				Middle Cabool Calones Calones and F	main a suine Durations (CEDs)			
	Asking Questions	and Defining Problems	Middle School Science – Science and Er Developing and Using Models		Planning and Carrying Out Investigations		Analyzing and Inte	rnreting Data
	Asking Questions and Defining Problems Description:		Description:		Description:		Analyzing and Interpreting Data Description:	
	A practice of science is to ask and refine questions that lead to descriptions and explanations of how the natural and designed world(s) works and which can be empirically tested. Engineering questions clarify problems to determine criteria for successful solutions and identify constraints to solve problems about the designed world. Both scientists and engineers also ask questions to clarify ideas.		A practice of both science and engineering is to use and construct models as helpful tools for representing ideas and explanations. These tools include diagrams, drawings, physical replicas, mathematical representations, analogies, and computer simulations. Modeling tools are used to develop questions, predictions and explanations; analyze and identify flaws in systems; and communicate ideas. Models are used to build and revised scientific explanations and proposed engineered systems. Measurements and observations are used to revise models and designs.		Scientists and engineers plan and carry out investigations in the field or laboratory, working collaboratively as well as individually. Their investigations are systematic and require clarifying what counts as data and identifying variables or parameters. Engineering investigations identify the effectiveness, efficiency, and durability of designs under different conditions.		Scientific investigations produce data that must be analyzed in order to derive meaning. Because data patterns and trends are not always obvious, scientists use a range of tools – including tabulations, graphical interpretation, visualization, and statistical analysis – to identify the significant features and patterns in the data. Scientists identify sources of error in the investigations and calculate the degree of certainty in the results. Modern technology makes the collection of large data sets much easier, providing secondary sources for	
							analysis. Engineering investigations include analysis of data collected in the tests of designs. This allows comparison of different solutions and determines	
							how well each meets specific design criteria – that is, which design best solves the problem with given constraints. Like scientists, engineers require a range of tools to identify patterns within data and interpret the results. Advances in science make analysis of proposed solutions more efficient and effective.	
	Evidence Outcome Description	Indicators of Success (Evidence comes from common formative	Evidence Outcome Description	Indicators of Success (Three or more assignments, assessments, or	Evidence Outcome Description	Indicators of Success (Three or more assignments, assessments, or	Evidence Outcome Description	Indicators of Success (Three or more assignments, assessments, or
	(The Learner Can)	assessments, interim assessments, and summative assessments)	(The Learner Can)	demonstrations of student mathematics include)	(The Learner Can)	demonstrations of student mathematics include)	(The Learner Can)	demonstrations of student mathematics include)
Exceeds	Exceeding expectations (Level	•	Exceeding expectations (Level 4)		• Exceeding expectations (Level 4)	•	Exceeding expectations (Level 4)	0
(Level 4)	4) performance is		performance is demonstrated through		performance is demonstrated		performance is demonstrated through	
	demonstrated through the		the mastery of a large majority (all or		through the mastery of a large		the mastery of a large majority (all or	
	mastery of a large majority (all		mostly all) of the Level 3 descriptors.		majority (all or mostly all) of the		mostly all) of the Level 3 descriptors.	
	or mostly all) of the Level 3		Students performing at Level 3 show		Level 3 descriptors. Students		Students performing at Level 3 show	
	descriptors. Students		command of the Level 2 and Level 1		performing at Level 3 show		command of the Level 2 and Level 1	
	performing at Level 3 show		indicators with mastery of at least half		command of the Level 2 and Level		indicators with mastery of at least half	
	command of the Level 2 and		of the Level 3 indicators.		1 indicators with mastery of at		of the Level 3 indicators.	
	Level 1 indicators with				least half of the Level 3 indicators.		or the 2010 of managers.	
	mastery of at least half of the Level 3 indicators.							
