

# 8<sup>th</sup> Grade Science Exit Test – Part 3

## THE EARTH

### Features of Earth's surface

#### 1. Match:

**A landform** is another type of feature found on Earth's surface.

**A body of water** is a solid feature of Earth's crust.

**A landslide** rocks and dirt move rapidly down a slope.

\_\_\_\_\_ is a sudden shift that can make the ground shake.

\_\_\_\_\_ is magma that flows onto Earth's surface.

\_\_\_\_\_ begin in the layer below crust called mantle.

\_\_\_\_\_ are large cracks in the crust.

**Lava**

**Volcanoes**

**An earthquake**

**Faults**

2. What is a Scientist who studies the processes and materials that form a solid part of the Earth called?

Zoologist

Geologist

Scientologist

3. What is a valley with steep sides made of rock?

Mountain

Canyon

Cave

4. What is the highest mountain on Earth?

Mount Everest

Rocky Mountains

Mount of Olives

5. What country has the longest river in the world?

Asia

Africa

South America

6. What does the prefix “hydro” in the word hydrosphere mean?

Air

Water

Land

7. ♦ In each of the 4 boxes, label the correct system that it is showing. Use the words given.

hydrosphere    geosphere    atmosphere    biosphere



8. What is the condition of the atmosphere at a certain time and place called?

Weather  
Climate  
Precipitation

9. What is the study of weather called?

Geology  
Meteorology  
Astrology

10. What layer of the atmosphere do most weather conditions happen?

Hydrosphere  
Stratosphere  
Troposphere

- 11.

3. Match the weather conditions below with the instruments used to measure it.

Weather Instruments	Weather Conditions	(6)
a) anemometer	_____ measures humidity	
b) wind vane	_____ measures precipitation	
c) rain gauge	_____ measures wind speed and direction	
d) barometer	_____ measures temperature	
e) hygrometer	_____ measures wind direction	
f) thermometer	_____ measures air pressure	

## **FOSSILS & FOSSIL FUELS**

1. Where does all the energy come from that plants and animals use?

Natural Gas  
Coal  
The Sun

2. Where is one of the best areas in the world where crude oil may be found?

Europe and China  
The Middle East and North Africa  
Australia

3. What kind of fossil fuel is relatively clean-burning?

Natural Gas  
Coal  
Crude Oil

4. 2. Classify the following statements into advantages (A) or disadvantages (D) of fossil fuels:

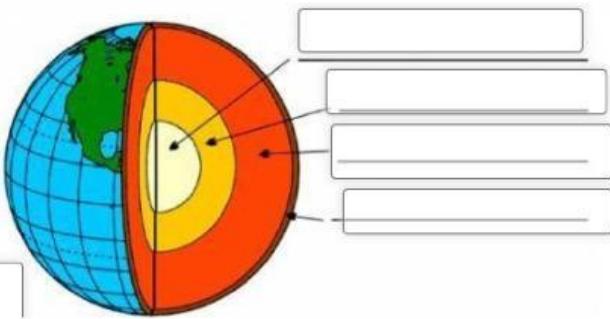
- Burning fossil fuels causes air pollution (carbon dioxide and toxic gases), acid rain and global warming (impacting on climate change)
- Deep mining is dangerous
- Existing technology: the fuel is available for most countries to use
- Extraction provides jobs
- Limited supplies: prices will rise as the supplies get smaller.
- Modern methods of coal extraction have increased output
- Non-renewable
- Oil and gas are easy to transport by pipelines or tankers
- Oil is the basis for the petrochemical industry
- Oil spillages and gas leaks are dangerous
- Open cast mining hurts the environment
- Production costs have risen
- Refineries take up much space
- Reserves of oil and natural gas may only last another 50–70 years
- It does not rely on the weather
- They are affected by global price rises and politics.
- They are safer than nuclear energy

5.

Complete this section about the **earth** and the **matter** which makes it up.

