

HARI VIDYA BHAWAN

Worksheet-7

Class-IX

Subject-Science

Session-2020-21

Ch-8: Motion

Date:11/04/2020

Instructions to be followed :-

- 1:- Students do your worksheet in any notebook such as rough notebook, previous year notebook, rough sheets etc. whichever is available at your home. No need to go outside.
 - 2:- All the student must complete their worksheets as Periodic test 1 marks will be given to those who completes it else you will have to go through pen paper test after the school reopens.
 - 3:- See video links in every worksheet as it will help you to understand the topic.
 - 4:- If you have any query related to worksheet, ask your queries in WhatsApp group between 10:00 am to 12:00 pm in the morning and 4:00 to 6:00 pm in the evening.
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Motion

An object is said to be in motion if its position changes continuously with respect to a fixed reference point called origin.

Movement of any object from one position to another position with respect to the observer is called as Motion.

Motion Along a Straight Line:

When an object moves along a straight line, the motion of the object is called rectilinear motion. For example; motion of a car on highway.

Motion Along a circular path:

When an object moves with uniform speed along a circular path is said to be in circular motion.

Vectors Quantity:

Vector is a quantity which have both magnitude and direction.

For examples: Force, position etc.

Scalar Quantity:

Scalar is quantity with which direction is not associated.
For examples: Mass, temperature, time etc.

Distance:

Length of path covered by a moving an object in the given time irrespective of direction is called distance.

- It is a scalar quantity.
- Its SI unit is metre(m).

Displacement:

The shortest distance measured from initial to the final position of an object is known as the displacement.

- It is a vector quantity.
- Its SI unit is metre(m).

➤ Displacement can be zero ,but distance can not.

Uniform Motion:

When an object covers equal distances in equal intervals of time, it is said to be in uniform motion.

Non-Uniform Motion:

When an object covers unequal distances in equal intervals of time, it is said to be in non-uniform motion.

❖ Distinguish between distance and displacement .

Distance	Displacement
1. Length of path covered by a moving an object in the given time irrespective of direction	1. The shortest distance measured from initial to the final position of an object.
2. It is a scalar quantity.	2. It is a vector quantity.
3.It can not be zero for a moving body.	3.It can be zero.
4.It is always positive.	4.It can be positive , negative or zero.

Speed (s):

The distance travelled by an object in unit time is referred to as speed.

- It is represented as:

$$\text{Speed} = \frac{\text{Distance travelled}}{\text{Time taken}} = S / t$$

- Its SI unit is metre/ second (m/s).
- It is a scalar quantity.

Average speed:

For non-uniform motion, the average speed of an object is obtained by dividing the total distance travelled by an object by the total time taken.

$$\text{Average speed} = \frac{\text{Total distance travelled}}{\text{Total time taken}}$$

Velocity (v):

Speed of an object in a particular direction is named as velocity, i.e., it is the displacement of body in unit time.

- It is represented as:

$$\text{Velocity} = \frac{\text{Displacement}}{\text{Time taken}}$$

- Its SI unit is metre/ second (m/s).
- It is a vector quantity.

Average velocity:

The average velocity of a body is defined as total displacement of a body divided by total time taken.

$$\text{Average velocity} = \frac{\text{Total Displacement}}{\text{Total Time taken}}$$

Acceleration (a):

The rate of change of velocity is termed as acceleration.

- It is represented as:

$$\text{Acceleration} = \frac{\text{Final velocity} - \text{Initial velocity}}{\text{Time}}$$

$$a = \frac{v - u}{t}$$

v = final velocity

u = initial velocity

t = time

- Its SI unit is metre/second² (m/s²).
- It is a vector quantity.
- The acceleration is taken to be positive if it is in the direction of velocity and negative when it is opposite to the direction of velocity.

- Negative acceleration is also named as **retardation or deacceleration**.
- An object moving on a circular path though with uniform speed, is always said to be accelerated as it changes its direction every moment.

