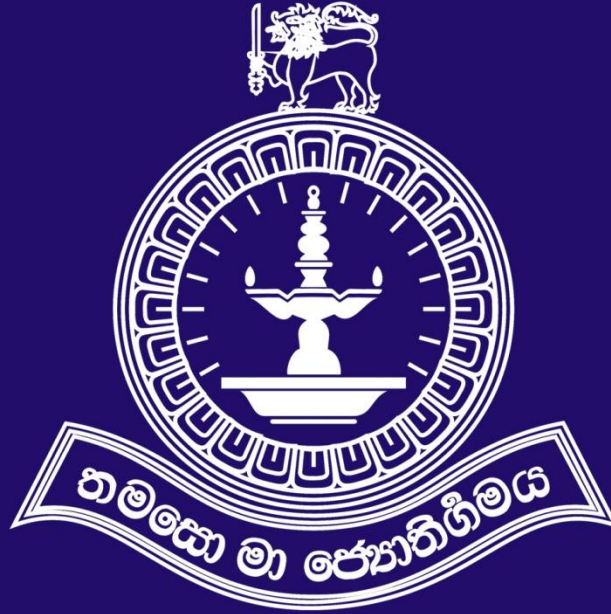


“Thurstan College, being unshaken amidst the COVID 19 challenges”

Series of Supportive Activities



Grade 8 - Science

THURSTAN COLLEGE
COLOMBO 07

Thurstan College, being unshaken amidst the COVID 19 challenges

Series of Supportive Activities

Concept, Guidance & Supervision - Principal Mr. Pramuditha Wickramasinghe

Implementation - Deputy Principal (Education Development)

Mrs. N.G.H. Samanthini

-Assistant Principal (Grade6-13)

Mr. M.C.Jayasekara

-Grade Head (Grade 8) Mrs. L.A. Nilanthi

Preparation of Activity Books

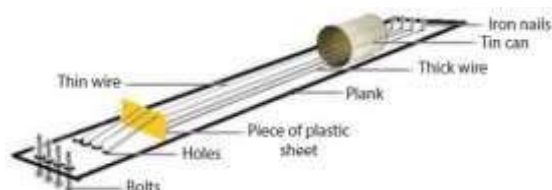
- Grade 6 (Science) - Mr. Anjula Rumes Kumara
- Grade 7 (Science) - Mr. Anjula Rumes Kumara
- Grade 8 (Science) - Mr. Anjula Rumes Kumara
- Grade 9 (Science) - Mr. Anjula Rumes Kumara
- Grade 10 (Science) - Mr. G.W.D.S. Welagedara
- Grade 11 (Science) - Mr. G.W.D.S. Welagedara

Grade 8 unit 05 - Sound

Part A

1. Given below is a sound generating instrument.
What is the source of generating its sound?

- i. Vibrating membranes
- ii. Vibrating an air column
- iii. Vibrating string
- iv. Vibrating plates



2. The answer contains only sources of sound produced by vibrating membranes

- i) Guitar, Trumpet, Xylophone
- ii) Horanawa, Flute, Conch shell
- iii) Gataberaya, Udakkiya, Daula
- iv) Horanawa, Guitar, Piano

3. The correct order of a naturally produced sound and an artificially produced sound is;

- (1) sound of birds, sound of traffic honcs.
- (2) thundering, sound of breeze
- (3) sound of an aeroplane, sound of traffic honcs
- (4) sound of an aeroplane, sound of breeze

4. A and B are two small and large cups tightened by rubber membranes with similar strength.
What can you observe when you tap the two membranes in the same manner?

- i. A produces more sound than B
- ii. B produces more sound
- iii. The sound of A is sharp
- iv. The sound of A is coarse

5. Some statement about musical tone and noises are given below.

- a) The irregular sounds pleasant to ears are called noises.
- b) Rhythmical sounds which are pleas and to out ears are musical tones.
- c) The sounds coming from vehicle are called noises

Correct statement / statements,

- i) Only a ii) Only b iii) a and b only iv) b and c only

6. If a tuning fork vibrates 60 times a second, the frequency of it is,

- (1) $1/60$ Hz (2) 60 Hz (3) 6 Hz (4) 0.6 Hz

7. This is an animal that is producing sound by rubbing the bristles of their legs,

- i) Humming bird ii) Cicadas iii) Fly iv) Frog

8. The correct statement regarding the limits of hearing human is,

- i) less than 20 Hz ii) Higher than 20000 iii) In between 25000 Hz - 70000 Hz
iv) In between 20 Hz - 20000 Hz

9. Think that a sharp sound should be produced by the vibration of a wire. Which of the following property, that should not possess with the above wire?

