SKEMA JAWAPAN MTF SOLAR 4 – 2011

**Form 3**

**Chapter 4 Reproduction**

* 1. **Sexual and asexual reproduction**

1 sexual reproduction

2 asexual reproduction

3 fertilisation

4 i) internal fertilization

ii) external fertilization

* 1. **The male reproductive system**
  2. **The female reproductive system**

1 a) i) ovum ii) sperm

iii) zygote iv) embryo

b) i) T ii) P

2 a) P: uterus

Q: vagina

b)

c) ovary : produce ovum

3 i) R : Sperm P : ovum

ii) carries genetic information from the parent

iii) R : tadpole shape

has tail

P : spherical shape

Has no tail

4 chest become broader

Voice breaks and become deeper

* 1. **The menstrual cycle**

1 a) i) 5 days

ii) W : menstruation V : fertile phase

iii) one (1)

iv) ovulation, 14

* 1. **Fertilisation and pregnancy**

1 i) X : embryo Y : foetus

2 implantation

3 umbilical cord

4 carbon dioxide

5 baby

6 absorb shock, Project the foetus

* 1. **The importance of pre-natal care**

|  |  |
| --- | --- |
| **Nutrients** | **Function** |
| Proteins | Formation and growth of new cells |
| Folic Acid | Formation of foetal blood and nerve cell |
| Vitamin C | Formation of healthy skin |
| Vitamin D | Absorption of calcium and phosphorus |
| Iron | Formation of blood |
| Calcium and phosphorus | Formation of bones |

1

2 drugs and alcohol

* 1. **The importance of research in human reproduction**

|  |  |
| --- | --- |
| **Method** | **Mode of Action** |
| Rhythm | Avoid intercourse during fertile phase |
| Spermicide | Kill sperms |
| Condom | Prevent sperm from entering vagina |
| Diaphragm | Prevent sperm from entering the uterus |
| IUCD | Prevent implantation of the embryo |
| Ligation | Prevent ovum from entering the uterus |

1

2 i) unhealthy sperm

ii) blockage at the Fallopion tube

**Chapter 3 - Biodiversity**

**3.1 Understanding variety of living organisms and their classification**

1 i) mammals

ii) reptiles

1. amphibians
2. birds

2 i) mammals

ii) birds

1. reptiles
2. amphibians
3. fish

3 i) non-flowering plant

ii) flowering plant

4 moses, ferns, conifers and mushroom

5 mushroom. Because it has no chlorophyll

6 reproduce by using seeds or spore

7 a) network veins

b) two cotyledons

c) hard and woody stems

d) tap root

e) four or five flower parts

f) parallel veins

g) one cotyledon

h) soft stem

i) fibrous roots

j) flower parts in three

**Chapter 4 : Interdependence among living organism and the environment**

* 1. **analysing the interdependence among living organisms**



1

* 1. **Evaluating the interaction between living organisms**

1 i) commensalisms

ii) mutualism

1. competition

2 producers

3 consumers

4 decomposers

5 food web

6 food chain

7 pyramid of number

* 1. **Synthesizing food web**

1 i) S ii) P

1. R iv) Q

2 i) S

ii) R

Bird

3 Paddy Grasshopper Frog Eagle

Rat

* 1. **Analysing photosynthesis**
  2. **Evaluating the importance of conservation and preservation of living organism**

1 a) decolourising the leaf

b) C, A, B, D

c) photosynthesis

d) light, chlorophyll, carbon dioxide and water

e)

light

Carbon dioxide

Water

**+** **oxygen** **+ glucose**

chlorophyll

2 i) setting aside protected area

ii) recycling and reusing materials

3 i) plants, animals and their habitats are destroyed

ii) plants and animals may become endangered and extinct

**Chapter 5 Water and solution**

* 1. **Analysing the physical characteristics of water**

1

Solid liquid gas

2

3 impurities are added to liquid so that it will increase the boiling point.

* 1. **Analysing the composition of water**

1 i) oxygen ii) graphite rod

iii) Positive iv) graphite rod

v) negative vi) distilled water

vii) sulphuric acid viii) hydrogen

2 compound

3 hydrogen and oxygen

4 oxygen

5 hydrogen

6 glowing wooden splinter

7 lighted splinter with ’pop’ sound

**5.3 Analysing the process of evaporation of water**

1 temperature

2 i) C ii) surface area

3 water

**5.4 Analysing solution and solubility**

Solute

Solvent

Solution

A liquid in which a substance dissolves.

A substance which is dissolved in a liquid.

The mixture when a substance has dissolved in a liquid.

1

2 i) Dilute ii) concentrated

iii) saturated

3 Heat

**5.5 Analysing acid and alkali**

1

|  |  |  |
| --- | --- | --- |
| **Property** | **Acid** | **Alkali** |
| Taste | Sour | Bitter |
| pH value | <7 | >7 |
| Effect on litmus paper | Turn blue to red | Turn red to blue |
| Reaction with metal | react | No reaction |

2 i) for fertilizers, dyes and explosives materials

ii) as a preservatives in food

1. make vitamin C

3 i) Acid ii) Acid

iii) Alkali iv) Alkali

**5.6 Analysing the methods of purification of water**

1 a) Filtration

b) to remove suspended solid particles

c) microorganisms and dissolved materials

2

|  |  |  |
| --- | --- | --- |
| **Water purification method** | **Strengths** | **Weaknesses** |
| 1.Filtration | Removes suspended solids. | (i) Does not remove dissolved/ insoluble substances.  (ii) Does not kill microorganisms. |
| 2. Boiling | Kills microorganism. | Does not remove soluble substances and insoluble solids. |
| 3*.* Distillation | 1. Removes insoluble solids and dissolved substances. 2. Kills microorganisms. | Not suitable for drinking. |

* 1. **Analysing water supply system**
  2. **Understanding the preservation of water quality**

1 i) sedimentation

ii) chlorination

2

|  |  |
| --- | --- |
| **Chemicals** | **Uses** |
| Alum | Make small particles stick together to form danger solid lumps |
| Chlorine | Kill bacteria |
| Floride | Reduce tooth decay |