

## Chapter 1.6: The Alchemy of Nature

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### WARMING UP! [PAGE 37]

#### Warming up! | Q 1 | Page 37

Rearrange the good qualities in each set, so that the first letter of each of the words should make a meaningful word. Join the sets and get a message.

Set 1: Understanding/Adaptable/Tolerant/Neat/Encouraging Resourceful.

- The word is \_\_\_\_\_

Set 2: Selfless/Inspiring

- The word is \_\_\_\_\_

Set 3: Youthful/Modest

- The word is \_\_\_\_\_

Set 4: Affectionate/Compassionate/Empathetic/Earnest/Honest/Reliable/Trustworthy

- The word is \_\_\_\_\_

- The message is \_\_\_\_\_

### SOLUTION

Set 1: Neat/Adaptable/Tolerant/Understanding Resourceful/Encouraging

Set 2: Inspiring/Selfless

Set 3: Modest/Youthful

Set 4: Trustworthy/Earnest/Affectionate /Compassionate/Honest/Empathetic/Reliable

The message is: **Nature is my teacher.**

#### Warming up! | Q 2 | Page 37

**Various aspects of Nature have special features that make them differ from one another.**

For example, Birds:- appearance, shape, colour, size, food habits, habitat, sound etc. Write such special features of each of the following.

- Land- \_\_\_\_\_
- Water- \_\_\_\_\_
- Trees- \_\_\_\_\_
- Animals- \_\_\_\_\_
- Insects- \_\_\_\_\_

### SOLUTION

- **Land-** geographical features, colours, shapes, appearance, chemical composition, uses.

- **Water-** width and length of various water bodies, chemical composition (sweet water, salt water).  
colours (according to sand beds), rocks, coral reefs, variety of sea creatures.
- **Trees-** height and shape of leaves, changing (or unchanging) colour during seasons, fruits, flowers, medicinal products, types of soil, climate and habitat required for their existence.
- **Animals-** shapes, sizes and colours, different habitats, kinds: wild or domestic, uses.
- **Insects-** shapes, sizes. colours, number of legs, different habitats, sounds, uses.

### Warming up! | Q 3 | Page 37

Make a list of living creatures in the alphabetical order. You can write more than one beginning with the same letter.

### SOLUTION

A - Anaconda	N - Nighthawk
B - Butterfly	O - Ostrich
C - Crab	P - Penguin
D - Dog	Q - Quail (Bird)
E - Elephant	R - Rooster
F - Frog	S - Sheep
G - Goat	T - Tiger
H - Horse	U - Umbrella Cockatoo (Bird)
I - Iguana (Lizard)	V - Vulture
J - Jellyfish	W - Whale
K - Kangaroo	X - Xenopus (Frog)
L - Lion	Y - Yak
M - Monkey	Z - Zebra

### ENGLISH WORKSHOP [PAGES 40 - 43]

#### English workshop | Q 1. (a) | Page 40

What things in nature teach us the following:

Nothing is impossible to achieve \_\_\_\_\_.

### SOLUTION

Nothing is impossible to achieve ants; small bits of grass peeping from cracks in the concrete.

#### English workshop | Q 1. (b) | Page 40

What things in nature teach us the following:

Problems are not permanent \_\_\_\_\_.

### **SOLUTION**

Problems are not permanent trees that are bare in winter.

**English workshop | Q 1. (c) | Page 40**

**What things in nature teach us the following:**

Be humble and adjust \_\_\_\_\_

### **SOLUTION**

Be humble and adjust water.

**English workshop | Q 1. (d) | Page 40**

**What things in nature teach us the following:**

Make the best use of time and opportunity \_\_\_\_\_.

### **SOLUTION**

Make the best use of time and opportunity Hibiscus flower.

**English workshop | Q 1. (e) | Page 40**

**What things in nature teach us the following:**

Be persistent \_\_\_\_\_.

### **SOLUTION**

Be persistent water.

**English workshop | Q 1. (f) | Page 40**

**What things in nature teach us the following:**

Many hands make work light \_\_\_\_\_.

### **SOLUTION**

Many hands make work light ants.

**English workshop | Q 1. (g) | Page 40**

**What things in nature teach us the following:**

Delicate structures are not a sign of weakness \_\_\_\_\_.

### **SOLUTION**

Delicate structures are not a sign of weakness spider webs.

**English workshop | Q 2. (a) | Page 40**

**Read the question from the lesson. What do they imply?**

Are you listening?