Correctly label the diagram with the layers of the earth (**crust, mantle, inner core, outer core**).

All three types of rock form in which earth layer?



## 6. Rocks & Rock Cycle - - - Igneous, Sedimentary, or Metamorphic

- A. Forms when sediment is compressed:.....
- B. Contains low-density minerals such as quartz:.....
- C. Limestone is an example:.....
- D. Forms from the layering of eroded rock:.....
- E. Marble is an example:.....
- F. Forms from lava:.....

7.

### Ecosystem Vocabulary Practice

Write the CAPITAL letter of the correct definition next to each vocabulary term. Be sure to read each definition carefully.

Organism

- A.** All of the individuals of one kind in a specified area at one time.

Community

- B.** Any living thing

Individual

- C.** Word for Nonliving things in ecosystem

Abiotic

- D.** A system of interacting organisms and nonliving factors in a specified area

Population

- E.** Word for living things in an ecosystem

Biotic

- F.** One single organism

Ecosystem

- G.** All of the interacting populations in a specified area

8. What helps scientists learn about the past?

- History books
- Cave Paintings
- Fossils

9. What does it mean if many fossils of the same species are found together?

- They all died at different times
- The lived and traveled in herds
- They had many babies

10. Who was the pioneer of the theory of Natural Selection?

- Charles Marvin
- Charles Darwin
- Robert Hooke

11. **True or False:**

- A. Natural Selection is controlled by humans.
- B. Animals of the same species are able to mate and have offspring.
- C. Survival of the fittest always means that the strongest survive.

12. **Selective Breeding, Natural Selection, or Genetic Engineering?**

A. Brown rabbits are spotted and eaten by hawks more quickly in the snow.

B. A farmer choosing a large hen and a large rooster to mate and have large offspring.

C. Scientists take DNA from a tomato that has a long shelf life & put it into an apple.

D. A farmer pollinating large corn plants with corn plants that have a sweeter taste.

E. Scientist takes a disease resistant DNA from a strawberry plant & put in into a blueberry.

13. What is the outer most layer of the Earth called?

- Crust
- Mantle
- Inner core

14. What layer of the earth is the largest and is composed of iron, aluminum, calcium, magnesium, silicon, and oxygen?

- Crust
- Core
- Mantel

15. What is the last and innermost layer that is separated into the liquid outer & the solid inner?

- Mantle
- Core
- Crust

## FORCE AND MOTION

1. The measure of the gravitational force exerted by Earth on an object is the object's \_\_\_\_\_.  
a. weight      b. mass
2. Every object in the universe exerts a force on every other object. This force is called \_\_\_\_\_.  
a. friction      b. gravity
3. The greater an object's \_\_\_\_\_, the stronger the gravitational force on it.  
a. mass      b. velocity
4. Mass is measured in units called \_\_\_\_\_.  
a. meters, kilometers      b. grams, kilograms
5. Earth exerts a stronger gravitational force than the moon because Earth has more \_\_\_\_\_.  
a. mass      b. density
6. **Vocabulary:** 1. Correctly match the Vocabulary Term to its definition.

Vocabulary Term	English Definition
Thermal	To come together with direct impact
Energy	Relating to heat
Contract	To spread out
Collide	The amount of space something fills
Volume	To become smaller
Expand	The ability to cause change

### 7. Renewable or Nonrenewable

- A. They cause air pollution - \_\_\_\_\_.
- B. They will never run out - \_\_\_\_\_.
- C. They will run out one day - \_\_\_\_\_.
- D. Two Examples are Sun and Wind - \_\_\_\_\_.
- E. They include fossil fuels, such as coal and natural gas - \_\_\_\_\_.

## WRITE **NEEDS** OR **PRODUCES** (ESCRIBE "NECESITA" O "PRODUCE"):

8.

- The sun  light an termal energy.
- A heater  electrical energy.
- A candle  light energy.
- A guitar  sound energy.
- A fire  termal energy.
- A computer  electrical energy.