Uniform acceleration:

When velocity of body changes by equal amounts in equal time intervals, acceleration is said to be uniform. For example: Motion of a freely falling ball.

Non - uniform acceleration:

When velocity of body changes by unequal amounts in equal intervals if time, acceleration is said to be non - uniform. For example: Motion of car.

Graphical Representation of Motion

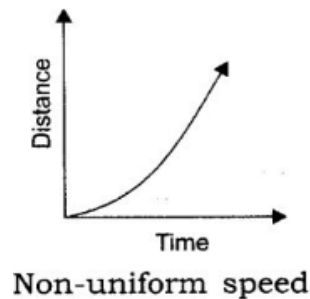
1. Distance -Time Graph for Uniform Speed:

Distance -Time graph for uniform speed, is a straight line as shown below:



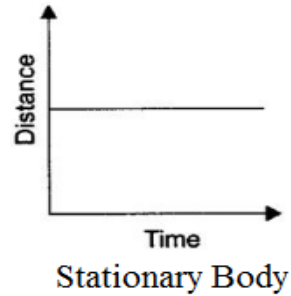
2. Distance -Time Graph for Non-Uniform Speed:

Distance -Time graph for non-uniform speed, is obtained in the form of a curve as shown below:



3. Distance -Time Graph for a Body at Rest:

Distance -Time graph for a body at rest is a straight line parallel to the time axis (x-axis):



➤ **Solving Problems Using The Formulae Of speed, velocity and acceleration:**

Example 1: A marbel rolling on a smooth floor has an initial velocity of 0.4 m/s. If the floor offers a retardation of 0.02 m/s^2 , calculate the time it will take to come to rest.

Solution: Initial velocity, $u = 0.4 \text{ m/s}$; Retardation, $a = -0.02 \text{ m/s}^2$
 Velocity, $v = 0$
 $a = v - u / t$
 $t = v - u / a$
 $= 0 - 0.4 / -0.02$
 $= 20 \text{ sec}$

Example 2: A car starts from rest and attains a velocity of 18 km/h in 2 sec. Find its acceleration in SI unit.

Solution: initial velocity (u) = 0 ; time (t) = 2sec
 Final velocity (v) = $18 \text{ km/h} = 18 \times \frac{5}{18} \text{ m/s} = 5 \text{ m/s}$
 Acceleration, $a = v - u / t = 5 / 2 = 2.5 \text{ m/s}^2$

Answer the following questions:

1. Is it possible that the train in which you are sitting appears to move while it is at rest?
2. Distinguish between uniform and non-uniform acceleration.
 [Hint: Check the answer from Notes given above in worksheet]
3. An object has moved through a distance. Can it have zero displacement? If yes, support your answer with an example.
4. A farmer moves along the boundary of a square field of side 10m in 40 s. What will be the magnitude of displacement of the farmer at the end of 2 minutes 20 seconds from his initial position?
5. Which of the following is true for displacement? (a) It cannot be zero. (b) Its magnitude is greater than the distance travelled by the object.

6. Distinguish between speed and velocity.
7. Under what condition(s) is the magnitude of average velocity of an object equal to its average speed?
8. What does the odometer of an automobile measure?
9. What does the path of an object look like when it is in uniform motion?
10. During an experiment, a signal from a spaceship reached the ground station in five minutes. What was the distance of the spaceship from the ground station? The signal travels at the speed of light, that is, 3×10^8 m/s.
11. When will you say a body is in (i) uniform acceleration? (ii) non-uniform acceleration?
12. A bus decreases its speed from 80 km h^{-1} to 60 km h^{-1} in 5 s. Find the acceleration of the bus.
13. A train starting from a railway station and moving with uniform acceleration attains a speed 40 km h^{-1} in 10 minutes. Find its acceleration.
14. What is the nature of the distance-time graphs for uniform and non-uniform motion of an object? Represent through distance -time graph.
15. What can you say about the motion of an object whose distance-time graph is a straight line parallel to the time axis?

