



**Bal Bharati**  
PUBLIC SCHOOL  
NAVI MUMBAI

## **SUMMER HOLIDAY HOMEWORK 2021-22**

### **CLASS 9**

THEME : PANCHTATVA

**Last day of submission(All Subjects) : 20th June, 2021**

### **ENGLISH**

“When we heal the earth, we heal ourselves”.

No one expected that there would be a day, at least in this lifetime, when they would witness nature recovering after a fallow due to excessive pollution caused by dumping of industrial and domestic waste, ruthless chopping of trees and every possible abuse.

However, the lockdown in 2020 had turned the tables. We had witnessed the skyline becoming clearer, rivers becoming purer and the once endangered flora and fauna beaming with life and vitality.

Keeping the above quote in mind, design a T-shirt (with paper) with pictorial depiction and an original quote of your own to heal the earth.

Materials required:

- A-4/A-3 size white Paper/ Chart Paper
- Scissors
- Water Color/ Crayons/ Sketch Pens
- A-4 size paper for writing a report

Directions:

1. Draw the outline of a T-shirt on an A-3/ A-4 size Paper or Chart Paper.
2. Make a pictorial depiction (on the T-shirt) that is relevant to the theme and paint /color the same.
3. Write an original quote created by you based on Heal the Earth. (on the T-shirt)
4. Write a report on ‘How the earth has healed itself during the lockdown period of 2020?’ (on A-4 size sheet)



**SUMMER HOLIDAY HOMEWORK 2021-22**

**CLASS 9**

THEME : PANCHTATVA

**MATHEMATICS**

I) Earth/*Prithvi* is one of the five elements of nature or one of the *Panchtatvas* .

Let us **construct the Square Root Spiral or the Wheel of Theodorus** to represent the flora or fauna on our beautiful planet.

On an A4 Size Plain Paper, construct a square root spiral . Now, Attach this Spiral as a part of any plant or animal of your choice ! You can colour or use pencil shading for the final look.

II) **Case Study** Based Question (Write the answers on a separate A4 size paper):-

i) Two Classmates Sunil and Ayesha are studying the square root spiral that each of them have made. Fig (a) is made by Sunil and Fig ( b) is made by Ayesha.

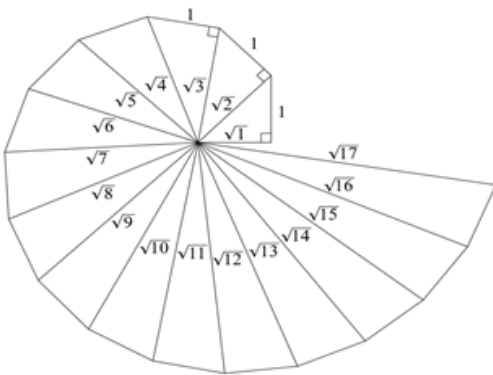


Fig (a)



Fig (b)

Sunil decided to continue the construction beyond the square root of 17 . What do you think will happen if he attempts to do so? Try for yourself and choose the correct answer.

1. He would not be able to construct.



**Bal Bharati**  
PUBLIC SCHOOL  
NAVI MUMBAI

## **SUMMER HOLIDAY HOMEWORK 2021-22**

### **CLASS 9**

THEME : PANCHTATVA

2. He will be able to construct but the right-angled triangles cannot be seen completely or distinctly.

ii) Sunil asked Ayesha to explain as to why the square root of the numbers 2,3,5,7,11,13,15,17 and so on are called irrational? She answered correctly.

Her possible answers would be:-

- a. The decimal expansion of the square root of above numbers are non-terminating repeating.
- b. The decimal expansion of the square root of above numbers are non-terminating and non-repeating.
- c. The decimal expansion cannot be expressed as a ratio of two integers.
- d. The decimal expansion can be expressed as a ratio of two integers.

**Upload the answers of both I (Art Work) and II (Case Study) in your Maths Classroom under the specific assignment created for the purpose.**



**Bal Bharati**  
PUBLIC SCHOOL  
NAVI MUMBAI

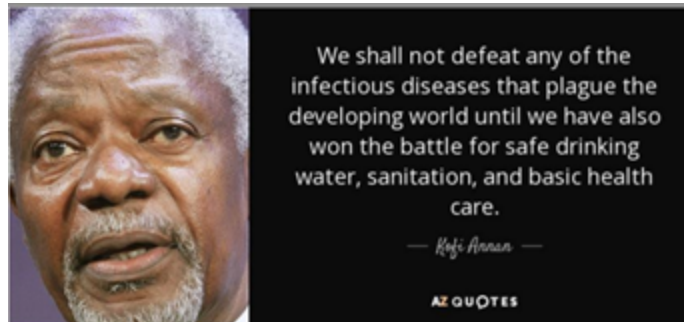
## **SUMMER HOLIDAY HOMEWORK 2021-22**

### **CLASS 9**

THEME :PANCHTATVA

### **SCIENCE**

#### **Water – The Elixir of Life”**



Water, or to be precise clean water is the elixir of life. Pure water is not just essential to public health but also to energy and agricultural production. Unfortunately, there is not enough drinking water to meet the requirements of all the people in the world.

