Material World and the Environment — Practice Test

Quebec Environmental Science and Technology, Secondary IV • 25 questions

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A device operates at 12 volts and 2 amperes for 10 seconds. The electrical energy used, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A river sample contains 90 milligrams of solute in 6 kilograms of water. Its concentration, in parts per million, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A solution contains 8 moles of solute in 4 litres of solution. Its concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A circuit carries a current of 3 amperes through a resistance of 4 ohms. By Ohm law the voltage, in volts, is**

ANSWER

Understand It with Pulse | Flag a mistake

5 **A covalent bond involves atoms**

A transferring protons

B sharing electrons

C sharing neutrons

D losing mass

Understand It with Pulse | Flag a mistake

6 **A salt is a compound formed from an acid and a**

A metal only

B gas only

C base

D catalyst only

Understand It with Pulse | Flag a mistake

7 **A strong electrolyte compared with a weak electrolyte conducts electricity**

A more strongly in solution

B less strongly in solution

C only when dry

D only when frozen

Understand It with Pulse | Flag a mistake

8 **An acid base neutralization reaction produces a salt and**

A oxygen

B water

C hydrogen gas

D carbon dioxide

Understand It with Pulse | Flag a mistake

9 **An endothermic reaction absorbs energy, while an exothermic reaction**

A absorbs matter

B releases matter

C absorbs light only

D releases energy

Understand It with Pulse | Flag a mistake

10 **An ionic bond involves the transfer of electrons from a metal to a**

A metal

B gas

C nonmetal

D liquid

Understand It with Pulse | Flag a mistake

11 **Balancing a chemical equation makes the number of atoms of each element**

A greater on the left

B greater on the right

C equal to zero

D equal on both sides

Understand It with Pulse | Flag a mistake

12 **Combustion is a chemical change in which a substance reacts with**

A nitrogen

B argon

C oxygen

D helium

Understand It with Pulse | Flag a mistake

13 **Electrolytic dissociation is the separation of an electrolyte into**

A ions in solution

B atoms in a solid

C molecules in air

D protons in a nucleus

Understand It with Pulse | Flag a mistake

14 **Elements in the same family of the periodic table have similar**

A masses only

B colours only

C chemical properties

D densities only

Understand It with Pulse | Flag a mistake

15 **In the Rutherford Bohr model electrons travel around the nucleus in**

A shells at different energy levels

B random clouds only

C the nucleus

D straight lines

Understand It with Pulse | Flag a mistake

16 **Isotopes have the same atomic number but different**

A numbers of protons

B chemical properties

C positions in the table

D numbers of neutrons

Understand It with Pulse | Flag a mistake

17 **Kirchhoff laws help determine current and voltage at points in a**

A magnet

B lens

C circuit

D mirror

Understand It with Pulse | Flag a mistake

18 **Use the specific heat capacity of water as 4.19 joules per gram per degree Celsius. A sample of 200 grams of water warms by 8 degrees Celsius. The heat absorbed, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **A device operates at 10 volts and 3 amperes for 20 seconds. The electrical energy used, in joules, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **A river sample contains 140 milligrams of solute in 7 kilograms of water. Its concentration, in parts per million, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **A solution contains 12 moles of solute in 6 litres of solution. Its concentration, in moles per litre, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A circuit carries a current of 2 amperes through a resistance of 9 ohms. By Ohm law the voltage, in volts, is**

ANSWER

Understand It with Pulse | Flag a mistake

23 **A device operates at 20 volts and 2 amperes for 5 seconds. The electrical energy used, in joules, is**

ANSWER

Understand It with Pulse | Flag a mistake

24 **A river sample contains 180 milligrams of solute in 9 kilograms of water. Its concentration, in parts per million, is**

ANSWER

Understand It with Pulse | Flag a mistake

25 **A solution contains 15 moles of solute in 5 litres of solution. Its concentration, in moles per litre, is**

ANSWER

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	240	**10.**	C	**19.**	600
2.	15	**11.**	D	**20.**	20
3.	2	**12.**	C	**21.**	2
4.	12	**13.**	A	**22.**	18
5.	B	**14.**	C	**23.**	200
6.	C	**15.**	A	**24.**	20
7.	A	**16.**	D	**25.**	3
8.	B	**17.**	C		
9.	D	**18.**	6704		

© 2026 Brett Robbins. All Rights Reserved.