9.



Petroleum → RENEWABLE

NON-RENEWABLE



Sunlight → RENEWABLE

NON-RENEWABLE



Nuclear → RENEWABLE

NON-RENEWABLE



Wind → RENEWABLE

NON-RENEWABLE



Water → RENEWABLE

NON-RENEWABLE

10.

## SCIENCE 10 – ELECTROMAGNETIC SPECTRUM WORKSHEET

### Vocabulary

- |                             |                   |                     |                  |
|-----------------------------|-------------------|---------------------|------------------|
| A. Electromagnetic spectrum | C. Gamma rays     | E. Radio waves      | G. Visible light |
| B. Frequency                | D. Infrared waves | F. Ultraviolet rays |                  |

- 1) The  represents the different forms of electromagnetic radiation.
- 2)  is the only type of radiation that humans can see.
- 3) Heat radiation, also known as  , cannot be seen by your eyes but can be felt by your skin.
- 4)  have the lowest frequency in the spectrum, and are used in satellite transmissions and heating food.
- 5) Because  have the highest energy of all electromagnetic radiation, they are the most damaging to human tissue.
- 6) Compared to all other types of electromagnetic radiation, radio waves have the lowest  .
- 7) An overexposure to  can result in sunburns and skin cancer.

11.

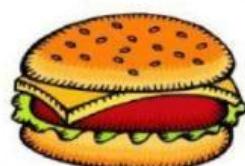
Determine if the picture is illustrating Kinetic or Potential Energy.



- Kinetic  
 Potential



- Kinetic  
 Potential



- Kinetic  
 Potential



- Kinetic  
 Potential

12. Thermal energy can be measured as.....

- Temperature  
Kilograms  
Pounds

13. What is a device that can measure heat?

- Barometer  
Thermal energy  
Thermometer

14. What does the term "thermal" mean?

- Sound  
Energy  
Heat

15. What is the most important energy source for our planet?

- Wind currents  
Sun  
Water

16.

## 2. Match the terms to the definition.

**The magnetosphere**

A magnetised needle that helps us navigate.

**The geographical north pole**

The Earth's magnetic field.

**Solar radiation**

The south pole of the magnetosphere.

**A compass.**

Harmful energy produced by the Sun.

17. What is the distance from crest to crest or trough to trough of a wave called?

- Wave Length  
Amplitude  
Frequency

Absorption

18. The only light that people can see; composed of red, orange, yellow, green, blue, indigo, and violet light; when all are put together it makes white light

- Gamma Ray  
Visible Light  
Microwaves

20. Occurs when a wave bounces off a surface or object that it cannot pass through.

Absorption  
Diffraction  
Reflection

19. What is a repeated sound that is caused by the reflection of sound waves from a surface?

- Reflection  
Echo

21. The push or pull on an object  
Force  
Magnetism  
Gravity

22. A field that describes the magnetic influence on moving electric charges, electric currents, and magnetic materials.  
Electric Force Field  
Magnetic Force Field  
Work Force Field

23.

## Density

### 1. Match to make correct sentences

- a. Density indicates how much mass
- b. If a small object has a lot of mass
- c. Objects of the same size
- d. To calculate the density of an object

- 1. we divide its mass by its volume.
- 2. can have very different densities.
- 3. is concentrated in an object.
- 4. it has a high density.

24.

## Materials That Sink or Float

Choose the best answer.

1. The term density means \_\_\_\_\_

- A. the force of water
- B. the ability to float
- C. the heaviness or lightness of objects
- D. the degree to which molecules are packed tightly or loosely together

2. An object will sink in water if it \_\_\_\_\_

- A. is more dense than water
- B. is less dense than water
- C. has the same density as water
- D. is tastier than water

3. What factors affect an object's ability to float?

- A. density and size
- B. density and shape
- C. size and height
- D. shape and weight

