

HARI VIDYA BHAWAN

Subject: English

Class-IX

Work sheet-5

Chapter 7

Determiners (Grammar)

DATE:- 07/04/2020,

Questions for practice:-Learn and write.

Q 1. Write definition of Determiners.

Q 2. Write a kind of Determiners with one one example each.

Exercise:-

Fill in the blanks with suitable determiners.

- a)books are missing from the library.(Any, Some)
- b) She has not solved.....sums.(many, any)
- c) This book is mine but.....is yours.(that, any)
- d)boys have done their work.(that, these)
- e) He didn't makeprogress.(much, many)
- f) He has forgotten.....of the details.(some, many)
- g) The District Magistrate visited.....flood affected area.(every, either)
- h)Villa is this?(this, those)
- i) He is the.....boy who has joined this gym.(first, whose)
- j) I met her.....week.(this, those)

Link :- Link : <http://youtu.be/SrHrTUZWww4>

Just watch the videos with the help of this link.

Chapter 2 Tense:- Past Tense (Grammar)

Q 1 write Past Tense-

*Simple Past Tense,

*The Past Progressive or Continuous Tense,

* Past Perfect Tense

*Past Perfect Progressive or Continuous Tense,

*Write It's rules with one-one examples in your note book.

Exercise:-

Complete the paragraph with the suitable tense of the verbs.

Choose the correct verb and write the answer against the correct blanks in your answer.

As the years (a).....by, we saw less of each other. For some time, she (b).....to wake me up and get me ready for school. When I (c).....back, she would ask me what the teacher (d).....me. I would tell her English words and little things of western science. This (e)her unhappy. She (f).....in the things they(g)at the English school and was distressed that there (h)no teaching about God and the scriptures.

Hints:-

- | | | |
|-----------------|--------------------|--------------------|
| 1 a) roll | b) rolled | c) is rolling |
| 2 a) continue | b) continued | c) is continuing |
| 3 a) came | b) come | c) coming |
| 4 a) had taught | b) taught | c) teach |
| 5 a) has made | b) make | c) made |
| 6 a) believe | b) did not believe | c) doesn't believe |
| 7 a) had taught | b) has taught | c) taught |
| 8 a) is | b) was | c) being |

Link :- <http://youtu.be/pXZtRZpGNck>

Just watch the videos with the help of this link.

Hari Vidya Bhawan

Worksheet 5

Subject: Information Technology

L-2 Self-management Skills

Date : 7.04.20

Q 1. How confidence helps in self-management skills ?

Ans. Self-confident people tend to see their lives in a positive way. This skill is especially useful in the workplace when it comes to problems or difficult task.

Q 2. Why self-management skills are important in our daily life?

- Ans. 1. It helps to the career growth at a professional level or personal level.
2. It improves better communication skills.
3. It helps to give more productive output and value to the organization.
4. It gives you the confidence to control all situations.

Q 3. What you will gain after getting self- management skills?

- Ans. Self-control and self confidence
Self-awareness
Self-development
Self-motivation
Positivity

Q4. To over come against self-management, list five points to resolve it.

- Ans. We can resolve our stress by follow these techniques:-
1. Start Exercising
2. Eat healthy and nutritious food
3. Get enough sleep
4. Be clear on requirements
5. Change your surroundings

Q 5. Identify three factors that helps to develop self-confidence.

- Ans. 1. Social factor:- social factors affect lifestyle such as religion family or wealth. These can change over time. To improve our social skills we have to invest time in them.
2. Cultural factor:- culture is the lifeblood of vibrant society, exhibition in many ways we tell our stories, celebrate, remember the past. Adaptation in a community or society with different cultural factors like religions, languages, moral values etc build new skills will boost self-confidence.
3. Physical factor:- exercise has a powerful effect on confidence. Regular exercise releases relax mental stress and the body and brain will work properly. And we will feel more motivated to act in ways that build our self-confidence.

Q 6. How could you develop your self-management skills? Name an example.

- Ans. The ways to develop our self-management skills are:-
1. Identifying strength, weakness, opportunities and threads
2. Identifying resources and sources of supports
3. Managing your time
4. Taking a solution focused approach to managing problems
5. Managing your own emotions

Q 7. How could you demonstrate good self-management skills?

Ans. Self-management skills refers to steps, strategies and skills that individuals can use towards the achievements of goals. For example include organizing study materials, setting goals and monitoring progress. Teaching self-management skills will prepare students, teachers, employees, professionals etc in environment where there is a little guidance, structure and monitoring.

