

UNIT PLAN (घटक नियोजन)

Unit Name 9. Force, work and Energy Std. V
 घटकाचे नाव इयत्ता

Sr No.	UNIT AND SUB UNIT	CONTENT WHAT TO TEACH	OBJECTIVES WHY TO TEACH	METHODOLOGY HOW TO TEACH	EVALUATION
1.	Force, work and Energy	1) About what is force and its effects and types of force 2) About what is work, energy and types of energy	1) To enable the learners to learn force and its effects 2) To enable the learners to learn types of force 3) To enable the learners to learn work and energy 4) To enable the learner to learn types of energy	1) Reading and explaining the lesson. 2) Understanding the types of forces 3) Understanding work & energy and their types 4) Doing the critical analysis 5) Understanding the concept.	Test after the end of the unit

Navsahyadri Charitable Trust's
Innovative International School, Chakan
Class-5th Science
Unit Test 2019-2020

Time -1 hour
Name: _____

MM-25
Roll no: _____

General Instructions:

All questions are compulsory

The question paper has three sections A, B and C.

Section A comprises of Fill in the blanks, match the following and answer in one word of 1 mark each.

Section B comprises of short answer of 1 mark each.

Section C comprises of long answer of 2 marks each.

Section -A (1 mark each)

Q1. Fill in the blanks:

1. Earths _____ keeps us and other objects on it.
2. Friction makes it _____ to slide heavy objects across the floor.
3. _____ is used to split or cut wood.
4. Ability to do work is called _____.

Q2. Match the following:

A

1. Second class lever
2. Wheel and axle
3. inclined plane
4. Screw

B

- a sloping surface
- screw jack
- a nutcracker
- car steering

Q3. Answer in one word:

1. Energy from sun is called-
2. The device which make our work easier and faster-
3. Name the force that helps us to walk-
4. Give two examples of third class lever-
5. Give two example of first class lever-

Section -B (1 mark each)

Q1. Answer the following question (short):

1. What is a force?

Ans:

2. What is gravity?

Ans:

3. What is magnetization?

Ans:

4. What is a machine?

Ans:

Section -C (2 mark each)

Q1. Answer the following question (long):

1. Name the six type of simple machine?

Ans:

2. List the 2 two effects that force have on objects.

Ans:

3. Define load and fulcrum.

Ans:

4. Write two types of force with example.

Ans:

MODEL ANSWER SHEET

Section A

Q1. Fill in the blanks.

1. Earth's gravity keeps us and other objects on it.
2. Friction makes it easy to slide heavy objects across the floor.
3. Wedge is used to split or cut wood
4. Ability to do work is called energy

Q2. Match the following

- Ans. 1. Second class lever → a nutcracker
2. Wheel and axle → car steering
3. Inclined plane → a sloping surface
4. Screw → screw jack

Q3. Answer in one word.

1 → Solar energy

2 → machines

3 → Gravitational force

4 → Knife, ice tongs, forceps

5 → seesaw, spoon, crowbar

Section B

Q1. Answer the following question (short)

- 1 → A push or pull acting on an object is called force.
- 2 → The force of attracting objects towards the center of the earth is called gravity.
- 3 → The push or pull applied by a magnet on metals like iron and nickel or other magnets is called magnetism.
- 4 → A machine is a tool that makes our work easier is known as machine.

Section C

Q1. Answer the following questions (long).

1 → The six types of simple machines are - lever, Pulley, wheel and axle, wedge, screw and inclined plane.

2 → The two effects of force are -

i) A force can make a moving object stop or slow down

ii) A force can change the shape of an object.

3 → Load - The object on which work is to be performed is called load.

Fulcrum - The fixed point on which a lever turns is called fulcrum.

4 → Types of Energy

i) Heat energy - Energy that we get from heat is called heat energy. Ex - LPG, kerosene

ii) Light energy - Energy that we get from light is called light energy. Ex - candle, lamp.

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25

Navsahyadri Charitable Trust's
Innovative International School, Chakan
Class-5th Science
Unit Test 2019-2020

Time -1 hour

MM-25

Name: Mittal Jiya Pawan

Roll no: 10

General Instructions:

All questions are compulsory

The question paper has three sections A, B and C.

Section A comprises of Fill in the blanks, match the following and answer in one word of 1 mark each.

Section B comprises of short answer of 1 mark each.

Section C comprises of long answer of 2 marks each.

Section -A (1 mark each)

Q1. Fill in the blanks:

- 4
- ✓ 1. Earths gravity keeps us and other objects on it.
 - ✓ 2. Friction makes it easy to slide heavy objects across the floor.
 - ✓ 3. wedge is used to split or cut wood.
 - ✓ 4. Ability to do work is called energy.