### **SOLUTION**

It implies that one must listen.

**English workshop | Q 2. (b) | Page 40**

**Read the question from the lesson. What do they imply?**

What if we too had lived our lives, however short, to the fullest?

**SOLUTION**

It implies that we too should live our lives to the fullest, however short they may be.

**English workshop | Q 2. (c) | Page 40**

**Read the question from the lesson. What do they imply?**

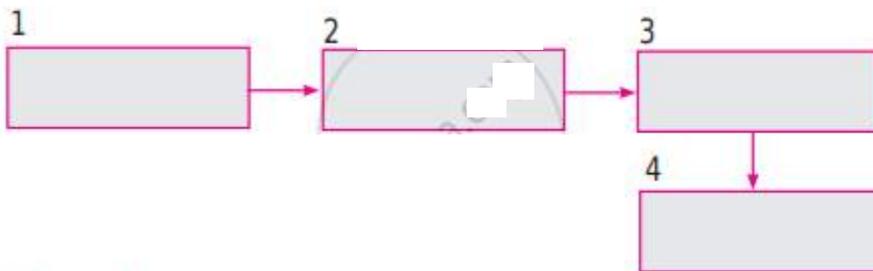
What if we too are consistent, organized, focused...?

**SOLUTION**

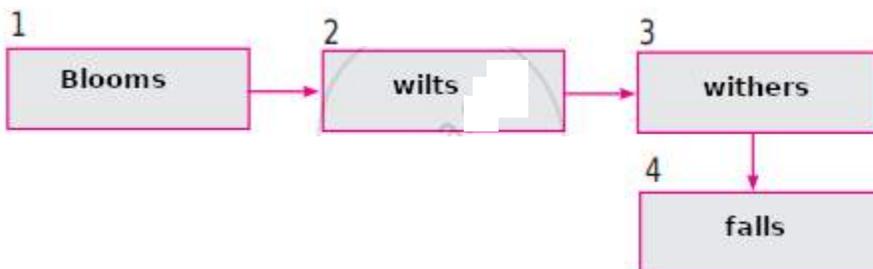
It implies that we too could do wonders if we were consistent, organized, focussed.....

**English workshop | Q 3 | Page 40**

**Go through the lesson again and complete the flow-chart that highlights the life of a 'hibiscus' flower.**

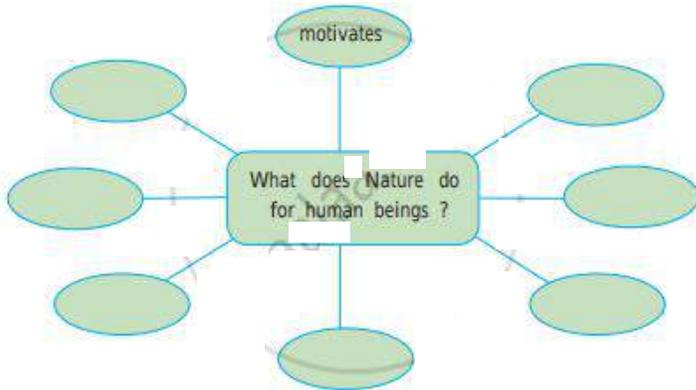


**SOLUTION**

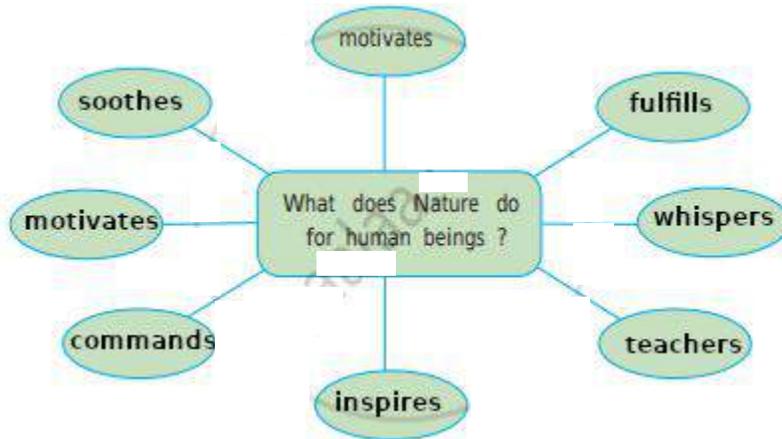


**English workshop | Q 4 | Page 40**

**Fill the web**



**SOLUTION**



**English workshop | Q 5 | Page 41**

The writer explains the contrasting features of 'water' and 'rock' in the lesson. Write all the features of both water and rock in the given table.