Activity :-

What types of tips can you suggest regarding self-management to your brother or sister for a job interview.
(Write in points and do it in the notebook)

(click over the link to get knowledge about the lesson- self management skills)

<https://www.youtube.com/watch?v=HrZKoVGNvkc>

HARI VIDYA BHAWAN

Worksheet-6

Class-X

Subject-Science

Session-2020-21

Ch-12: Electricity

Date:07/04/2020

Heating Effect of electric current

When electric current flows through a metallic conductor(like a high resistance wire) the conductor becomes hot after sometime and produces heat.This is called **heating effect of electric current**.

e.g. A bulb becomes hot after some time ,when we swich on an electric iron,it becomes hot.This is because of heating effect of electric current.

• What causes heating effect of electric current?

Heating effect happens due to conversion of **electric energy** into **heat energy**.

- We know that battery or cell is a source of electric energy.
- Due to chemical reaction in this battery or cell, potential difference is generated.
- This potential difference causes electrons to flow through circuit.
- This circuit has resistors which resist flow of current.
- Work is to be done to overcome this resistance.
- While doing this work, this source of energy in conductor is dissipated (converted) in resistor as heat energy.
- Potential difference (V) is a measure of work done (W) in moving a unit charge (Q) across a circuit.

$$V = W / Q$$

$$W = V Q \dots\dots\dots(i)$$

Power = Work done / time taken

$$P = W / t \dots\dots\dots(ii)$$

Substituting the value of W in equation (ii) :

We get, $P = V \times Q / t$

$$P = V \times I$$

[Electric current : $I = Q / t$]

We know that , Energy = power \times Time

Thus, Heat energy due to current = Electric Power \times Time

$$H = P \times t$$

$$H = VI \times t \quad [P = VI]$$

$$H = VI t$$

Also putting $V = IR$ by Ohm's Law

$$H = V I t$$

$$H = (IR) \times I t$$

$$H = I^2 R T$$

This is known as Joule's law of heating. It states that heat produces in a circuit is directly proportional to the square of current flowing, resistance for current and time for which current flows.

- According to the Joule's law of heating ,the amount of heat produced in conductor is

1) Directly proportional to square of electric current flowing through it.

$$H \propto I^2$$

It means if we double the current ,the heat becomes 4 times. Hence, more current ,more the heat less the current ,less heat produced.

2) Directly proportional to resistance of conductor. $H \propto R$

It means if we use wire made up of metal having less resistance ,it will produce less heat.

3) Directly proportional to time for which electric current flow through conductor. $H \propto t$

It means if we switch on an electric gadget for more time, it will get heated up more and if We use for less time , it will get less heated.

- **Disadvantages of heating effect**
 - Loss of energy in the unwanted heat.
 - Wear and tear of components

- **Practical application of heating effect of current**

1) Electric heater,iron,water heater work on heating effect of current.

When these appliances are connected to supply of electricity they become hot but wires remain cold.They are made of nichrome(high resistivity and hence high resistance).Heat produce is directly proportional to the resistance of material through which current flows.

Nichrome has high resistance so large amount of heat is produced and filament of appliance become hot.

Connecting wires are made up of Cu or Al with small resistance,so small heat is produced and they remain cold.

2) Electric bulb glows when electric current flows through filament of the bulb.

Filament of an electric bulb is made up of tungsten with high melting point.

Filament is enclosed in a glass envelop which is filled with nitrogen and argon gas.

Since resistance of thin filament is very high,so large heat is produced as electric current which flow through filament.Due to its large amount of heat produced,filament of bulb become white hot.Hence filament of bulb emits light and heat.

3)Electric fuse in the electric circuit melts when large current flows in the circuit

Electric fuse is a safety device connected in series with electric circuit.Electric fuse is a wire made up of material whose melting point is very low.(Cu or Sn alloy).

When large electric current flow through a circuit and hence through fuse wire,large amount of heat is produced.Due to this large heat,the fuse wire melts and circuit is broken so that current stop flowing in the circuit.This saves the electric circuit from burning.

5A means maximum current that can flow through fuse wire.

Electric power

Rate of doing work OR Rate at which electric energy is dissipated or consumed in a circuit is called **Electric Power**.

$$\text{Power} = \text{Work done} / \text{time taken} = W / t$$

- SI unit of Power is **Watt (W)**.
- The power of 1 Watt is a rate of working of 1 Joule per second. Actually Watt is a small unit, therefore, a bigger unit of electric power called Kilowatt is used for commercial purposes. Also,
1 kilowatt = 1000 Watts

$$P = W / t$$

$$P = V \times Q / t$$

$$P = V \times I \quad 1 \text{ W} = 1 \text{ V} \times 1 \text{ A}$$

- 1 Watt power is consumed when 1 Ampere of current flows through a device at a potential difference of 1 Volt.
- Electrical energy is the amount of work done or energy consumed in a given amount of time. So, it is measured in Joules or Wh (watt hour) or most commonly as kWh (Kilowatt hour).