Q2. Match the following:

- 4
- A
- ✓ 1. Second class lever
 - ✓ 2. Wheel and axle
 - ✓ 3. inclined plane
 - ✓ 4. Screw

- B
- a sloping surface ③
 - screw jack ④
 - a nutcracker ①
 - car steering ②

Q3. Answer in one word:

- 5
- ✓ 1. Energy from sun is called- solar energy
 - ✓ 2. The device which make our work easier and faster- Machines
 - ✓ 3. Name the force that helps us to walk- Gravitational force
 - ✓ 4. Give two examples of third class lever- knife
 - ✓ 5. Give two example of first class lever- spoon, seesaw

Section -B (1 mark each)

Q1. Answer the following question (short):

1. What is a force?

Ans: Force is a push or pull on an object.

2. What is gravity?

Ans: The force that attracts objects towards the center of earth is called gravity.

3. What is magnetization?

Ans: The metals that attract towards the magnet like iron, nickel, etc. are called magnetisation.

4. What is a machine?

Ans: A machine is a tool that makes our work easier. It is known as a machine.

Section -C (2 mark each)

Q1. Answer the following question (long):

1. Name the six types of simple machines.

Ans: lever, wedge, pulley, screw, wheel and axle, inclined plane.

2. List the two effects that force has on objects.

Ans: A force can change the shape of an object.

3. Define load and fulcrum.

Ans: load - The object on which work is to be performed is called load.

4. Write two types of force with examples.

Ans: Light energy - Energy that we get from light
Ex - Bulb.

wind energy - Energy that we get from wind
Ex - windmill.

$$15\frac{1}{2} = \frac{16}{25}$$

Navsahyadri Charitable Trust's
Innovative International School, Chakan
Class-5th Science
Unit Test 2019-2020

MM-25
Roll no: 8

Time -1 hour

Name: Jadhav Vaishnavi Vikas

General Instructions:

All questions are compulsory

The question paper has three sections A, B and C.

Section A comprises of Fill in the blanks, match the following and answer in one word of 1 mark each.

Section B comprises of short answer of 1 mark each.

Section C comprises of long answer of 2 marks each.

Section -A (1 mark each)

Q1. Fill in the blanks:

1. Earths gravity keeps us and other objects on it.
2. Friction makes it to slide heavy objects across the floor.
3. Wedge is used to split or cut wood.
4. Ability to do work is called energy.

Q2. Match the following:

A

1. Second class lever
2. Wheel and axle
3. inclined plane
4. Screw

B

- a sloping surface (3)
- screw jack (4)
- a nutcracker (1)
- car steering (2)

Q3. Answer in one word:

1. Energy from sun is called- solar energy
2. The device which make our work easier and faster- machines
3. Name the force that helps us to walk-
4. Give two examples of third class lever- knife
5. Give two example of first class lever- seesaw

Section -B (1 mark each)

Q1. Answer the following question (short):

1. What is a force?

Ans:

A force is a push or pull acting on an object

2. What is gravity?

Ans:

3. What is magnetization?

Ans:

The object that attracts towards the magnet is called magnetization. Ex - iron

4. What is a machine?

Ans:

A machine is a tool that makes our work easy know as machine

Section -C (2 mark each)

Q1. Answer the following question (long):

1. Name the six type of simple machine?

Ans:

lever, pulley, wheel and axle

2. List the 2 two effects that force have on objects.

Ans:

3. Define load and fulcrum.

Ans:

4. Write two types of force with example.

Ans:

1) ~~Heat~~ solar energy - The energy that we get from sun is known as heat energy
Ex - solar ~~coot~~ solar cooker.

2) Light energy - The energy that we get from light energy.
Ex - candle.

$$13\frac{1}{2} = \frac{14}{25}$$

Navsahyadri Charitable Trust's
Innovative International School, Chakan
Class-5th Science
Unit Test 2019-2020

Time -1 hour

Name: Patgham Vedant Bilip

MM-25

Roll no: 26

General Instructions:

All questions are compulsory

The question paper has three sections A, B and C.

Section A comprises of Fill in the blanks, match the following and answer in one word of 1mark each.

Section B comprises of short answer of 1mark each.

Section C comprises of long answer of 2 marks each.

Section -A (1 mark each)

Q1. Fill in the blanks:

- ④
- ✓ 1. Earths gravity keeps us and other objects on it.
 - ✓ 2. Friction makes it wedge to slide heavy objects across the floor.
 - ✓ 3. energy is used to split or cut wood.
 - ✓ 4. Ability to do work is called easy.