Level 3	Ask questions that arise from		Evaluate limitations of a model for a		Plan an investigation individually		Construct, analyze, and/or interpret	
Level 3	careful observation of		proposed object or tool.		and collaboratively, and in the	•	· ·	
	phenomena, models, or		 Develop or modify a model – based on 		design: identify independent and		graphical displays of data and/or large	
	unexpected results, to clarify		evidence – to match what happens if a		dependent variables and controls,		data sets to identify linear and	
	and/or seek additional		variable or component of a system is		what tools are needed to do the		nonlinear relationships.	
	information.		changed.		gathering, how measurements will		Use graphical displays (e.g., maps,	
	Ask questions to identify		Use and/or develop a model of simple		be recorded, and how many data		charts, graphs, and/or tables) of large	
	and/or clarify evidence and/or		systems with uncertain and less		are needed to support a claim.		data sets to identify temporal and	
	the premise(s) of an		predictable factors.		• Conduct an investigation and/or		spatial relationships.	
	argument.		Develop and/or revise a model to		evaluate and/or revise the		Distinguish between causal and	
	Ask questions to determine		show the relationships among		experimental design to produce		correlational relationships in data.	
	relationships between		variables, including those that are not		data to serve as the basis for		Analyze and interpret data to provide	
	independent and dependent		observable but predict observable		evidence that meet the goals of		evidence for phenomena.	
	variables and relationships in		phenomena.		the investigation.		Apply concepts of statistics and	
	models.		Develop and/or use a model to predict		 Evaluate the accuracy of various 		probability (including mean, median,	
	Ask questions to clarify and/or		and/or describe phenomena.		methods for collecting data.		mode, and variability) to analyze and	
	refine a model, an		Develop a model to describe		Collect data to produce data to		characterize data, using digital tools	
	explanation, or an engineering		unobservable mechanisms.		serve as the basis for evidence to		when feasible.	
	problem.		Develop and/or use a model to		answer scientific questions or test		Consider limitations of data analysis	
	Ask questions that require		generate data to test ideas about		design solutions under a range of		(e.g., measurement error), and/or	
	sufficient and appropriate		phenomena in natural or designed		conditions.		seek to improve precision and	
	empirical evidence to answer.		systems, including those representing		Collect data about the		accuracy of data with better	
	Ask questions that can be		inputs and outputs, and those at		performance of a proposed object,		technological tools and methods (e.g.,	
	investigated within the scope		unobservable scales.		tool, process, or system under a		multiple trials).	
	of the classroom, outdoor				range of conditions. (Engineering)		Analyze and interpret data to	
	environment, and museums and other public facilities with						determine similarities and differences	
	available resources, and when						in findings.	
	appropriate, frame a						3	
	hypothesis based on						Analyze data to define an optimal apprational range for a proposed.	
	observations and scientific						operational range for a proposed	
	principles.						object, tool, process or system that best meets criteria for success.	
	Ask questions that challenge							
	the premise(s) of an argument						(Engineering)	
	or the interpretation of a data							
	set.							
	Define a design problem that							
	can be solved through the							
	development of an object,							
	tool, process or system and							
	includes multiple criteria and							
	constraints, including scientific							
	knowledge that may limit							
	possible solutions.							
	(Engineering)							

	Evidence Outcome Description (The Learner Can)	Indicators of Success (Three or more assignments, assessments, or demonstrations of student mathematics include)	Evidence Outcome Description (The Learner Can)	Indicators of Success (Three or more assignments, assessments, or demonstrations of student mathematics include)	Evidence Outcome Description (The Learner Can)	Indicators of Success (Three or more assignments, assessments, or demonstrations of student mathematics include)	Evidence Outcome Description (The Learner Can)	Indicators of Success (Three or more assignments, assessments, or demonstrations of student mathematics include)