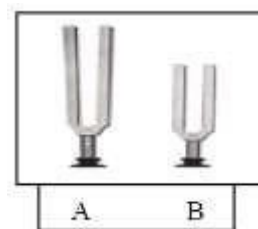
- (1) well stretched (2) less of length (3) thin nature (4) more thickness

10. Which statement is incorrect regarding sound?

- i) Sound is produced because of the vibration of objects
ii) Objects that create sounds are called sources of sound
iii) Sound is created either naturally or artificially
iv) The high frequency of the sound is created when the membrane of a tabla is stretched is

11. Select the correct statement about following tuning forks?

- i) Frequency of B is greater than A
ii) Arm length of tuning forks doesn't affect for frequency
iii) Frequency of A and B are equal.
iv) Frequency of A is greater than B



12. The correct symbol of SI unit of frequency,

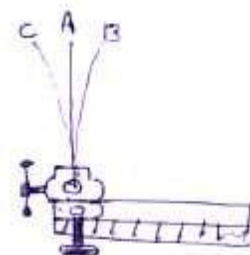
- i) Fe ii) Hz iii) HZ iv) hZ

13. The method of treatment which is used for mental relaxation using music is,

- i) Homeopathy ii) Musical therapy iii) Nerve therapy iv) Eye therapy

14. Following diagram shows an instance of a hacksaw blade tightly fixed in its lower end if its middle position is A, the distance mouse in one vibraltion is,

- i) From A → B
- ii) From A → B → C → A
- iii) From A → B → C
- iv) From B → C → A



15. A musical instrument which is used in the 2 modern world is,

- i) Double drum ii) Geta beraya iii) Large drum (daula) iv) Guitar

part B

01. Fill in the blanks by using suitable words

- 1) When the length of the vibrating air column is less, it gives a sound of frequency.
- 2) Sound of frequency can be obtained, when the membrane of a drum is thinner.
- 3) Bat can hear the sounds of higher frequencies up to Hz.
- 4) Instruments that produce sound are called of sound
- 5) Xylophone is an instrument that produces sound by vibrating

02. Sounds are produced by vibrations.

- (1) Sources of sound can be divided into three categories according to the part, that vibrate when producing sound. Name 3 categories of sources of sound with one example for each. (3 marks)
- (2) The reason for the difference of sound is frequency of vibration. What is meant by 'Frequency of Vibration'?
- (3) What is the SI unit of measuring frequency ?
- (4) The teacher demonstrated that the sound produced by vibrating two tuning forks of long arm and short arm made up of the same metal in same manner are different. Which characteristic of the tuning fork affects on above observation

5) A drum made by a student using a glass, a balloon membrane and rubber band is given below.



The teacher said that the frequency should be increased to get a sharp sound from the drum. What is the change can be done to get a sharp sound from the drum ?

(6) How is the sound produced in 'Thabla', 'Daula' and 'Udekki' ?

(7) Which action should be taken to increase the sharpness of the sound of 'Rabana'?

03. Source of sound can be divided into three groups according to the part that vibrates when producing sound.

i) Name those three groups and give 2 examples for each.

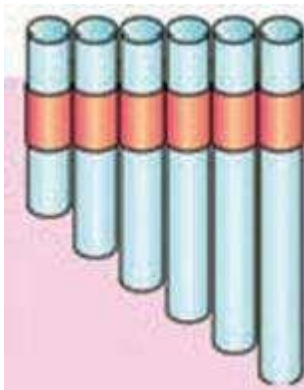
ii).Draw any two out of them

iii) Write two factors that affect for the frequency of sound produced by a guitar.

iv).What do you mean by limits of hearing?

v) Write two advantages of musical therapy.

vi).What is the method used to produce the sound in the instrument given below?

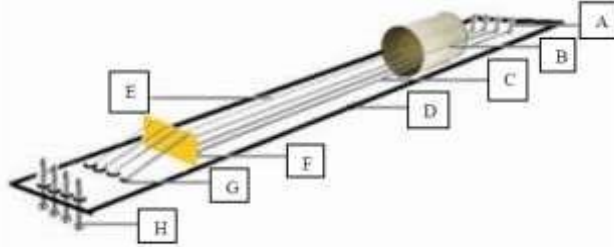


vii).In which pen tube can be heard a highest sound?

04. State 2 examples for each natural sounds and artificial sounds.

ii) Briefly explain the way of making a musical instrument that produce sound by vibrating membranes.

ii) a. Name the parts from A to H in the following instrument



b. Write two factors that affect for the frequency of sound produced by above instrument.

