



**TECHNIQUE &
MANAGEMENT SCIENCE
LABORATORY**

Why we need labwork in
teaching and learning process?



- According to the Ministry of Education (2006), Natural Science: relating how to find out about the systematic nature, so that the science is not only a mastery of knowledge in the form a collection of facts, concepts, or principles, but also a process of discovery
- Science education directed to inquiry and do something so can help learners to gain a deeper understanding about the nature around



- Teaching science in junior high schools aim for learners to have the some capabilities, one of them is conducting scientific inquiry to grow the ability of think, behave and act in scientific as well as communicate
- So we need labwork in teaching and learning process



LABORATORY

- According to the dictionary, means a place to conduct laboratory experiments (investigation, and so everything that related with physics, chemistry, etc. (Poerwadarminta)
- While according Emha (2006) laboratory school is a place or institution where students study and conduct an experiment (investigation) and associated with physics and others.



LABWORK

- Laboratory work is a unique kind of learning that should be an integral part of learning science.
- These lessons involving students in hands-on experience that allows them to participate in science as a way of thinking and investigation



REASONS FOR THE IMPORTANCE OF LABWORK IN SCIENCE ACTIVITIES

1. Labwork generate motivation to learn science
2. Labwork develop basic skills to do experiments
3. Labwork course material support
4. Labwork to be a vehicle for learning the scientific approach



APPROACH OF LABWORK

- Science process skill
- Deductive
- Inductive
- Technical skill
- Problem solving



SCIENCE PROCESS SKILL

- Observation
- Measuring
- Collecting data
- Inferring
- Predicting
- communication
- Make hypothesis
- To range apparatus
- Experiment
- Analyze, etc



DEDUCTIVE

- Theory, law, principal
- Result research
- Make paradigm
- hypothesis



INDUCTIVE

- From experiment or observation → data
observation or experiment → analyze → combine it
→ discussion → combine (hypothesis &
experiment result) → conclusion



PREPARING STUDENTS IN LAB

- Prelaboratory discussion
- Giving Direction
- Postlaboratory discussion
- Student recording and reporting of data
- Management and discipline during lab
- Material and Supplies for the Lab
- Maintaining Science Equipment