Level 2	 Ask questions about what would happen if a variable is changed. Identify scientific (testable) and non-scientific (non-testable) questions. Ask questions that can be investigated and predict reasonable outcomes based on patterns such as cause and effect relationships. Use prior knowledge to describe problems that can be solved. (Engineering) Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost. (Engineering) Ask questions based on 		 Identify limitations of models. Collaboratively develop and/or revise a model based on evidence that shows the relationships among variables for frequent and regular occurring events. Develop a model using an analogy, example, or abstract representation to describe a scientific principle or design solution. Develop and/or use models to describe and/or predict phenomena. Develop a diagram or simple physical prototype to convey a proposed object, tool, or process. (Engineering) Use a model to test cause and effect relationships or interactions concerning the functioning of a natural or designed system. (Engineering) Distinguish between a model and the 		 Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. Evaluate appropriate methods and/or tools for collecting data. Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution. Make predictions about what would happen if a variable changes. Test two different models of the same proposed object, tool, or process to determine which better meets criteria for success. (Engineering) Plan and conduct an investigation 		 Represent data in tables and/or various graphical displays (bar graphs, pictographs, and/or pie charts) to reveal patterns that indicate relationships. Analyze and interpret data to make sense of phenomena, using logical reasoning, mathematics, and/or computation. Compare and contrast data collected by different groups in order to discuss similarities and differences in their findings. Analyze data to refine a problem statement or the design of a proposed object, tool, or process. (Engineering) Use data to evaluate and refine design solutions. (Engineering) 	
	observations to find more information about the natural and/or designed worlds. • Ask and/or identify questions that can be answered by an investigation. • Define a simple problem that can be solved through the development of a new or improved object or tool. (Engineering)		 Distinguish between a model and the actual object, process, and/or events the model represents. Compare models to identify common features and differences. Develop and/or use a model to represent amounts, relationships, relative scales (bigger, smaller), and/or patterns in the natural and designed world(s). Develop a simple model based on evidence to represent a proposed object or tool. (Engineering) 		 Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. Evaluate different ways of observing and/or measuring a phenomenon to determine which way can answer a question. Make observations (firsthand or from media) and/or measurements to collect data that can be used to make comparisons. Make observations (firsthand or from media) and/or measurements of a proposed object or tool or solution to determine if it solves a problem or meets a goal. (Engineering) Make predictions based on prior experiences. 		 Record information (observations, thoughts, and ideas). Use and share pictures drawings, and/or writings of observations. Use observations (firsthand or from media) to describe patterns and/or relationships in the natural and designed world(s) in order to answer scientific questions and solve problems. Compare predictions (based on prior experiences) to what occurred (observable events). Analyze data from tests of an object or tool to determine if it works as intended. (Engineering) 	
Suggested Student Evidence:	Driving Question Board Progress Tracker Notice/Wonder Charts Exit Tickets							

Exceeds (Level 4) Level 3 Level 3 Fund relat simul expre compliance behase Evid	Description both science and engineering, mundamental tools for representing elationships. They are used for a rimulations; solving equations exact expressing, and applying quantitative	physical variables and their ange of tasks such as constructing tly or approximately; and recognizing, we relationships. Mathematical and	The end-products of science are explanation solutions. The goal of science is the construction accounts of the world. A theory becomes a		Engaging in Arg De Argumentation is the process by which reached. In science and engineering, re	gument from Evidence escription: evidence-based conclusions and solutions are easoning and argument based on evidence	Obtaining, Evaluating, and Cor Descripti Scientists and engineers must be able to co the ideas and methods they generate. Criti	on: mmunicate clearly and persuasively
Exceeds (Level 4) Level 3	n both science and engineering, moundamental tools for representing elationships. They are used for a national formulations; solving equations exact expressing, and applying quantitation omputational approaches enables	athematics and computation are physical variables and their ange of tasks such as constructing tly or approximately; and recognizing, we relationships. Mathematical and	The end-products of science are explanation solutions. The goal of science is the construction accounts of the world. A theory becomes a	ons and the end-products of engineering are uction of theories that provide explanatory	Argumentation is the process by which reached. In science and engineering, re	evidence-based conclusions and solutions are	Scientists and engineers must be able to co	mmunicate clearly and persuasively