05. Some of the sounds we hear in the environment occur naturally while some other occur artificially.

(1) Write 2 examples for each, natural and artificial sounds

(2) A student identified that there is a difference of sound when blowing three pen tubes in different length with a closed end separately. Which vibrates for generating sounds when blowing pen tubes?

(3) Which pen tube produces the sharpest sound ?

4) Changing the frequency is the reason for the change of the sound. How can the sound be changed in 'Gok Kola Nalawa'?

5) What is the reason for closing and opening the holes one at a time in a flute?

6) It is joyful to listen playing guitar or violin. How are the sounds of unpleasant and nuisance to our ears produced?

7) Name the therapy given by using music.

8) Write a disease can be cured by using above therapy

06. The electromagnetic power increases when

- a. The number of coil loops are decreased
- b. The number of coil loops are increased
- c. A small current is passed through the coil.
- d. An insulated core is used in the middle of the coil.

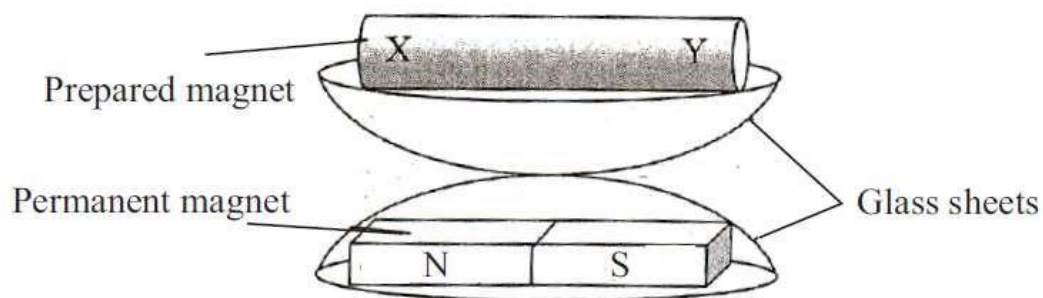
07. The equipment which uses an electromagnet is

- a. compass
- b. Electric bell
- c. Direct current motor
- d. Bicycle dynamo

Part 2

Answer all questions

01. Following figure shows an activity which has done to identify the poles of the prepared magnet through the above activity.



- (i) The situation of the prepared magnet is shown by the figure. Name the poles X and Y according to the above observation.

- (ii) Draw the magnetic field of the prepared magnet by using magnetic fields lines.

(iii) What is the device that can be used to identify the direction of the magnetic field?

(iv) Write down an application of the electromagnets

02. Select the appropriate words from the brackets and fill in the blanks of the paragraph given below.

(Soft iron, magnetic materials, magnetic poles, magnetic field lines, ferrite, magnetic field).

Materials that show magnetic properties are called The best material to make permanent magnets is..... To make temporary magnets, is commonly used. The area in which magnetic forces exist is called..... Influence of a magnetic field can be observed using..... The area on a magnet, where the magnetic forces are concentrated is known as the

03. What are known as magnetic materials?

04. . Give examples for magnetic material.

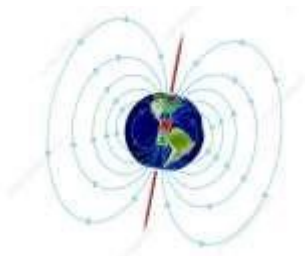
05. . What are known as magnetic poles?

06. . What are the 2 types of magnetic poles?

07. . Explain one method of finding the poles of magnet in the magnet where the poles have not been marked.
08. . Explain the way of doing following activity.



09. . What is known as geomagnetism?



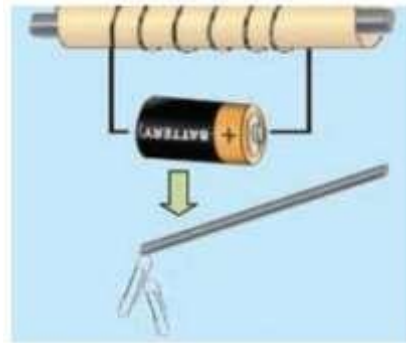
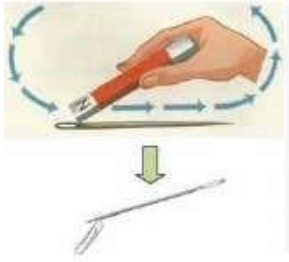
10. Name followings in this diagram.

1. True North
2. True South
3. Magnetic North
4. Magnetic South

11. . What are the 2 types of magnets by considering the uses of them?

12. . What is the difference between temporary magnets and permanent magnets?

13. . What are the 2 methods of construction of permanent magnets? Explain in steps the 2 methods separately



14. Draw the way of storing permanent magnets

15. Write 5 uses of permanent magnets