



Subject: Grade 6 Natural Sciences

Topic: Natural Sciences: Term 2 - Exam 1

Total: 99 Marks

1. land | water

4 marks

Explanation:

Examples of terrestrial animals are birds.

Examples of aquatic animals are fish.

2. true

2 marks

Explanation:

Plants in the wetlands, as well as the gravel and the soil at the bottom, absorb soluble substances such as soaps, insecticides and fertilisers that wash into the water.

3. saturated

3 marks

Explanation:

All the spaces between the water particles are taken up by salt particles. The water cannot hold any more salt.

4. B: 50

4 marks

Explanation:

Refer to the graph again. The red part of the bar ends closer to 50% than to 40% or 60%.

The destruction of wetlands is of great concern because:

- a high concentration of animals live and breed here.
- rice, the staple diet of half the world, is cultivated here.
- water is filtered by wetlands.
- floods are controlled by wetlands.

5. sludge

3 marks

Explanation:

First steps at the water treatment plant:

1. Dirty water passes through metal screens to trap the large objects in the water.
2. In a spiralling funnel, minerals are added to the water.
3. Smaller substances stick to the sides of the funnel.
4. A muddy substance, called sludge, slowly settles at the bottom of a tank.



6. Water quality 3 marks

Explanation:

Wetlands are important for **water quality** as it is here that:

- soluble substances such as chemical fertilisers and insecticides are absorbed by plants and soil.
 - micro-organisms break down solid waste and make it harmless.
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7. funnel with filter paper | not safe 4 marks

Explanation:

The substances in the dirty water, like twigs, stones and sand, will remain in the filter of the funnel. Germs, viruses and other harmful substances that cannot be seen with the human eye, will pass through the filter, making the water unsafe to drink.

8. energy 3 marks

Explanation:

In a heated solvent (water), the particles of the solute (eg. sugar) move faster than in a cooler solvent. This allows the particles of the solute (eg. sugar) to spread through the solution more easily.

9. false 2 marks

Explanation:

Carbon dioxide turns clear lime water milky.

10. oxygen 3 marks

Explanation:

Carbon dioxide is a product of combustion.

11. B: insoluble 4 marks

Explanation:

The insoluble substance cannot mix with the particles of water.

12. true 2 marks

Explanation:

The particles of a solid vibrate. When a solid is heated the particles vibrate faster because the heat energy is changed into kinetic energy (movement energy).

13. C: A and B

4 marks

Explanation:

The most common solvent for nail polish is acetone, a powerful and effective chemical that can be harsh on skin and nails, and which removes the nail polish from one's nails. A less harsh nail polish removal (solvent) is ethyl acetate.

14. false

2 marks

Explanation:

Many people in South Africa DO NOT have access to clean drinking water. They collect their drinking water from contaminated water sources close to their homes, for example, in rivers that are polluted.

15. wetlands | wetland

3 marks

Explanation:

Wetlands act as natural water purifiers because they can absorb soluble and insoluble impurities from water. Wetlands are therefore very efficient natural 'water treatment' facilities, to clean polluted water.

16. true

2 marks

Explanation:

The leaves absorb sunlight during this process.

17. gas | gaseous | gases

3 marks

Explanation:

Gases have large spaces between their particles. If a heavy gas such as carbon dioxide is in a container, it can be poured out of the container. This will only happen with gases that are heavier than air.

18. iodine

3 marks

Explanation:

The colourless starch solution will become a blue-purple colour, should starch be present in the food.

19. B: chloramine

4 marks

Explanation:

Chlorine is only effective for a short while. For this reason, chloramine is added at regular intervals to kill any germs that may have entered the water.

20. herbivores | trout

4 marks

Explanation:

The prawn, fly and slug are called herbivores because they are only linked to plants, and not to any animals. The carp is a herbivore because it only eats algae. The trout eats prawn and carp (both are animals) which makes it a carnivore.

21. false

2 marks

Explanation:

The arrow points to the fly, which means that the fly eats the water weed. It is important for you to know how to read a food chain or food web. The flat (back) part of the arrow is the thing being eaten by the organism the arrow is pointing at.

22. B: decant

4 marks

Explanation:

One has to be very careful when decanting. It must be done slowly so that the settled part at the bottom of the container is not disturbed. Note how the container must be tilted when pouring the water, and not turned upside down.

23. treatment | water treatment | water treatment plant | purification | water purification | water purification plant

3 marks

Explanation:

The process of cleaning the water is called water treatment, and the place where it happens is called a water treatment plant.

24. oxygen | O₂

3 marks

Explanation:

During photosynthesis, plants take in carbon dioxide from the air and give off oxygen into the air. When we breathe, we take in this oxygen from the air. The plants use the carbon dioxide which we breathe out.

25. inside | outside

4 marks

Explanation:

An endoskeleton is found inside a human or animal, while an exoskeleton is found on the outside.

26. heating | crushing

4 marks

Explanation:

If the solution is heated, or if the solute (copper sulphate in this case) is crushed into even smaller pieces, it will dissolve faster.

Temperature and the size of grains are both factors that influence the rate of dissolving.

27. B: carbon dioxide

4 marks

Explanation:

Substance B is a liquid. The particles of substance A move around more, which means A must be a gas.

Water and plastic are not gases, but carbon dioxide is a gas.

28. chlorine

3 marks

Explanation:

Adding the correct amount of chlorine to dirty water will kill the germs and purify the water enough for drinking purposes.

29. A: freshwater

4 marks

Explanation:

Inland means the interior of a country or region, away from the sea.

30. Settling | drop to the bottom | float to the top

6 marks

Explanation:

When you have dirty water in a container, leave it to stand until the heavier substances drop to the bottom and settle there. This will give you cleaner water, which can then be decanted.

Total: 99 Marks