Exceeds (Level 4) Level 3 Level 3 Fund relat simul expre compliance behase Evid	undamental tools for representing elationships. They are used for a rimulations; solving equations exact expressing, and applying quantitation omputational approaches enables	physical variables and their ange of tasks such as constructing tly or approximately; and recognizing, we relationships. Mathematical and	solutions. The goal of science is the construction accounts of the world. A theory becomes a	uction of theories that provide explanatory	reached. In science and engineering, re			
Exceeds (Level 4) Level 3	elationships. They are used for a re imulations; solving equations exact expressing, and applying quantitation omputational approaches enables	ange of tasks such as constructing tly or approximately; and recognizing, we relationships. Mathematical and	accounts of the world. A theory becomes a			easoning and argument based on evidence	the ideas and methods they generate. Criti	quing and communicating ideas
Exceeds (Level 4) Level 3 Level 3 Level 3 Level 3 Level 3 Level 3	imulations; solving equations exac expressing, and applying quantitation omputational approaches enable s	tly or approximately; and recognizing, ve relationships. Mathematical and	<u> </u>	accepted when it has multiple lines of				danig and communicating races
Exceeds (Level 4) Level 3 Level 3 Level 3 Level 3 Level 3	xpressing, and applying quantitation omputational approaches enables	ve relationships. Mathematical and	empirical evidence and greater explanatory		are essential to identifying the best exp	planation for a natural phenomenon or the	individually and in groups is a critical profes	ssional activity. Communicating
Exceeds (Level 4) Level 3 Level 3 Level 3 Level 3	omputational approaches enable s	•			best solution to a design problem. Scientists and engineers use argumentation to		information and ideas can be done in multi	
Exceeds (Level 4) Level 3 Level 3 Level 3 Level 3			theories. The goal of engineering design is	to find a systematic solution to problems	listen to, compare, and evaluate compe	eting ideas and methods based on merits.	graphs, models, and equations as well as o	rally, in writing, and through
Exceeds (Level 4) Column 1	ehavior of systems and test the va	scientists and engineers to predict the	that is based on scientific knowledge and models of the material world. Each proposed		Scientists and engineers engage in argu	umentation when investigating a	extended discussions. Scientists and engin	eers employ multiple sources to
Exceeds (Level 4) de monoide per control de		lidity of such predictions.	solution results from a process of balancing	g competing criteria of desired functions,	phenomenon, testing a design solution	, resolving questions about measurements,	obtain information that is used to evaluate	the merit and validity of claims,
Exceeds (Level 4) de monoide per control de				technical feasibility, cost, safety, aesthetics, and compliance with legal requirements.		building data models, and using evidence to evaluate claims.		
Exceeds (Level 4) de monoide per control de			The optimal choice depends on how well th	ne proposed solutions meet criteria and			_	
Exceeds (Level 4) de monoide per control de			constraints.					
Exceeds (Level 4) de monoide per control de		Indicators of Success (Evidence		Indicators of Success (Three or more		Indicators of Success (Three or more		Indicators of Success (Three or
(Level 4) de molecular de mole	Evidence Outcome Description	comes from common formative	Evidence Outcome Description	assignments, assessments, or	Evidence Outcome Description	assignments, assessments, or	Evidence Outcome Description	more assignments, assessments, or
(Level 4) de molecular de mole	(The Learner Can)	assessments, interim assessments,	(The Learner Can)	demonstrations of student mathematics	(The Learner Can)	demonstrations of student mathematics	(The Learner Can)	demonstrations of student
(Level 4) de molecular de mole	5 11 11 11 11	and summative assessments)	5 12 13 14 14	include)	5 11 11 11 11	include)	5 11 (1 14)	mathematics include)
Level 3 • Do co la ar	Exceeding expectations (Level	•	• Exceeding expectations (Level 4)		• Exceeding expectations (Level 4)	•	Exceeding expectations (Level 4)	0
Level 3 • Do da	4) performance is		performance is demonstrated through		performance is demonstrated		performance is demonstrated through	
Level 3 Level 3 Level 3 U CC La m La cc la ar U U Cc la ar U U	demonstrated through the		the mastery of a large majority (all or		through the mastery of a large		the mastery of a large majority (all or	
Level 3 • Do da da ar	mastery of a large majority (all		mostly all) of the Level 3 descriptors.		majority (all or mostly all) of the		mostly all) of the Level 3 descriptors.	
Level 3 • De da da e U:	or mostly all) of the Level 3		Students performing at Level 3 show		Level 3 descriptors. Students		Students performing at Level 3 show	
Level 3 • Do que da ar • Ut	descriptors. Students		command of the Level 2 and Level 1		performing at Level 3 show		command of the Level 2 and Level 1	
Level 3 • Do que da ar e U.	performing at Level 3 show		indicators with mastery of at least half		command of the Level 2 and Level		indicators with mastery of at least half	
Level 3 • Do que da da e U co la ar	command of the Level 2 and		of the Level 3 indicators.		1 indicators with mastery of at		of the Level 3 indicators.	
Level 3 • Do que da da e U co la ar	Level 1 indicators with				least half of the Level 3 indicators.			
