order for the circuit to work
- C** correct, identified the action required for the circuit to work by establishing current flow

**25 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

**26 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

**27 P.CM.FI.EB.IV.2.m.1ADDh:**

Describe common physical changes in matter

Recognize the energy change needed to change a liquid to a solid

- A** recognized the energy change needed to change a liquid into a solid
- B** selected a process that does not change the energy level of the substance
- C** selected the opposite energy change process required to change a liquid into a solid

**28 P.CM.FI.EB.IV.2.h.4a:**

Identify common energy transformations in everyday situations

Recognize the three types and order of energy transformations from the source of fuel to the energy required for operation of a specified machine

- A** selected a set of three energy transformation types where two were incorrect and one was out of order
- B** selected a set of three incorrect energy transformations
- C** recognized the three energy transformations from fuel source to the energy used to power the machine

**29 P.MO.FI.EB.IV.3.h.1a:**

Identify patterns of force and motion in the operation of complex machines

Recognize the related motion of three interacting gears as illustrated

- A** selected an incorrect outcome regarding gear motion
- B** selected an incorrect outcome regarding gear motion
- C** recognized how the specified gear would move in relation to the given movement of another gear

**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.h.3a:**

Identify properties of waves

Recognize how a specific commonly known musical instrument produces a wave

- A** selected a condition that does not produce a wave
- B** selected a condition that alone, without physical reaction, does not produce a wave
- C** recognized how the instrument physically forms a wave

**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 passes between 2 media

**33 P.WV.FI.EB.IV.4.h.3a:**

Identify properties of waves

Recognize how the pitch of sound from a moving object changes as the sounding object moves past a stationary person

- A** selected the sound that has no volume
- B** correct, recognized that the person would hear a sound that changes in pitch
- C** selected that the pitch of the sound heard does not change as the object moves past

**34 E.GE.FI.EB.V.1.m.4ADDh:**

Identify and/or explain how rocks and fossils help us understand the history of the earth

Understand how to interpret fossil evidence

- A** concluded that an organism exists today based on fossil evidence
- B** correct, used the evidence to conclude that the fossilized organism was once present in a specified location
- C** concluded that a population of the organism was once present beyond the area in which a single organism fossil was found

**35 E.GE.FI.EB.V.1.e.2ADDh:**

Identify and/or describe types of earth materials and their uses

Recognize which of three soil types through which water most readily flows

- A** selected a soil type not having the best water flow-through rate
- B** correct, identified the soil type having the best water flow-through rate
- C** selected a soil type not having the best water flow-through rate

**36 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

**37 E.GE.FI.EB.V.1.m.4ADDh:**

Identify and/or explain how rocks and fossils help us understand the history of the earth

Recognize the source of scientific evidence that provides information about earlier forms of plant life

- A** identified the source of evidence that provides information about earlier plant life
- B** selected an Earth-surface-forming process that does not provide organic based evidence
- C** selected an extra-terrestrial source of solar activity that does not provide organic based evidence

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

Recognize which type of light source is expected to most efficiently use electricity

- A** selected a light source that does not have an efficient design for use of electricity
- B** correct, identified the light source that has an efficient design for using electricity
- C** selected a light source that does not have an efficient design for use of electricity

**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 landfill, 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.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

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

Recognize flow pathways by which a specified form of water becomes another form of water in the environment

- A** selected only one of the two possible water pathways
- B** correct, selected the two pathways in which water flows from one form to another form
- C** selected only one of the two possible water pathways

**42 E.AW.FI.EB.V.3.m.1ADDh:**

Identify the uses of weather tools, such as thermometers, rain gauges, and weather maps

Identify the best conditions for collecting data using a specified weather tool

- A** selected a condition under which the measurement tool will not work
- B** correct, selected the condition in which the measurement tool will work accurately
- C** selected a condition that could underestimate the measurement of the weather data

**43 E.AW.FI.EB.V.3.e.2ADDh:**

Identify and/or describe seasonal changes in Michigan's weather

Given three temperature readings as illustrated on three outdoor thermometers, select the thermometer that displays a likely winter daytime temperature

- A** selected a temperature reading that is not expected for a winter day
- B** selected a temperature reading that is not expected for a winter day
- C** correctly selected the thermometer that displays a likely winter's day temperature

**44 E.AW.FI.EB.V.3.e.3ADDh:**

Identify and explain appropriate safety precautions during severe weather

Understand distinctions among descriptions of severe weather

- A** correctly associated the word with the appropriate description of severe weather conditions
- B** did not correctly associate the word with the appropriate description of severe weather conditions
- C** did not correctly associate the word with the appropriate description of severe weather conditions

**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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