$$\begin{aligned} 1 \text{ kWh} &= 1000\text{W} \times 3600 \text{ second} \\ &= 3.6 \times 10^6 \text{ joule (J)} \end{aligned}$$

❖ Power in terms of I and R

we know that

$$P=VI \quad \dots\dots\dots(i)$$

Now from Ohm's law

$$V = IR$$

Putting this equation in equation (i), we get

$$P = I \times R \times I$$

$$\text{Power, } P = I^2 \times R \quad \quad \quad \mathbf{P = I^2 R}$$

- Above formula is used to calculate power when only current and resistance are known to us

❖ Power in terms of V and R

we know that , $P=VI$ (i)

Now from Ohm's law

$$V = IR$$

Or we have

$$I = \frac{V}{R}$$

Putting this value of I in equation (i), we get

$$P = V \times V / R$$

$$P = V^2 / R$$

- This formula is used for calculating power when voltage V and resistance R is known to us.
- **Thus the resistance of high power devices is smaller than the low power ones.** For example , the resistance of a 100 Watt bulb (220 V) is smaller than that of 60 Watt (220 V) bulb.

➤ Solving Problems Using The Formulae Of Joule's Law And Power:

Example 1: An electric iron has a rating of 750 W,220 V. Calculate

- the current passing through it, and
- its resistance, when in use.

Solution: Power, $P = 750 \text{ W}$; Potential difference $V = 220 \text{ V}$

(i) So, $I = P / V = 750 / 220 = 3.4 \text{ A}$

(ii) Now, $V = IR$; $R = V / I$
 $= 220 / 3.4$
 $= 64.7 \Omega$

Example 2: A geyser is rated 1500 W, 250 V. It is connected to 250 V mains. Calculate (i) the current drawn, (ii) the energy consumed in 50 hrs,

- the cost of energy consumed at ₹ 2.20 per kWh

Solution: Given, $V = 250 \text{ V}$; $P = 1500 \text{ W}$; $t = 50 \text{ hrs} = 50 \times 60 \times 60 \text{ sec}$

(i) $I = P / V = 1500 / 250 = 6 \text{ A}$

(ii) Energy consumed = $V I t$ joule
 $= 250 \times 6 \times 50 \times 60 \times 60$
 $= 27 \times 10^7 \text{ J}$
 $= 27 \times 10^7 / 3.6 \times 10^6 \text{ kWh} = 75 \text{ kWh}$

(iii) 1 kWh costs = ₹ 2.20

75 kWh costs = $2.20 \times 75 = ₹ 165$

Practice Questions:

- Which of the following terms does not represent electrical power in a circuit?
 - $I^2 R$
 - $I R^2$
 - $V I$
 - V^2 / R
- An electric bulb is rated 220 V and 100 W. When it is operated on 110 V, the power consumed will be:
 - 100W
 - 75W
 - 50W
 - 25W
- Define Joule's law.
- How does electric heater, iron and water heater work on heating effect of current?
- Why electric fuse in the electric circuit melts when large current flows in the circuit?
- Why does filament of an electric bulb is made up of tungsten?
[Hint: Check the answer from NCERT exercise solution]
- Why does the cord of an electric heater not glow while the heating element does?
[Hint: Check the answer from NCERT exercise solution]
- An electric iron of resistance 20Ω takes a current of 5 A. Calculate the heat developed in 30 sec.
[Hint: Check the answer from NCERT exercise solution]
- An electric motor takes 5 A from a 220 V line. Determine the power of the motor and the energy consumed in 2 h.
[Hint: Check the answer from NCERT exercise solution]
- Which uses more energy, a 250 W TV set in 1 hr or a 1200 W toaster in 10 minutes?
[Hint: Check the answer from NCERT exercise solution]
- Compute the heat generated while transforming 96,000 coulomb of charge in one hour through a potential difference of 50 V.
[Hint: Check the answer from NCERT exercise solution]
- An electric heater of resistance 8Ω draws 15A from the service mains 2 hours. Calculate the rate at which heat is developed in the heater.
[Hint: Check the answer from NCERT exercise solution]

Activity: The values of current I flowing in a given resistor for the corresponding values of potential difference V across the resistor are given below –

I (Ampere)	0.5	1.0	2.0	3.0	4.0
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V (Volts)	1.6	3.4	6.7	10.2	13.2
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Plot a graph between V and I and calculate the resistance of that resistor.

[Hint: Check the answer from NCERT exercise solution]

NOTE:

- Click over the link to get the knowledge about Heating effect of electric current :
<https://www.youtube.com/watch?v=i7p8b4xTO7U>
- Click over this link to get the knowledge about electricity:
<https://www.youtube.com/watch?v=avEx9g3--BA>