NOTE:

- ❖ Above questions are given from NCERT blue box questions and exercise (page no 100, 102,103,107). For solution check the NCERT solution app.
- Click over the link to get the knowledge about Rest and Motion and for question no 1:
<https://www.youtube.com/watch?v=bXOPsZkJXMY>
- Click over the link to get the knowledge about uniform and non uniform motion :
<https://www.youtube.com/watch?v=s09qCD217WM>
- Click over this link to get the knowledge about Distance and Displacement:
<https://www.youtube.com/watch?v=74YhUiih8Sw>
- Click over the link to get the knowledge about Differences between Distance and Displacement:
<https://www.youtube.com/watch?v=edm8uy7O9NY>
- Click over the link to get the knowledge about speed and velocity:
<https://www.youtube.com/watch?v=Eg0HsO0dhpM>

- **Click over this link to get the knowledge about acceleration:**
<https://www.youtube.com/watch?v=vxFYfumAAIY>

- **Click over the link to get the knowledge about types of acceleration:**
<https://www.youtube.com/watch?v=9smjFnjKW6w>

- **Click over the link to get the knowledge about the chapter motion:**
<https://www.youtube.com/watch?v=-r0nW1KCu0A>
https://www.youtube.com/watch?v=9sIP0Z-y_c

HARI VIDYA BHAWAN

Subject: English

Class-X

Work sheet-7

Poem-1 The Tiger In The Zoo (Poetry-Foot print without feet)

DATE:- 11/04/2020,

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Questions for practice:-Learn and write.

Reference to context:-

Read the extracts and answer the following questions:

- 1. He stalks in his vivid stripes
The few steps of his cage,
On pads of velvet quiet,
In his quiet rage.**

Questions:

- (i) Why could the tiger walk only a few steps?**

- (ii) How does the tiger move in the cage?
 - (iii) What are the two qualities of the animal under reference?
 - (iv) Why is the tiger in quiet rage?
2. *He should be lurking in shadow,
Sliding through ling grass
Near the water hole
Where plump deer pass.*
- (i) What does the poet try to suggest through these lines?
 - (ii) How does the tiger scare the people?
 - (iii) Why does the tiger snarl?
 - (iv) How does the tiger show his presence?

3. *Baring his white fangs, his claws,
Terrorising the village!*

- (i) Who has white fangs?
- (ii) Why should the tiger be terrorizing the village?
- (iii) Which village is referred to in the above lines?
- (iv) Why does the poet refer to 'bare fangs'?

Q 2.Short Answer type Questions (About 30-40 words each)

Short Answer type Questions:-

1. Why does the tiger have desire to live n the forest?
2. How is the Zoo a painful home of the tiger?
3. How does the tiger treat the villager?
4. The freedom of the tiger is restrained by man. How?
5. Describe some of the activities of the tiger behind the bars of its cage.
6. What is the theme of the poem?
7. What message does the poem 'A Tiger In The Zoo' convey?
8. Write summary of the poem in your own words.

Link :- <https://youtu.be/m0V3yZeT4rw>

Grammar (Writing-Section-B) Story Writing

Q 1. Taking help from the information given below, write a short story 'Where there is love, there is God'. You can invent your own details.

Outline: martin.....a cobblerhis son died.....no interest in life.....a religious man reminded that Martin couldn't judge God's ways.....heard a voice..... "Martin! Look out in the street tomorrow, for I shall come"next morning an old man stood shivering in cold.....Martin invited him insideoffered tea.....no one come.....next morning a poor woman stood with a baby in arms.....Martin gave her his bed.....food and cabbage soup.....Martin kept on waiting but no one came.....in dream....first saw the old man....then the women with the child.....Martin crossed himself....the lord had really come to him.

