Uniform Circular Motion- Integrated Lesson Plan- Class 8th Science NCERT

NAME OF THE SCHOOL-		
CLASS- IX	**SUBJECT-** Physical Science	**PERIOD-**
DATE-	**TOPIC-** Uniform Circular Motion	**DURATION-** 30 min
NAME OF THE SUPERVISOR-		
GENERAL AIMS	**1.** To develop interest of students in physical science. **2.** To develop an inquiry spirit in the students. **3.** To help students to see the physical science in relation to the rest of the culture. **4.** To develop interest in questioning. **5.** To develop critical thinking and scientific attitude. **6.** To develop supervisory ability in students. **7.** To develop problem solving skills in students. **8.** To make the students aware about inventions in the field of physical science and acquaint them with the knowledge of different streams of physical science.	
SPECIFIC OBJECTIVES	**1.** Students will be able to define uniform circular motion. **2.** Students will be able to explain the motion of a particle moving in uniform circular motion. **3.** Students will be able to give examples of uniform circular motion.	
TEACHING AIDS	Chart, Roller board, pointer and other useful classroom equipments.	
PREVIOUS KNOWLEDGE	Students are already aware about motion and its types.	
INTRODUCTION	**PUPIL-TEACHER ACTIVITY**	**STUDENT's RESPONSE**
	Q1. Name different types of motion. **Q2.** What kind of motion does merry go round shows? **Q3.** What will we call a circular motion that moves with constant speed?	-Circular, periodic, rectilinear. -circular motion -uniform circular motion
STATEMENT OF AIM	So, today we are going to study the topic 'Uniform Circular Motion'.	
PRESENTATION		

TEACHING POINTS	PUPIL-TEACHER ACTIVITY	STUDENT's RESPONSE
1. Definition of Uniform Circular Motion	The motion of a body moving with constant speed along a circular path is called uniform circular motion. Here, the speed is constant but the velocity changes.	Student will be listening carefully.
2. Particle moving in a Uniform Circular Motion	• If a particle is moving in a circle, it must have some acceleration acting towards centre which is making it move around the centre. • Since, this acceleration is perpendicular to the velocity of a particle at every instant it is only changing the direction of velocity and not magnitude. That's why the motion is called uniform circular motion. • This acceleration is called as centripetal acceleration (or radial acceleration) and the force acting towards centre is called centripetal force. • If a particle is moving in a uniform circular motion: i. Its speed is constant. ii. Its velocity is changing at every instant. iii. There is no tangential acceleration. iv. Radial acceleration = $\omega 2r$	Student will be listening carefully.
3. Examples of Uniform Circular Motion	Some examples of uniform circular motion are: • Motion of artificial satellite around the earth. • The motion of electrons around its nucleus. • The motion of blades of the windmills. • The tip second's hand of a watch with circular dial shows uniform circular motion.	Student will be listening carefully.

BLACKBOARD SUMMARY	• Speed of a body remains constant in uniform circular motion. • Velocity of body with uniform circular motion changes. • A particle moving in uniform circular motion must have some acceleration acting towards centre. • Only direction of velocity changes, magnitude remains constant. • The force acting towards centre is called as centripetal force. • Some examples of uniform circular motion are artificial satellite, motion of electron around nucleus etc.
CLASSROOM SUPERVISION	Pupil-teacher will supervise the problem of the students and solve it.
EVALUATION QUESTIONS	**Q1.** In uniform circular motion _____ remains constant. **Q2.** _____ changes at every instant in uniform circular motion. **Q3.** Speed of body moving in uniform circular motion is constant. (True/False) **Q4.** Tangential acceleration is present in a particle moving with uniform circular motion. (True/False) **Q5.** Give an example of uniform circular motion.
HOME-WORK	**Q.** Define uniform circular motion. Give some examples of uniform circular motion.