**Lesson Plan**

Education Unit : Junior High School 1 Tegal

Subjects : Integrated Science

Class / Semester : VII / I

Theme : Sains Object and Observations

Sub Topics : Measurement

Time Allocation : 1 x 25 minutes

1. **Core Competence**

1. Respect and appreciate the teachings of their religion.

2. Respect and appreciate the honest behavior, discipline, responsibility, care (tolerance, mutual assistance), mannered, confident, in interact effectively with the social and natural environment within reach of the association and its existence.

3. Understand and apply knowledge (factual, conceptual and procedural) by curiosity about science, technology, art, cultural phenomena and events related to the visible.

4. Rework, present, and reason in the realm of the concrete (use, parse, compose, modify, and make) and the realm of the abstract (write, read, count, draw, and describe) in accordance with the learning in school and other sources in the same viewpoint /theory.

1. **Basic Competence and Competency Achievement Indicators**

|  |  |
| --- | --- |
| **Basic Competence** | **Competency Achievement Indicators** |
| 2.1 Demonstrate behavioral science (curiosity; objective; honest; accurate; meticulous; diligent; careful; be responsible; open; critical; creative; innovative and care environment) in their daily activities as a form of implementation of the attitude in conductobservations, experimentation, and discussion. | 2.1.1Conduct observation or experiment honestly.2.1.2 Report the results of observations accurate.2.1.3 Demonstrate behaviors honest, meticulous, diligent, careful, and responsibility. |
| 2.2 Appreciate the work of individuals and groups in their daily activities as a form of implementation conduct experiments and report experimental results. | 2.2.1 Demonstrate cooperation in group work. |
| 3.1 Understand the concept of measurement of various magnitudes that exist in themselves, living beings, and the physical environment around as part of the observation, as well as the importance of the formulation of a standardized unit (basic) in the measurement | 3.3.1 Be able to conduct experiments on the appropriate measurement procedures3.3.2 Be able to investigate the relationship between density and volume |
| 4.1 Present the results of measurement of magnitudes in themselves, living beings, and the physical environment by using non standard units and standard unit | 4.4.1 Be able to present the results of the experiment with the right4.4.2 Be able to determine the mass of the object is unknown |

1. **LearningObjectives**
2. Students can explain the meaning of the density of an object
3. Students can perform the measurement density of an object
4. **Learning materials**

 Density is a measurement of mass per unit volume of the object. The higher the density of an object, the greater the mass of each volume. The average density of each object is the total mass divided by the total volume. An object that has a higher density (such as iron) will have a lower volume than the same mass of objects which have a lower density (example water).

 Results for the masses by volume will produce a fixed number which is defined as the mass of the object.

Density = $ \frac{mass }{volume}$

Or by using the following symbols

$$ρ= \frac{m}{v}$$

 With, ρ is the density (density)

  m is the mass

   v is the volume

If the mass of the object is measured in kilograms, and the volume in m3, the unit of density is kg / m3. The density of pure water is 1 g / cm3 or equal to 1000 kg / m3

**E. Approach / Strategy / Learning Methods**

|  |  |  |
| --- | --- | --- |
| 1. | Approach | : *Scientific approach* |
| 2. | Method | : Discussion and Presentasion |
| 3. |  Model | : Discovery learning |

1. **Leearning Resources**

Reference books: Tim Abdi Guru. 2014. *IPA TERPADU Jilid 2 untuk SMP/MTs Kelas VII*. Jakarta: Erlangga

Student book: Zubaidah,dkk. 2014. *Ilmu Pengetahuan Alam untuk SMP/MTs Kelas VII Semester 2*. Jakarta: Pusat Kurikulum dan Perbukuan, Balitbang, Kemdikbud*.*

Book or relevant learning resources

**G. Learning Media**

a. Worksheet

b. Electronic media (Power Point)

**H. Learning Steps**

|  |  |  |  |
| --- | --- | --- | --- |
| **Activity** | **Syntax of Learning Model** | **Description of Activity** | **Time Allocation** |
| **PRE ACTIVITY** | Presenting Problems | **Apperception and Motivation*** Teacher greets
* Teacher leads students to pray
* Teacher checks attendance of students
* Teacher does apersepsi and motivation by asking the students. "Have you ever you measure your weight? What tools are you using? Have you ever you measure density of the object? How to measure the densities of stone?”

**Submission of competence*** The teacher informs the students the material to be learned at this meeting.
* Teacher conveys to students the learning objectives.
* Teacher informs students that the activities to be carried out at today's meeting, which was to determine the density of objects
* Teacher divides in to 4 groups, each group consisting of 4-5 people
 | 5 Minutes |
| **CORE ACTIVITY** | Stimulation | **Observe*** + Students are guided demonstration/experimens activities. Through this activity, students are expected to calculate the density of an object.
	+ Teacher guides students to determine the density
 | 15 minutes |
| Problem Statement | **Ask*** Frequently asks questions about density

**Association*** Teacher guides students to measure the density of through group discussion by answering questions in worksheet.

**Communicate**Students with his group present the result of their discussion.Students conclude the result discussions of the class. |
| Data Collection | **Inquire*** Students conduct an experiment to determine the density of an object
* Students write the results of the experiment
 |
| Data processing | **Association*** Students analyze the density of an object of experimental results
 |
| Verification | **Communication*** Students present the result of the discusiion
 |
| **POST ACTIVITY** |  | * Teacher gives reflection and evaluation of learning that has been implemented
* Teacher guides students to draw conclusions from learning process
* The teacher gives the task to rewrite the material that has been studied in the students' reflective journals
* Teacher leads prayers and closes the class
 | 5 minutes |

**I. ASSESSMENT**

1. Types and Forms Instrument

|  |  |
| --- | --- |
| Types | Forms Instrument |
| 1. Attitude | Attitude observation sheet and rubric |
| 2. Knowledge | Test description |

2. Sample Instruments

a. Observation Sheet Students At The Discussion

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Name | Cooperation | Asking question | responding to Questions |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |

Rubric

Score 1 = otherwise never have behaved in activities

Score 2 = if sometimes behave in activity

Score 3 = if often behave in activitie

 Calculating the value of the score obtained:

|  |  |
| --- | --- |
| Predicat | Score |
| Very Good | 81-100 |
| Good  | 71-80 |
| Enough  | 61-70 |
| Less | < 60 |

Score= Total score x100 %

 10

1. Sheets Self-Assessment Instrument

|  |  |  |
| --- | --- | --- |
| No | Question | Score |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |

Rubric

Score 3 = if it is active in the discussion / understand the lessons / dared to ask

Score 2 = if less active in discussions / understand the lessons / dared to ask

Score 1 = if not actively in discussions / did not understand the lesson / do not dare to ask

Calculating the value of the score obtained:

|  |  |
| --- | --- |
| Predicat | score |
| Very Good | 81-100 |
| Good | 71-80 |
| Enough | 61-70 |
| less | < 60 |

Score= Total score x100 %

 10

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b. Knowledge Assessment Instrument Sheet

test Description

1) Calculating densities kind of an object if known mass and volume

rubric:

|  |  |  |
| --- | --- | --- |
| No | Answer key | Score |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
|  | Maximal score |  |
|  | Value = score obtained x 10 |  |

**A. FORM OF COMMUNICATION WITH PARENT / GUARDIAN**

Any form of communication with parents / guardians:

* 1. Description ask your parent / guardian read and sign the results of the task learners.
	2. G ive informasis ecepatnya when children have trouble learning science class.

Tegal, 15 May 2016

 Subject teachers

 Setu Abdul Hadi

 NIP. 4001413037