Link <https://youtu.bez9bVSWZ-bp0>

Hari Vidya Bhawan
Worksheet-7
Class-X
Subject- Information Technology

Date:- 11-4-20

Instructions to be followed:-

- 1:- Students do your worksheet in any notebook such as rough notebook, previous year notebook, rough sheets etc. whichever is available at your home. No need to go outside.
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L-3 Information and communication technology skills-II

Notes:

Editing a document When We define **editing** as making revisions to and suggestions about the content of a **document**, focusing on improving the accuracy of language, flow, and overall readability, as well as checking for grammar and spelling. In other words, **editing** involves a detailed review of a paper.

steps to delete the autocorrect feature of an abbreviated word.

1. Go to the AutoCorrect tab.
2. In the **Replace** box, type the word to remove from the list.
3. Select the entry from the list.
4. Select **Delete**.

Encrypt in document. Ms. Word has a feature that let us to encrypt document with a password so that nobody can open the file without supplying the password. The method can be useful to protect a document that has some confidential information

Removing a password from a document is a simple process, but you have to know the original password.

1. Open the document and enter its password.
2. Go to **File > Info > Protect Document > Encrypt with Password**.
3. Clear the password in the **Password** box, and then click **OK**.

the extension of the file saved as in web page format .html

The steps to save a document file in XPS document format

1. Open the document file.
2. Click file tab----- save as. This will open the save as dialog box. In the save as type list click on XPS document .
3. Select the location where you want to save the document.
4. Enter a name for the document.
5. Click save button.

The steps to save a document file in PDF document format

1. Open the document file.
2. Click file tab----- save as. This will open the save as dialog box. In the save as type list click on PDF.

3. Select the location where you want to save the document.
4. Enter a name for the document.
5. Click save button.

The steps to save a document file in Xml document format

1. Open the document file.
2. Click file tab----- save as. This will open the save as dialog box. In the save as type list click on word Xml document.
3. Select the location where you want to save the document.
4. Enter a name for the document.
5. Click save button.

MS. Excel we can track, calculate and analyze numbers and create charts to depict the information visually. Cell is a intersection of rows and columns.

The formula bar can also be used to **edit formulas** or other data located in the active cell by clicking on the data in the formula bar with the cursor. It can also be used to modify the ranges for individual data series that are selected in an Excel chart. In excel worksheet we can move and copy text, formulas, numerical types of data.

To enter text and number into an Excel worksheet,

1. Simply move to the cell in which you want to enter the text and number and start typing.
2. Once you type the data appears in both the active cell and in the formula bar as it typed on the screen.
3. For entering formula in active cell you have to put = sign before enter formula into the cell.
4. Once you type the Formula also appears in both the active cell and in the formula bar.

➤ **Note:- do answers of the questions (1 to 13) from the above notes and rest of questions (14 to 18) from the your ix class book , notebook or x class book.**

OR

➤ **Watch this link video for the answers of following questions**



<https://www.youtube.com/watch?v=LL5kj40BUJ4>

<https://www.youtube.com/watch?v=oKFWy-sBNSM>

Q.1 Write steps to delete the autocorrect feature of an abbreviated word.

Q.2 How is Ms.-Excel beneficial for you?

Q.3 What do you mean by editing a document?

Q.4 What is the use of encrypt in document.

Q.5 How can you remove the password protection from Ms. Word document?

Q.6 Name the extension of the file which saved as in web page format.

Q.7 Write the steps to save a document file in XPS document format.

Q.8 Write the steps to save a document file in PDF document format.

Q.9 Write steps to save a document file in word XML format.

Q.10 What is formula bar? Explain its uses.

Q.11 Write the general steps to enter texts, numbers and formulae in excel workbook.

Q.12 What type of data you can move or copy in Excel sheet?

Q.13 What do you mean by cell in Excel?

Q.14 Write the different steps to insert a row into Excel spreadsheet.

Q.15 Write the different steps to insert a columns into Excel spreadsheet.

Q.16 What is difference between moving and coping cells(s)?

Q.17 What is the difference between cot/paste and copy/paste?

Q.18 Write steps to print three copies of a worksheet.