Water	Rock
1.	1.
2.	2.
3.	3.
4.	4.

**SOLUTION**

Water	Rock
1. gentle	1. hard
2. persistent	2. humble
3. persevering	3. obedient
4. determined	4. adaptable

**English workshop | Q 6 | Page 41**

The writer has very positively described the different things in nature. Discuss with your partner the special features of each one of them. Add on the list.

Part of Nature	Special feature	Value learnt
1. Rainbow		
2. Caterpillar		
3.		
4.		
5.		
6.		
7.		

**SOLUTION**

Part of Nature	Special feature	Value learnt
1. Rainbow	cheerfulness; acceptance.	Even when there are problems in the surroundings, we must be cheerful and spread colour and happiness.
2. Caterpillar	patience; acceptance	There is a bright and beautiful future ahead.
3. hibiscus flower	optimism; cheerfulness	However short life may be, we must live it to the fullest.
4. rocks	obedience to nature; adjustment; humility	Obey the commands of nature; adjust to the situation; be humble
5. bits of grass	optimism; perseverance	However impossible things may look, there is an opening.
6. bare tree	optimism, faith; conviction	However difficult things are in the present, it will not remain so forever. With conviction we should remind ourselves that this too will pass.
7. water	perseverance; determination; humility	(i) Even colossal problems surmounted if we persist. can be (ii) Learn to adapt to others without any hint of ego

**English workshop | Q 7. (a) | Page 41**

**Think and answer in your own words.**

How should you deal with difficulties and problems?

**SOLUTION**

When I come across problems in life, I turn towards nature for inspiration. I try to understand how the different elements in nature deal with their difficulties and try to solve my own problems in the same way.

### English workshop | Q 7. (b) | Page 41

**Think and answer in your own words.**

'An oyster turns a grain of sand into a pearl.' What can we learn from this example?

#### **SOLUTION**

We learn that there is a mysterious power or magic in nature that can change things dramatically.

### English workshop | Q 7. (c) | Page 41

**Think and answer in your own words.**

How does nature succeed in its 'Alchemy'? What can it turn a small person into?

#### **SOLUTION**

Nature succeed in its 'Alchemy' by changing things in a mysterious way. It can turn a small person into anything he/she wishes; one touches nature and becomes gold oneself.

### English workshop | Q 7. (d) | Page 41

**Think and answer in your own words.**

Which two aspects of nature teach us to accept change and adjust according to the situation?

#### **SOLUTION**

With gentle humility, water changes its form according to the dictates of the sun and the wind. The bare trees wait patiently during the winter months for the arrival of spring, when they get fresh green leaves. These two aspects of nature teach us to accept change and adjust according to the situation.

### English workshop | Q 7. (e) | Page 41

**Think and answer in your own words.**

Why does the writer begin by quoting the lines from William Blake's poem 'Auguries of Innocence'?

#### **SOLUTION**

These lines show that if we pause to reflect, there is much beauty in nature and plenty that we can learn from it. The write-up expands on the same idea, thus, reflecting the philosophy of the poetic lines by William Blake.

### English workshop | Q 8. (A) | Page 42

**Pick out from lesson 10 examples of each.**

- **Concrete Nouns (that you can touch or see)**  
For example, sand

- **Abstract Nouns (that which you cannot touch or see)**  
For example, infinity

### **SOLUTION**

- **Concrete Nouns (that you can touch or see)**

For example, sand

1. water
2. rock
3. flower
4. tree
5. grass
6. leaves
7. system
8. Butterfly
9. dawd
10. wind

- **Abstract Nouns (that which you cannot touch or see)**

For example, infinity

1. Imagination
2. Joy
3. Destiny
4. Atternity
5. Deeds
6. Time
7. Space
8. Idea
9. Ego
10. Elegance

### **English workshop | Q 8. (B) (1) | Page 42**

**Underline the verbs in the sentence and say whether it is Transitive (needing an Object) or Intransitive (need not have an Object).**

One can witness and experience the beauty of Heaven

## **SOLUTION**

One can witness and experience the beauty of Heaven.

witness and experience are the **verbs**.

∴ It is **Transitive**.