Q2. Match the following:

A

B

- ④
- ✓ 1. Second class lever
 - ✓ 2. Wheel and axle
 - ✓ 3. inclined plane
 - ✓ 4. Screw

- a sloping surface ③
- screw jack ④
- a nutcracker ①
- car steering ②

Q3. Answer in one word:

- ②
- ✓ 1. Energy from sun is called-
 - ✓ 2. The device which make our work easier and faster-
 - ✓ 3. Name the force that helps us to walk-
 - ✓ 4. Give two examples of third class lever-
 - ✓ 5. Give two example of first class lever-

iretogs

Spoon

Section -B (1 mark each)

Q1. Answer the following question (short):

1. What is a force?

Ans: Force is a push or pull on object.

2. What is gravity?

Ans:

3. What is magnetization?

Ans:

4. What is a machine?

Ans:

Section -C (2 mark each)

Q1. Answer the following question (long):

1. Name the six type of simple machine?

Ans: lever, wheel and axle, Pulley, wedge, Inclined Plane, Screw

2. List the 2 two effects that force have on objects.

Ans: A Force can change the shape of an object.

3. Define load and fulcrum.

Ans:

4. Write two types of force with example.

Ans: Solar energy - The energy that we get from sun is known as heat energy. Ex - Solar cooker.

WEIGHTAGE AS PER SUBUNIT**उपघटकानुसार भारांश**

Sr.No अ.क.	Sub unit उपघटक	Marks गूण	Percentage शेकडा गूण
1	Force and types of force	15	60 %
2	work, energy and types of energy.	10	40 %
3			
4			
Total (एकूण)		25	100%

WEIGHTAGE AS PER OBJECTIVES**उद्दिष्टानुसार भारांश**

Sr.No अ.क.	Objectives उद्दिष्टे	Marks गूण	Percentage शेकडा गूण
1	Knowledge (ज्ञान)	04	16 %
2	Comprehension (आकलन)	06	24 %
3	Application (उपयोजन)	07	28 %
4	Skill (कौशल्य)	08	32 %
Total (एकूण)		25	100%

WEIGHTAGE AS PER TYPE OF QUESTIONS**प्रश्न प्रकारानुसार भारांश**

Sr.No अ.क.	Type of Questions प्रश्न प्रकार	Marks गूण	Percentage शेकडा गूण
1	Essay type Questions (दिर्घोत्तरी प्रश्न)	08	32 %
2	Short answer Questions (लघुत्तरी प्रश्न)	04	16 %
3	Objective Questions (वस्तुनिष्ठ प्रश्न)	13	52 %
Total (एकूण)		25	100%

BLUE PRINT (संविधान तक्ता/त्रिमितीपत्रक)

Unit Test (घटक चाचणी)

Unit Name Force work and energy..... घटकाचे नाव												Std. इयत्ता		
Sr. No	Sub unit उपघटकाचे नाव	Objectives (उद्दिष्टे)												Total (एकूण)
		Knowledge (ज्ञान)			Comprehension (आकलन)			Application (उपयोजन)			Skill (कौशल्य)			
		E (दि)	S (ल)	O (व)	E (दि)	S (ल)	O (व)	E (दि)	S (ल)	O (व)	E (दि)	S (ल)	O (व)	
1	Force and types of force			(3)'			(1)'	(2)'		(4)'	(2) ²	(1)'		15
2	work, energy and types of energy			(1)'			(3)'	(2)'	(1)'		(2)'	(1)'		10
3														
4														
5														
Total				4			1	5	2	1	4	6	2	25
		4 (16%)			6 (24%)			7 (28%)			8 (32%)			100%

UNIT PLAN (घटक नियोजन)

Unit Name Perimeter and Area Std. VII
 घटकाचे नाव इयत्ता

SR NO.	UNIT AND SUB UNIT	CONTENT	OBJECTIVES	METHODOLOGY	EVALUATION
1.	Perimeter and Area.	1) About to know Area of square, Area of Rectangle Area of Triangle and parallelogram 2) About to know perimeter of square and rectangle 3) About to know circumference of circle and area of a circle	1) To enable the learner to solve area of square, rectangle, triangle and parallelogram 2) To enable the learner to solve perimeter 3) To enable the learner to solve circumference of circle and area of a circle	1) Reading and solving the exercise 2) Teacher explaining the lesson 3) Teacher giving more examples to solve. 4) Doing the critical analysis 5) Understanding the concept	Test after the end of the unit

Navsahyadri Charitable Trust's
Innovative International School, Chakan
Class-7th Math's
Unit Test 2019-2020

Time -1 hour

MM-25

Name: _____

Roll no: _____

General Instructions:

All questions are compulsory

The question paper has three sections A, B and C.

Section A comprises of Fill in the blanks, short questions and finds the area of 1 mark each.