By 2025, there will be a major water shortage of clean water in places like Africa, India, China and the Middle East. Since water is a limited resource and it is important to each of us every day, water conservation is essential.

Make a project comparing the methods of conserving water in ancient versus modern times. Also give a reference of “The Great Bath” of Harappan civilization. Present it in the form of a handwritten report with relevant pictures.



**Bal Bharati**  
PUBLIC SCHOOL  
NAVI MUMBAI

## **SUMMER HOLIDAY HOMEWORK 2021-22**

### **CLASS 9**

THEME :PANCHTATVA

#### **SOCIAL SCIENCE**

##### Be Alert, Avert Fire

Every year thousands of people lose their life or get seriously injured due to fire-related hazards. Many of us believe we may never be in the midst of a fire accident. That is not true. A fire can happen anywhere and at any time. The outbreak of a fire, when not handled carefully, can lead to loss of life as well as valuable assets. Fire can have a devastating impact on anybody who is unfortunate enough to be near it. You can't predict when fire will happen, but you can take steps to prevent fire disasters. It is very important to be aware of Fire Safety (Fire safety is the set of practices intended to reduce the destruction caused by fire) measures.

1. So, prepare a write up with an introduction on fire safety measures to be taken to avoid any fire incident.
2. Support your write up with two case studies (Fire incidents) with causes of fire (Violation of safety norms, lack of standardization and regulation etc.)

Instructions:

1. Handwritten Project
2. A-4 size sheets (3-4 pages)
3. Illustrations

(If you can take print out at home, hand drawing, magazine cutting, old textbook cutting etc.)



**Bal Bharati**  
PUBLIC SCHOOL  
NAVI MUMBAI

## **SUMMER HOLIDAY HOMEWORK 2021-22**

### **CLASS 9**

THEME :PANCHTATVA

#### **HINDI**

किसान और मिट्टी का अनन्य सम्बन्ध है। इन दोनों की आपसी बातचीत को संवाद शैली में सचित्र A4 साइज़ पेपर पर लिखिए तथा कक्षा में जमा कीजिए।

#### **SANSKRIT**

पञ्चमहाभूतानां नामानि लिखित्वा ,तेषु कमपि एकं अधिकृत्य दश वाक्यानि लिखत ।

#### **MARATHI**

पाण्यावर तरंगणाच्या शहरातील वातावरण, हवामान, निसर्गसौंदर्य या विषयी माहिती मिळवा व छायाचित्रांचे संकलन करा.

#### **COMPUTER**

##### **Air as Medium of data communication**

Create any one 3D model describing wireless data communication from the following topics:

- A PAN network with many gadgets using wi-fi signals from a single router.

OR

- Car receiving Wi-Fi data from Towers placed on the road.

OR

- Satellite communication reaching various parts of earth

OR

- Infrared data communication with TV and Remote



**Bal Bharati**  
PUBLIC SCHOOL  
NAVI MUMBAI

## **SUMMER HOLIDAY HOMEWORK 2021-22**

### **CLASS 9**

THEME :PANCHTATVA

A picture of the model created should then be uploaded on the Holiday H.W. form in the Google computer classroom.

**Note:** Be innovative in the design of the 3D model. Use readily available home stationery like cardboards (Shoe box/home delivery boxes), Matchsticks, thread, Clay (Wheat dough), Sketch Pens, Paper Flags to write small info.

### **ART**

Topic -Design

Draw an outer shape of a flower vase. (Height of the vase should not be less than 20 cm.) Inside this shape, create a beautiful design using elements of your choice (e.g. Decorative forms of leaves, flowers, fruits, birds, geometrical shape, etc) in symmetrical or asymmetrical technique and colour it with suitable colours.

#### Special instructions

1. Use of geometric / mechanical instruments is allowed for drawing.
2. Neatness and accuracy in colouring is important.
3. Creativity, imagination and originality is expected in creating good design.
4. Colour the design in suitable colours and colour scheme