## **English workshop | Q 8. (B) (2) | Page 42**

**Underline the verbs in the sentence and say whether it is Transitive (needing an Object) or Intransitive (need not have an Object).**

It leaves me in complete awe.

## **SOLUTION**

It leaves me in complete awe.

leaves are the **verb**.

∴ It is **Intransitive**.

## **English workshop | Q 8. (B) (3) | Page 42**

**Underline the verbs in the sentence and say whether it is Transitive (needing an Object) or Intransitive (need not have an Object).**

Nature soothes and nurtures.

## **SOLUTION**

Nature soothes and nurtures.

Soothes and nurtures are the **verbs**.

∴ It is **Intransitive**.

## **English workshop | Q 8. (B) (4) | Page 42**

**Underline the verbs in the sentence and say whether it is Transitive (needing an Object) or Intransitive (need not have an Object).**

It withers completely.

## **SOLUTION**

It withers completely.

withers are the **verb**.

∴ It is **Intransitive**.

## **English workshop | Q 8. (B) (5) | Page 42**

**Underline the verbs in the sentence and say whether it is Transitive (needing an Object) or Intransitive (need not have an Object).**

The flower comes to life only for a day.

## **SOLUTION**

The flower comes to life only for a day.

comes are the **verb**.

∴ It is **Intransitive**.

### English workshop | Q 8. (B) (6) | Page 42

**Underline the verbs in the sentence and say whether it is Transitive (needing an Object) or Intransitive (need not have an Object).**

A rainbow colours the entire sky.

### **SOLUTION**

A rainbow colours the entire sky.

colours are the **verb**.

∴ It is **Transitive**.

### English workshop | Q 8. (B) (7) | Page 42

**Underline the verbs in the sentence and say whether it is Transitive (needing an Object) or Intransitive (need not have an Object).**

It smiles and dances

### **SOLUTION**

It smiles and dances.

smiles and dances are the **verbs**.

∴ It is **Intransitive**.

### English workshop | Q 9. (A) | Page 42

Compose about 8-10 sets of imaginary dialogue between a bird, a tree and its fruit regarding the effects of environmental changes. Write it in your notebooks.

### **SOLUTION**

**Conversation between a bird, a tree and its fruit:**

- **Conversation 1:**

**Bird:** Hi there, tree! How are you doing?

**Tree:** Not too well. I can't breathe. There's too much of dust and smoke here.

**Bird:** What, here too? I've come here to escape just that!

**Fruit:** Wrong place, birdie. Look at me: do I look healthy? I'm not growing. Too many insecticides have been sprayed on me.

**Bird:** Oh, oh. Maybe I should leave this place too.

- **Conversation 2:**

**Tree:** Oh, no! Something is happening! My roots are getting loose!

**Bird:** That's called erosion. Soil erosion.

**Tree:** What happens next?

**Bird:** The next time it rains heavily-boom! Down you will go! And away I will fly.

**Tree:** Can't someone help me?

**Fruit:** What about me?

### English workshop | Q 9. (B) | Page 42

**Prepare a Fact file of any of the following plants/trees, using the points given.**

[coconut/ neem/ basil / cactus / apple]

- Name of Plant/Tree \_\_\_\_\_
- Scientific name \_\_\_\_\_
- Region and climate \_\_\_\_\_
- Features \_\_\_\_\_
- Growth \_\_\_\_\_
- Size, shape and colour \_\_\_\_\_
- Uses \_\_\_\_\_
- Any special feature \_\_\_\_\_

### **SOLUTION**

#### **Profile of the Coconut Tree and Fruit**

1. **Names:**  
English name Coconut;  
Sanskrit name - Narikela;  
Hindi name - Nariyal.
2. **Scientific name:**  
cocos nucifera; belongs to the family 'Palmae' or the palm family (also known as Arecaceae).
3. **Region and Climate:**  
Tropical and sub tropical coastal regions, especially near sea beaches.
4. **Features:**
  - i. **Fruit:** has a thick fibrous coir over the hard shell: inside the kernel colourless liquid;
  - ii. **leaves:** feather-shaped and split into lots of leaflets.
5. **Growth:**  
Coconut trees can grow from 15 to 30 metres in height in plantations
6. **Size and shape:**  
Coconut fruits are oval in shape. The trunk of the coconut tree is ringed with scars where old leaves have fallen. The top of the trunk is crowned with a rosette of leaves. The leaves can grow up to 7 feet long and can have 250 leaflets.
7. **Uses:**
  - i. **Coir weaving and leaves:** matting, thatching and
  - ii. **Hard outer shell:** about 10 to 15 inches in length: used to make articles such

as spoons, eating utensils, charcoal, etc.