Level 3 • Do que da da e U:	mastery of at least half of the							
qu da • Ui cc la ar • Ui	Level 3 indicators.							
da • Ud cc la ar • Ud	Decide when to use		Construct an explanation that includes		Compare and critique two	•	Critically read scientific texts adapted	
• Us co la ar • Us	qualitative vs. quantitative		qualitative or quantitative		arguments on the same topic and		for classroom use to determine the	
cc la ar • U	data.		relationships between variables that		analyze whether they emphasize		central ideas and/or obtain scientific	
la ar • U:	Use digital tools (e.g.,		predict(s) and/or describe(s)		similar or different evidence		and/or technical information to	
ar • U	computers) to analyze very		phenomena.		and/or interpretations of facts.		describe patterns in and/or evidence	
• U	large data sets for patterns		Construct an explanation using		Respectfully provide and receive		about the natural and designed	
	and trends.		models or representations.		critiques about one's explanations,		world(s).	
	Use mathematical		Construct a scientific explanation		procedures, models and questions		 Integrate qualitative and/or 	
	representations to describe		based on valid and reliable evidence		by citing relevant evidence and		quantitative scientific and/or technical	
	and/or support scientific		obtained from sources (including the		posing and responding to		information in written text with that	
	conclusions and design		students' own experiments) and the		questions that elicit pertinent			
	solutions.		assumption that theories and laws		elaboration and detail.		contained in media and visual displays	
	Create algorithms (a series of		that describe the natural world		Construct, use, and/or present an		to clarify claims and findings.	
	ordered steps) to solve a		operate today as they did in the past		oral and written argument		Gather, read, synthesize information	
·	problem.		and will continue to do so in the		supported by empirical evidence		from multiple appropriate sources	
	Apply mathematical concepts		future.		and scientific reasoning to support		and assess the credibility, accuracy,	
	and/or processes (such as		Apply scientific ideas, principles,		or refute an explanation or a		and possible bias of each publication	
	ratio, rate, percent, basic		and/or evidence to construct, revise		model for a phenomenon or a		and methods used, and describe how	
	operations, and simple		and/or use an explanation for		solution to a problem.		they are supported or not supported	
	algebra) to scientific and		real-world phenomena, examples, or		Make an oral or written argument		by evidence.	
	engineering questions and		events.		that supports or refutes the		Evaluate data, hypotheses, and/or	
	problems.		Apply scientific reasoning to show		advertised performance of a		conclusions in scientific and technical	
	Use digital tools and/or		why the data or evidence is adequate		device, process, or system, based		texts in light of competing information	
	mathematical concepts and		for the explanation or conclusion.		on empirical evidence concerning		or accounts.	
	arguments to test and		Apply scientific ideas or principles to		whether or not the technology		Communicate scientific and/or	
	compare proposed solutions		design, construct, and/or test a design		meets relevant criteria and		•	
	to an engineering design		of an object, tool, process or system.		constraints. (Engineering)		technical information (e.g., about a	
p,	problem. (Engineering)		(Engineering)		Evaluate competing design		proposed object, tool, process,	
			Undertake a design project, engaging		solutions based on jointly		system) in writing and/or through oral	
			in the design cycle, to construct		developed and agreed-upon design		presentations.	
			and/or implement a solution that		criteria. (Engineering)			
			meets specific design criteria and					
			constraints. (Engineering)					
			Optimize performance of a design by					
			prioritizing criteria, making tradeoffs,					
			testing, revising, and retesting.					
