TEXAS ESSENTIAL KNOWLEDGE AND SKILLS (TEKS) FOR

SCIENCE
(Subject Area)

Objective: SCIENTIFIC PROCESSES

The student is expected to:	K	1	2	3	4	5	6	7	8	Biology	IPC	Chemistry	Physics
Demonstrate safe practices during classroom and field investigations	√ I	√ D	√ D	√ D	√ D,M,T	√ M,T	√ R	√ R	√ R	√ R	√ T	√ T	√ M
Make wise choices in the use and conservation of resources and the disposal or recycling of materials	√ I	√ D	√ D	√ D	√ T	√ R	√ R	√ R	√ R	√ R	√ RT	√ T	√ M
Ask questions about organisms, objects, and events	√ I	√ D	√ D										
Plan and implement descriptive investigations including asking well-defined questions, formulating testable hypotheses, and selecting and using equipment and technology				√ I	√ D	√ T	√ R	√ R	√ R	√ R	√ RT	√ T	√ M
Plan and conduct simple descriptive investigations	√ I	√ D	√ D										
Collect information by observing and measuring				√ I	√ D	√ D	√ D	√ D	√ D				
Collect data and make measurements with precision										√ I	√ DT	√ T	
Make quantitative observations and measurements with precision													√ T
Compare results of investigations with what students and scientists know about the world			√ I										
Gather information using simple equipment and tools to extend the senses	√ I	√ D	√ D										
Analyze and interpret information to construct reasonable explanations from				√ I	√ D	√ D	√ D						

direct and indirect evidence													
Organize, analyze, make inferences, and predict trends from direct and indirect evidence								√ **I**	√ **D**	√ **D**	√ **DT**	√ **T**	√ **M**
Construct reasonable explanations and draw conclusions using information and prior knowledge	√ **I**	√ **D**	√ **D**										
Communicate findings about simple investigations, explanations about investigations, and valid conclusions	√ **I**	√ **D**	√ **D**	√ **D**	√ **D**	√ **T**	√ **R**	√ **R**	√ **R**	√ **R**	√ **RT**	√ **T**	√ **M**
Construct simple graphs, tables, maps, and charts using tools including computers to organize, examine, and evaluate information				√ **I**	√ **D**	√ **D**	√ **D**	√ **R**	√ **M**				
Express and manipulate chemical quantities using scientific conventions and mathematical procedures such as dimensional analysis, scientific notation, and significant figures												√ **IDMT**	
Graph data to observe and identify relationships between variables													√ **IDMT**
Read the scale on scientific instruments with precision													√ **IDMT**
Make decisions using information	√ **I**	√ **D**	√ **M**										
Analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information				√ **I**	√ **D**	√ **D**	√ **D**	√ **D**	√ **R**	√ **R**	√ **MT**	√ **M**	√ **M**
Discuss and justify the merits of decisions	√ **I**	√ **D**	√ **D**										
Explain a problem in his/her own words and propose a solution	√ **I**	√ **D**	√ **D**										
Draw inferences based on information related to promotional materials for				√	√	√	√	√	√		√		

products and services				**I**	**D**	**D**	**D**	**R**	**R**		**T**		
Evaluate promotional claims that relate to biological issues such as product labeling and advertisements										√ **IDMT**			
Make responsible choices in selecting everyday products and services using scientific information						√ **I**	√ **D**	√ **D**	√ **D**			√ **M**	
Represent the natural world using models and identify their limitations				√ **I**	√ **D**	√ **D**	√ **D**	√ **R**	√ **T**				
Express laws symbolically and employ mathematical procedures including vector addition and right-triangle geometry to solve physical problems													√ **IDMT**
Evaluate the impact of research on scientific thought, society, and the environment				√ **I**	√ **D**	√ **D**	√ **D**	√ **R**	√ **R**	√ **R**	√ **MT**	√ **M**	√ **M**
Connect science concepts with the history of science and contributions of scientists				√ **I**	√ **D**	√ **D**	√ **D**	√ **R**	√ **R**	√ **R**	√ **MT**	√ **M**	√ **M**
Describe connections between physics, chemistry and biology, and future careers										√ **ID**	√ **MT**	√ **M**	√ **M**
Evaluate models according to their adequacy in representing biological objects or events										√ **IDMT**			
Identify and use senses as tools of observation	√ **I**												
Make observations using tools including hand lenses, balances, cups, bowls, and computers	√ **I**												
Collect information using tools including hand lenses, clocks, computers, thermometers, and balances		√ **D**											
Collect information using tools including rulers, meter sticks, measuring cups, clocks, hand lenses, computers, thermometer, and balances			√ **D**										
Collect and analyze information using tools				√	√	√							

including calculators, microscopes, cameras, safety goggles, sound recorders, clocks, computers, thermometers, hand lenses, meter sticks, rulers, balances, magnets, and compasses				**D**	**D**	**D**							
Collect, analyze, and record information using tools including beakers, petri dishes, meter sticks, graduated cylinders, weather instruments, timing devices, hot plates, test tubes, safety goggles, spring scales, magnets, balances, microscopes, telescopes, thermometers, calculators, field equipment, compasses, computers, and computer probes							√ **D**	√ **D**	√ **M**				
Record and compare collected information		√ **I**											
Measure organisms and objects and parts of organisms and objects, using non-standard units such as paper clips, hands, and pencils.		√ **D**											
Measure and compare organisms and objects and parts of organisms and objects, using standard and nom-standard units			√ **D**										
Demonstrate that repeated investigations may increase the reliability of results				√ **D**	√ **D**	√ **D**							
Identify patterns in collected information using percent, average, range, and frequency							√ **D**						
Collect and analyze information to recognize patterns such as rates of change								√ **D**					
Extrapolate from collected information to make predictions									√ **D**				