

BRIEF GUIDELINES
TO MASTER TRAINERS (MT) FOR THE CONDUCT OF THE 3-DAY REGIONAL LEVEL
WORKSHOP ON CAPACITY BUILDING FOR TEACHER'S OF SCIENCE
SEPTEMBER 2019

DAY:1	BRIEF GUIDELINES
SESSION:1	<ul style="list-style-type: none"> • Open the session by asking participants , if they have heard about PISA and what do they know in brief. • Once they share, elaborate ;using the given PPT, the MT may share more about PISA, its objectives , India's participation and the goals we are striving to achieve. • The role of Science teachers and the significant role played by them. Boost their morale from the beginning by making them feel good and also important in the KVS setup.
SESSION:2	<ul style="list-style-type: none"> • Supply a copy of the question paper(either set 1 or 2) to each participant to establish entry level behavior. Give them an hour to attempt the paper.
SESSION:3	<ul style="list-style-type: none"> • The primary purpose of session 2 is to give the participants an exposure to PISA type test items and not to evaluate their performance. So, do not take names or read out the wrong answer aloud or embarrass the participants. • Our goal is to motivate teachers to actively and effectively change their classroom transaction style(only if required) so as to ensure optimum learning by all the Learners. • Share the correct answers and discuss the credits given for right and wrong answers in PISA. • Encourage students to give complete answers to questions, lest they are awarded partial marks for partially answered questions
SESSION:4	<ul style="list-style-type: none"> • Using the given PPT elaborate on what exactly is meant by Scientific Literacy , under PISA. • The three Competencies that need to be developed in our Learners Namely: <ul style="list-style-type: none"> i) Explain Phenomena scientifically ii) Interpret data and evidence scientifically iii) Evaluate and design scientific enquiry • Inform them the conceptual framework defines five contexts, each of which may have a personal, social or global reference: <ul style="list-style-type: none"> i) health and disease ii) natural resources iii) environment quality iv) hazards v) the frontiers of science and technology
SESSION:5	<ul style="list-style-type: none"> • PPT provided to bring across to the participants that Science has a vast historical background. Lots of perseverant hard work by a large number of Scientist from different parts of the world go into the discovery of various Scientific Phenomena and many a times after all

	<p>this years later, further studies and advanced facilities disprove the earlier findings completely at times or bring about modifications. In other words, Science is ever evolving. This is to instill a sense of awe in the students, apart from encouraging them towards hard work and not to get disheartened by failures ,if any during the course of their research.</p>
SESSION:6	<ul style="list-style-type: none"> • PPT provided to be used to explain the seven levels of Proficiency in Science as envisaged in PISA. Performance of students to be gauged on various levels based on their proficiency in Science. • The format given for Seven levels of Proficiency in Science may be used by the participant, to categorize the sample questions given to them, as an exercise to grade the questions under different levels as per their perception. • This would give them an insight into the Seven levels of Proficiency in Science
DAY:2	
SESSION:1	<ul style="list-style-type: none"> • PPT on The Discipline of Science, provided to be used to explain the systematic approach to the study of Science. Use of various pedagogical strategies to inspire and encourage Science Learning in Students. • Five suggested Teaching techniques <ul style="list-style-type: none"> i) Real-life scenarios that involve case studies ii) Ways of analyzing current problems iii) Peer-to-peer teaching, which involves students in their own education iv) Hands-on activities that engage students beyond the lecture v) Teach useful scientific concepts
SESSION:2	<ul style="list-style-type: none"> • Sample MCQ to be discussed from the Take the e test sample book . Emphasizing the need to be crisp and clear in the language used .It should not be ambiguous. • The format given for Seven levels of Proficiency in Science may be used by the participant, to categorize the MCQs, as an exercise to grade the questions under different levels as per their perception. • This would give them an insight into the Seven levels of Proficiency in Science
SESSION:3	<ul style="list-style-type: none"> • Hands on session, where the participants are encouraged to make just one such MCQ (group work in pairs) on any of the 5 Contextual areas of Science in PISA
SESSION:4	<ul style="list-style-type: none"> • PPT provided to be used to explain the significance of Assessment. The types of assessments, namely assessment for learning; assessment of learning and assessment as learning. • Emphasis should be on Assessment for learning, as our primary goal is to empower our students by inculcating love for Science and also promoting curiosity and self-learning.
SESSION:5	<ul style="list-style-type: none"> • PPT provided to be used to explain that Broadening Horizons of Science Learning II. Learning as per various theories. Constructivism and that Learning is building up on already existing Knowledge and the role of Social Constructivism in Learning.

	<ul style="list-style-type: none"> Thus, the teachers may be encouraged to include group work, peer learning, survey method etc. to bring about learning.
SESSION:6	<ul style="list-style-type: none"> Hands on session, where the participants are encouraged to make just one such Question (group work in pairs) on any of the 5 Contextual areas of Science in PISA as already listed and given to the participants.
SESSION:7	<ul style="list-style-type: none"> PPT provided to be used to explain that Science is truly all around us. An alert and conscious mind can , not only see's the Science around us, but also observes, explains, understands , extrapolates all that which is obvious and also not so obvious. E.g. Rainfall, evaporation, photosynthesis etc. to name a few. Appreciate the same and contribute as an individual, as community towards the safe keeping of Earth and its resources for generations to come! This can help students come out with out of the box solutions for Water Conservation, Conservation of electricity, Disposal of plastics, reuse of plastics et al.
DAY:3	
SESSION:1	<ul style="list-style-type: none"> PPT provided to be used to explain that the Knowledge of Science is essential to understand the various theories and laws. All the relevant information for the same is in the various text books referred to by teachers and students. But that would not serve the purpose, if we do not use the same in our daily lives both consciously and unconsciously. In other words, using the Knowledge of Science judiciously. Epistemology, would be the extension of this knowledge for the day to day activities, research, discoveries as well as innovations.
SESSION:2	<ul style="list-style-type: none"> Participants to present the MCQ prepared by them for the peer review and summing up by resource persons
SESSION:3	<ul style="list-style-type: none"> Participants to present the Question item prepared by them for the peer review and summing up by resource persons
SESSION:4	<ul style="list-style-type: none"> Participants to present the Question item prepared by them for the peer review and summing up by resource persons
SESSION:5	<ul style="list-style-type: none"> PPT provided to be used to explain the KPMG Data, its implications and the road ahead. The road map that each teacher of Science could easily follow to ensure conceptual learning in their classrooms and beyond. The resolve to make the necessary changes for the above.
SESSION:6	<ul style="list-style-type: none"> Feedback from participants about the workshop and suggestions from them for future workshops. Valedictory