			(Engineering)					
		Indicators of Success (Three or more		Indicators of Success (Three or more		Indicators of Success (Three or more		Indicators of Success (Three or
Evi			Evidence Outcome Description	assignments, assessments, or	Evidence Outcome Description	assignments, assessments, or	Evidence Outcome Description	more assignments, assessments, or
	Evidence Outcome Description	assignments, assessments, or		The state of the s				
	Evidence Outcome Description (The Learner Can)	demonstrations of student	(The Learner Can)	demonstrations of student mathematics	(The Learner Can)	demonstrations of student mathematics	(The Learner Can)	demonstrations of student
	•	_		demonstrations of student mathematics include)	(The Learner Can)	demonstrations of student mathematics include)	(The Learner Can)	demonstrations of student mathematics include)
	•	demonstrations of student			(The Learner Can)		(The Learner Can)	
	•	demonstrations of student			(The Learner Can)		(The Learner Can)	

Level 2	Organize simple data to reveal		Construct an explanation of observed	•	Compare and refine arguments		Read and comprehend	
	patterns that suggest		relationships (e.g., the distribution of		based on an evaluation of the		grade-appropriate complex texts	
	relationships.		plants in the back yard).		evidence presented.		and/or reliable media to summarize	
	Describe, measure, estimate,		Use evidence (e.g., measurements,		Distinguish among facts, reasoned		and obtain scientific and technical	
	and/or graph quantities such		observations, patterns) to construct or		judgement based on research		ideas and describe how they are	
	as area, volume, weight, and		support an explanation or design a		findings, and speculation in an		supported by evidence.	
	time to address scientific and		solution to a problem.		explanation.		Compare and/or combine across	
	engineering questions and		Identify the evidence that supports		Respectfully provide an receive		complex texts and/or other reliable	
	problems.		particular points in an explanation.		critiques from peers about a		media to support the engagement in	
	Create and/or use graphs		Apply scientific ideas to solve design		proposed procedure, explanation		other scientific and/or engineering	
	and/or charts generated from		problems. (Engineering)		or model by citing relevant		practices.	
	simple algorithms to compare		Generate and compare multiple		evidence and posing specific		Combine information in written text	
	alternative solutions to an		solutions to a problem based on how		questions.		with that contained in corresponding	
	engineering problem.		well they meet the criteria and		Construct and/or support an		tables, diagrams, and/or charts to	
	(Engineering)		constraints of the design solution.		argument with evidence, data,		support the engagement in other	
			(Engineering)		and/or a model.		scientific and/or engineering practices.	
					Use data to evaluate claims about		Obtain and combine information from	
					cause and effect.		books and/or other reliable media to	
					Make a claim about the merit of a		explain phenomena or solutions to a	
					solution to a problem by citing		design problem.	
					relevant evidence about how it		Communicate scientific and/or	
					meets the criteria and constraints		technical information orally and/or in	
					of the problem. (Engineering)		written formats, including various	
							forms of media and may include tables,	
							diagrams, and charts.	
Level 1	Use counting and numbers to	•	Use information from observations	•	Identify arguments that are	•	Read grade-appropriate texts and/or	
	identify and describe patterns		(firsthand and from media) to		supported by evidence.		use media to obtain scientific and/or	
	in the natural and designed		construct and evidence-based account		Distinguish between explanations		technical information to determine	
	world(s).		for natural phenomena.		that account for all gathered		patterns in and/or evidence about the	
	Describe, measure, and/or		Use tools and/or materials to design		evidence and those that do not.		natural and designed world(s).	
	compare quantitative		and/or build a device that solves a		Analyze why some evidence is		Describe how specific images (e.g., a	
	attributes of different objects		specific problem or a solution to a		relevant to a scientific question		diagram showing how a machine	
	and display the data using		specific problem. (Engineering)		and some is not.Distinguish between opinions and		works) support a scientific or engineering idea.	
	simple graphs.		Generate and/or compare multiple		evidence in one's own		 Obtain information using various texts, 	
	Use quantitative data to		solutions to a problem. (Engineering)		explanations.		text features (e.g., headings, tables of	
	compare two alternative				Listen actively to arguments to		contents, glossaries, electronic menus,	
	solutions to a problem.				indicated agreement or		icons), and other media that will be	
					disagreement based on evidence,		useful in answering a scientific	
					and/or to retell the main points of		question and/or supporting a scientific	
					the argument.		claim.	
					Construct an argument with		Communicate information or design	
					evidence to support a claim.		ideas and/or solutions with others in	
					Make a claim about the offectiveness of an object tool or		oral and/or written forms using	
					effectiveness of an object, tool, or solution that is supported by		models, drawings, writing, or numbers that provide detail about scientific	
					relevant evidence. (Engineering)		ideas, practices, and/or design ideas.	
					relevant evidence. (Linginicering)			
							(Engineering)	
Suggested							(Engineering)	
Suggested Student							(Engineering)	