Section B comprises of short problems of 1 mark each.

Section C comprises of word problems of 2 marks each.

Section -A (1 mark each)

Q1. Fill in the blanks:

1. _____ is distance around a closes figure.
2. _____ is the part of a plane occupied by the closed figure
3. Area of a circle _____
4. The distance around a circular region is known as its _____
5. Perimeter of square _____.
6. Area of a triangle _____.

Q2. Solve the give questions:

1. Write the formula to find area of triangle.
2. Write the formula to find the circumference of a circle.
3. Write the formula to find the area of a circle.
4. Write the formula to find area and perimeter of a rectangle.
5. Write the formula to find area of square.

Q3. Find the area, in square meter, of rectangle whose

1) length-5.5m, breadth-2.4m

2. Length -180cm, breadth- 150cm

Section B (1 mark each)

Q1. Find the circumference of the circles with the following radius:

1. 14cm

2. 21cm

Q2. Find the area of the circles with the following radius:

1. 14mm

2. 5cm

Section -C (2 mark each)

Q1. The perimeter of a rectangle is 130 cm. If the breadth of rectangle is 30 cm, find its length. Also find the area of the rectangle.

Q2. Find the area of circle whose circumference is 44 cm.

Q3. Find the area of Square Park whose perimeter is 480m.

Q4. Find the circumference and area of circle if the radius is 7 cm.

MODEL ANSWERSHEET

Section A

Q1. Fill in the blanks.

1. Perimeter is a distance around a closed figure.
2. Area is a part of a plane occupied by the closed figure.
3. Area of circle - πr^2
4. The distance around a circular region is known as its - circumference.
5. Perimeter of square $4 \times \text{side}$
6. Area of a triangle = $\frac{1}{2} \times \text{base} \times \text{height}$.

Q2. Solve the given questions.

1 $\rightarrow A = \frac{1}{2} \times b \times h$

2 $\rightarrow C = 2\pi r$

3 $\rightarrow A = \pi r^2$

4 $\rightarrow A = l \times b$, $P = 2(l + b)$

5 $\rightarrow A = \text{side} \times \text{side}$.

Q3. Find the area, in square meters, of rectangle when-

1 $\rightarrow l = 5.5 \text{ m}$, $b = 2.4 \text{ m}$

$$\begin{aligned}\text{Area of rectangle} &= l \times b \\ &= 5.5 \text{ m} \times 2.4 \text{ m} \\ &= 13.2 \text{ m}^2\end{aligned}$$

2 $\rightarrow l = 180 \text{ cm}$, $b = 150 \text{ cm}$

$$\begin{aligned}\text{Area of rectangle} &= l \times b \\ &= 1.8 \text{ m} \times 1.5 \text{ m} \\ &= 2.7 \text{ m}^2\end{aligned}$$

Section B.

Q1. Find the circumference of the circle with the following radius.

1 → $r = 14 \text{ cm}$

2 → $r = 21$

$C = 2\pi r$

$C = 2\pi r$

$= 2 \times \frac{22}{7} \times 14$

$= 2 \times \frac{22}{7} \times 21$

$= 88 \text{ cm}$

$= 132 \text{ cm}$

Q2. Find the area of the circle with the help of radius

1 → $r = 14 \text{ mm}$

2 → $r = 5 \text{ cm}$

$A = \pi r^2$

$A = \pi r^2$

$= \frac{22}{7} \times 14 \times 14$

$= \frac{22}{7} \times 5 \times 5$

$= 616 \text{ mm}^2$

$= 78.57 \text{ cm}^2$

Section C.

Q1 Ans - Perimeter $= 2(a+b) = 130$

Given $b = 30 \text{ cm}$ $P = 130 \text{ cm}$

$2(a+30) = 130$

$a + 30 = 65$

$a = 65 - 30 = 35 \text{ cm}$

$A = a \times b$

$= 35 \times 30$

$= 1050 \text{ cm}^2$

Q2 Ans. Given circumference = 44 cm

$$\therefore \text{Area} = 2\pi r$$

$$\therefore 2\pi r = 44$$

$$r = \frac{2 \times 7 \times 44}{22} =$$

$$= 28 \text{ cm}$$

$$\therefore \text{Area} = \pi r^2$$

$$= \frac{22}{7} \times 28 \times 28$$

$$= 2764 \text{ cm}^2$$

Q3 Ans. Given - $P = 480 \text{ m}$, $S = 9$, $A = 9$

$$P = 4 \times S$$

$$480 = 4 \times S$$

$$S = \frac{480}{4}$$

$$S = 120 \text{ m}$$

$$\text{Area} = S \times S$$

$$= 120 \times 120$$

$$= 14,400 \text{ Sq.m.}$$