**iii. Inside of the shell:** lined with a white edible layer called the meat: used for cooking or extraction of oil, making of soaps or cosmetics: also to make chemical Industrial and medicinal products: contains coconut water which is very nutritious.

**iv. Husk and leaves:** used as material to make a variety of products for furnishing and decorating

**8. Any special feature:**

Known in India as kalpavriksha' or the tree of heaven' because of its many uses: the term coconut is derived from the 16th century Portuguese and Spanish. meaning grinning face from the three small holes on the coconut shell that resemble human facial features.

**English workshop | Q 10 | Page 43**

'Impossible' itself says 'I M possible'. Do you agree? Justify your answer by citing something that you have experienced or heard from someone.

**SOLUTION**

Yes, I agree. It is possible to do the most difficult of things providing we have the will and conviction to do so. The example that comes to my mind as justification is that of Sudha Chandran, the dancer. Though her leg was amputated below the knee, with great grit and determination she restarted dancing and went on to become a famous dancer and actress. This shows that one can do things which seem to be impossible.

**English workshop | Q 11 | Page 43**

You have an environment protection week celebration in your school. You have invited an environmentalist. Your friend interviews him/her about how to save the environment. Frame suitable Interview Questions

**SOLUTION**

Jai interviews Mr. Ali, an environmentalist:

**Jai:** Good morning. Sir. Welcome to our school. would like to ask you a few questions for a write-up in your school magazine. My first question: What is your opinion about the concept of having an environment protection week's celebration?

**Mr. Ali:** I think it's a wonderful idea, though I would not call it a "celebration".

**Jai:** Why is that, sir?

**Mr. Ali:** Well, you have a celebration when you are happy about something. In our town, the protection of the environment is so poor that I, as an environmentalist, am not at all happy about it.

**Jai:** Can you give us some tips to protect the environment?

**Mr. Ali:** Certainly, my boy. First of all, we should grow more trees wherever possible. It should be made mandatory for every factory, office, residential building, etc. to plant trees before starting construction. If trees have to be cut down for any purpose, efforts must be made to transplant them.

**Jai:** What about the menace of plastic, sir?

**Mr. Ali:** We cannot eliminate plastic completely: however, the thickness of plastic bags and the methods of disposal should be made clear to all. Air, water and noise pollution must be dealt with too.

**Jai:** Please expand on that, sir.

**Mr. Ali:** Well, industrial and vehicular pollution must be controlled: water bodies must be kept clean. Those who break rules must be penalized. Loudspeakers must be banned during the night hours. Oh, there are lots of things to be done, lots of things.

**Jai:** Thank you sir, for giving some of your precious time for this interview.

### English workshop | Q 12 | Page 43

Write a News Report on the 'Environment Day' celebrated in your school.

## **SOLUTION**

### **Environment Day Celebrations**

Nagpur, June 7 World Environment Day was celebrated in New Era School with great fanfare on June 5. The main purpose of the celebration was to spread awareness about the need to protect the environment and the ways to do it.

The day was flagged off by a tree plantation drive in the locality. 300 quick-growing trees, which do not need much water on a daily basis, were planted near the school wall and in the surrounding area. An eminent environmentalist, Mr. A.T. All spoke on the ways to protect the environment. He also judged the Posters and Photographs' exhibition and gave away prizes for the best entries Environmentally-friendly articles like disposable plates and cups made from bamboo and banana stem, bags made from leaf waste, etc. were on sale. Students gave continuous powerpoint presentations on the threats to the environment. Last but not the least, was the spirited debate on the topic 'Man: The worst enemy of the Environment'.

All in all the day was a great success, and has certainly made a difference to the way we view our environment

- Josh Matthew New Era School

### English workshop | Q 13 | Page 43

#### **Just For Laughs! Enjoy!**

Divide the class into two groups. On 12 to 15 slips of paper, Group A writes 12 to 15 conditional clauses beginning with 'If'.

(For example, If I work very hard.)

Group B writes 12 to 15 main clauses.)

(For example, I would/shall have a pizza.)

Now, one student from Group 'A' reads the first conditional clause (possibility) and one student from Group 'B' reads the first main clause. It forms crazy sentences, just for laughter and fun. ENJOY!

### **SOLUTION**

Do it yourself.